



**Ridge Walk North Living and Learning Neighborhood Project
UC San Diego Project Number: 5511**

**Addendum No. 12 to the Program Environmental Impact Report
for the University of California, San Diego
2018 Long Range Development Plan, La Jolla Campus**

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February 2023

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1 INTRODUCTION

1.1 PROJECT SUMMARY

The following Project is addressed in this Addendum Checklist for consistency with the 2018 Long Range Development Plan (LRDP) for the UC San Diego La Jolla Campus and the certified Program Environmental Impact Report (EIR) assessing the environmental impacts of implementing the plan (SCH No. 2016111019).

Project name:	Ridge Walk North Living and Learning Neighborhood Project
Project location:	University of California, San Diego
Lead agency's name and address:	The Regents of the University of California 1111 Franklin Street Oakland, CA 94607
Contact person:	Lauren Lievers, Principal Environmental Planner UC San Diego Campus Planning Office
Project sponsor's name and address:	UC San Diego 9500 Gilman Drive, MC 0074 La Jolla, California 92093-0074
Location of administrative record:	UC San Diego Campus Planning Office 10280 North Torrey Pines Road, Suite 460 La Jolla, CA 92093
Previously Certified 2018 LRDP Program EIR:	<p>The 2018 LRDP is a comprehensive land use plan that guides physical development on campus to accommodate projected population increases and new program initiatives. The 2018 LRDP and its EIR are available at the following locations:</p> <ul style="list-style-type: none">• UC San Diego Campus Planning Office in Torrey Pines Center South, Suite 460, 10280 North Torrey Pines Road, La Jolla, CA.• Online at: https://plandesignbuild.ucsd.edu/planning/lrdp/la-jolla.html#Environmental-Impact-Report

1.2 PURPOSE OF CONSISTENCY REVIEW

This document evaluates whether the Ridge Walk North Living and Learning Neighborhood Project (the “Project”) is consistent with the programmed growth identified in the 2018 LRDP and within the scope of activities covered in the environmental impact evaluation in the 2018 LRDP EIR. This document will also serve as an Addendum Checklist, as described in the CEQA determination below.

The 2018 LRDP is a comprehensive land use plan that guides physical development on campus to accommodate projected population increases and expanded and new program initiatives (UC San Diego 2018a). The 2018 LRDP EIR was prepared in accordance with §15168 of the California Environmental Quality Act (CEQA) Guidelines and Public Resources Code §21094 and analyzed the environmental impacts of the 2018 LRDP (UC San Diego 2018b). The 2018 LRDP EIR (Volume I) analyzes full implementation of uses and physical development proposed under the 2018 LRDP and identifies measures to mitigate the significant adverse and cumulative impacts associated with that growth.

This Addendum Checklist documents whether or not the site-specific development proposed by the Project is consistent with the objectives, land use plans and development and population forecasts contained in the 2018 LRDP and is covered by the 2018 LRDP EIR pursuant to §15168(c) of the State CEQA Guidelines, which states, “subsequent activities in the program must be examined in the light of the program EIR to determine whether an additional environmental document must be prepared.” Pursuant to §15168(c)(4), an agency should use “...a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were covered in the program EIR.” This Addendum Checklist also documents that none of the conditions described in CEQA Guidelines Section 15162 calling for the preparation of a subsequent EIR have occurred and an addendum to the 2018 LRDP EIR may be prepared (per CEQA Guidelines Section 15164).


1.3 CEQA DETERMINATION

UC San Diego previously prepared the 2018 LRDP EIR and on the basis of this evaluation and pursuant to the State CEQA Guidelines:

- The University finds that the Project WOULD NOT have new significant effects on the environment that have not already been addressed by the 2018 LRDP EIR, no substantial changes have occurred with respect to the circumstances under which the Project will be undertaken, and no new information of substantial importance to the Project has been identified. However, minor technical changes or additions are necessary, and in accordance with §15164 of the State CEQA Guidelines, an ADDENDUM has been prepared.

- The University finds that although the Project WOULD have one or more new significant effects on the environment, there will not be a significant effect in this case because new project-specific mitigation measures have been identified that would reduce the effects to a less than significant level. In accordance with §15162 of the State CEQA Guidelines, a TIERED MITIGATED NEGATIVE DECLARATION has been prepared.

- The University finds that the Project MAY have a new significant effect on the environment that was not adequately addressed in the previous EIR or a significant effect previously examined will be substantially more severe than shown in the previous EIR, and there may not be feasible mitigation which would reduce the new significant effect to a less than significant level. In accordance with §15162 of the State CEQA Guidelines, a TIERED ENVIRONMENTAL IMPACT REPORT is required.



Signature of Project Sponsor

February 28, 2023

Date

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2 PROJECT DESCRIPTION

2.1 REGIONAL LOCATION AND SETTING

The UC San Diego La Jolla campus is located adjacent to the communities of La Jolla and University City, within the northwest portion of the City of San Diego (see Figure 2-1 of the 2018 LRDP EIR). UC San Diego's campus is generally composed of three distinct, but contiguous, geographical areas: the Scripps Institution of Oceanography (SIO) portion of the campus (178.7 acres), the western area of the campus (West Campus, 634.8 acres), and the eastern area of the campus (East Campus, 265.7 acres). The East and West Campuses are bisected by Interstate 5 (I-5). The La Jolla del Sol housing complex (12 acres) is located southeast of these larger geographical areas and not contiguous to the campus. Refer to Section 2.2 of the 2018 LRDP EIR for additional description on each of the campus areas. Also included in the 2018 LRDP are the beach properties, consisting of the Audrey Geisel House and an adjacent coastal canyon and beachfront parcel (25.8 acres), and the Torrey Pines Gliderport, Torrey Pines Center and Torrey Pines Court (41.0 acres). The 2018 LRDP addresses campus properties that encompass a total of 1,158 acres in La Jolla, California (see Figure 2-2 of the 2018 LRDP EIR).

2.2 PROJECT SITE AND SETTING

The proposed Project would be located on the West Campus, which is situated between Genesee Avenue to the north, La Jolla Village Drive to the south, North Torrey Pines Road to the west, and I-5 to the east (see Figure 1, *Project Location*, and Figure 2, *Aerial View*). The West Campus is the largest and most developed of the three areas of the La Jolla Campus with over 12 million gross square feet (GSF) of total building space on approximately 635 acres of land. Seven undergraduate colleges and four professional schools are located on this portion of the campus. In addition to academic instruction and research facilities, the West Campus includes the following uses: libraries, theaters, student support, administrative, sports/recreational, student housing, dining, a central utilities plant, facilities maintenance services, and parking facilities (UC San Diego 2018a).

The Project site, inclusive of all construction activity areas, materials staging/contractor parking areas, and redevelopment site, is on an approximately 20.9-acre (910,800 square foot [SF]) site within the Thurgood Marshall College neighborhood on the western edge of West Campus (see Figure 2-6 of the 2018 LRDP Program EIR). Existing uses include a low-density, 250-bed student housing complex called Thurgood Marshall College Lower Apartments, student dining and recreational facilities, and educational and administrative buildings. The Project site is bound by Hopkins Drive to the east; Voigt Drive to the north; Scholars Drive to the west; and the Communication Building, Social Sciences Research Building, Cognitive Science Building, and the North Torrey Pines Living and Learning Neighborhood to the south. The site is bisected by Ridge Walk, a north-south pedestrian thoroughfare through West Campus.

The land use designations for the Project site in the 2018 LRDP include Housing, Academic, and Sports and Recreation (2018 LRDP page 61) with surrounding land uses including Housing to the west (Thurgood Marshall Upper Apartments), Academic to the north and south (Social Sciences

Building, Communication Building, Solis Hall, Social Sciences Research Building, Cognitive Science Building, and the North Torrey Pines Living and Learning Neighborhood (that includes Sixth College)), Open Space Preserve (OSP; Historic Grove and Ecological Reserve) to the east, and Recreation (Marshall Field) to the west. The existing UC San Diego Extension buildings located further west of the Project across Scholars Drive are designated as planned Housing land use (see Figure 3-5 in the 2018 LRDP; UC San Diego 2018a).

2.3 PROJECT BACKGROUND

At present, UC San Diego has a large demand for on-campus housing that is attributed to both unprecedented enrollment growth (more than 13,000 students in the past decade) and the affordable housing shortage in San Diego County, which has seen an 8.4 percent increase in the average rent over the past year. The campus's inability to provide an adequate supply of housing to meet these high demands negatively affects the student experience and challenges the University's ability to effectively serve its students.




The shortage of available and affordable housing for UC San Diego's students is a matter of urgent concern. At present, UC San Diego has tremendous demand for on-campus housing, exacerbated by its location in one of the highest-priced housing markets in the state.

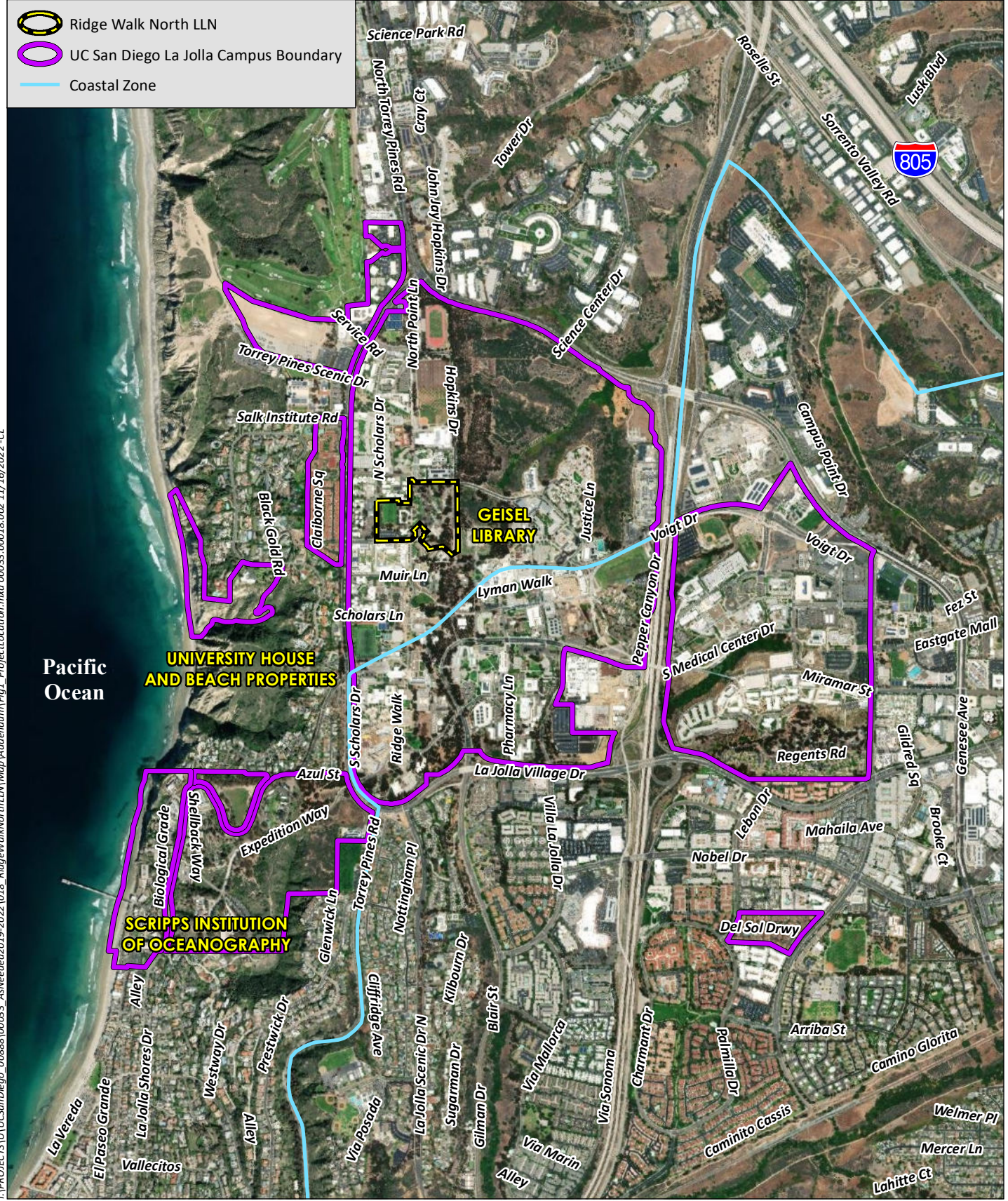
Affordable on-campus housing aids in the recruitment and retention of students and supports their success by expanding opportunities for integration into the academic and social life of the UC San Diego campus. Students living on campus are immersed in the University community with easy access (via campus shuttle, bicycle, or on foot) to adjacent academic, research, clinical, recreation, and retail facilities, supporting the campus' Climate Action Plan (UC San Diego 2019).

Due to limited housing supply, increasing and rapid enrollment growth, and growing demand, the UC San Diego La Jolla campus currently cannot guarantee housing all the students that desire to live on campus. Due to the high demand for on-campus housing, in the 2022-2023 academic year, the campus was only able to offer housing to students using the following priority order:

1. Students in programs that provide four years of housing guarantee or mandate living on campus as a condition of their offer;
2. New incoming first-year and transfer students, and returning second-year students who remained in on-campus housing for the previous academic year
3. Remaining second-year students (using a lottery system)
4. Remaining third- and fourth-year students (historically, only a very small amount from this priority group are able to be accommodated)

As a result, many students find themselves in competition with the general population for rental housing in the immediate area surrounding campus, which is one of the most expensive areas to live in San Diego County. These students face a tremendous challenge when trying to secure affordable off-campus housing and/or securing housing that is a significant distance from campus. Rates for private, off-campus housing in adjacent communities can be 20 to 30 percent higher than




-  Ridge Walk North LLN
-  UC San Diego La Jolla Campus Boundary
-  Coastal Zone

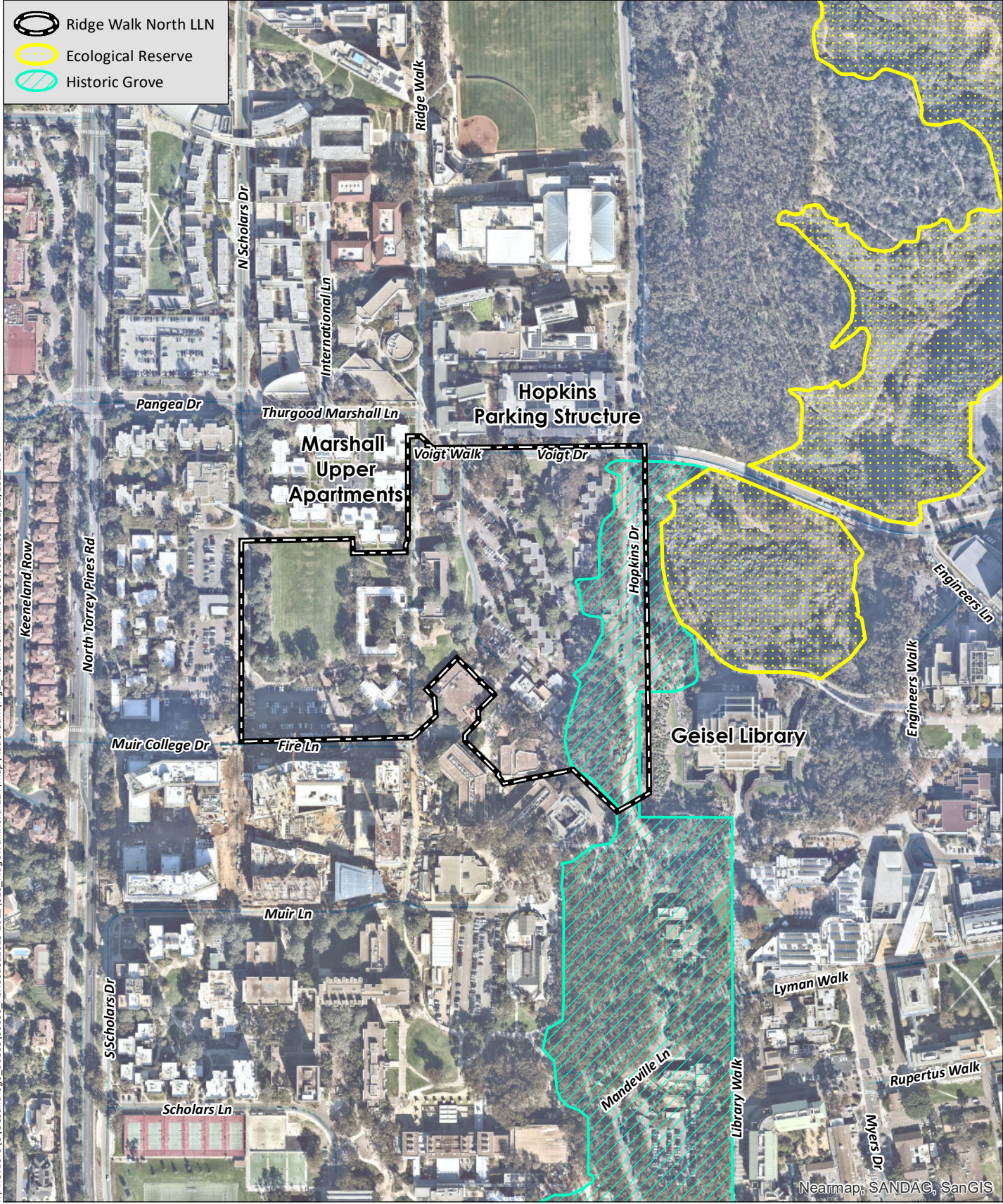


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Source: Aerial (Esri 2022)

-  Ridge Walk North LLN
-  Ecological Reserve
-  Historic Grove



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Source: Aerial (SanGIS, 2019)

on-campus rates. Since UC San Diego can offer campus housing at significantly lower rental rates than private market housing in the surrounding neighborhoods, demand for on-campus housing is substantially higher than the number of students the campus can accommodate in on-campus housing.

The results of an August 2018 UC San Diego student survey indicated a majority of students were somewhat or very interested in on-campus housing: 60 percent of juniors and 50 percent of seniors would want to live on campus if housing were available. Part of the attraction of University-owned housing is the community setting that is provided by living on campus, adjacent to the academic, research, clinical, recreation, and dining facilities within walking distance of most on-campus housing. By living on campus, students can get around campus without a car—by foot, bicycle, and campus shuttles. First and second year students living on campus are prohibited from purchasing parking passes except under unique circumstances, which further encourages travel even to off campus locations by transit or other alternative transportation methods. Reducing the number of students commuting to and from campus by car reduces local and regional traffic congestion as well as vehicular emissions.

With the recent increases in undergraduate enrollment (for a total of approximately 33,100 students as of fall 2022), the existing colleges are at or over capacity, which poses a significant challenge to their ability to provide a quality academic and social support environment. Hence, the 2018 LRDP anticipated the development of up to two more residential colleges and approximately 8,900 new beds over its planning horizon (2035). The 2018 LRDP also identified a goal to house up to 65 percent of students on campus (approximately 43 percent are housed today in 18,020 beds which includes undergraduate and graduate student housing; for a total student enrollment of approximately 42,000 students).

In May 2019, The UC Board of Regents (“The Regents”) approved establishment of Seventh College, which began enrollment of its first cohort of students in fall 2020. The Village at Torrey Pines (The Village), which originally opened in 2009 and 2011 as housing for transfer students at the north end of the West Campus, is now the permanent home for Seventh College administration and housing facilities (no expansion of facilities was needed to accommodate the college). In May 2020, The Regents approved the establishment of Eighth College, followed by approval of its future home, the Theatre District Living and Learning Neighborhood project (currently under construction at the southwest corner of the West Campus) in September 2020. The inaugural first-year cohort for Eighth College will be fall 2023 with the opening of approximately 2,050 beds. In January 2022, The Regents approved the Pepper Canyon West Housing project, for which construction is underway to redevelop a portion of the existing low-density housing currently used to house upper division/transfer students (300 beds). That project will provide approximately 1,310 beds by fall 2024 to serve Transfer and Upper Division students. Similar to those projects, the proposed Project would directly implement the 2018 LRDP’s objective to increase on-campus housing and further the university’s commitment to the student experience, sustainability, and smart growth goals.

The proposed Project is part of the overall campus development plan presented in the 2018 LRDP aimed at addressing the student housing shortage.

The proposed Project was envisioned and planned for in the 2018 LRDP, for which extensive internal and external outreach was conducted. Section 1.5 of the 2018 LRDP EIR includes a summary of the community and campus outreach effort conducted for the 2018 LRDP, of which the Project is, in

part, implementing. In addition, the university regularly works closely with the local community and civic groups to provide updates on campus programs as well as implementation of the 2018 LRDP.

Information on the Project has been shared with the local community including the La Jolla Community Association and the University Community Planning Group, as well as the Chancellor's Community Advisory Board, local elected officials and various other community leaders and external facing campus groups. On February 3, 2023, UC San Diego hosted an open house for elected officials at the UC San Diego's Epstein Family Amphitheater during which current and upcoming campus development projects, including the proposed Project, were presented to various elected officials and public agency staff of the San Diego region. On February 27, 2023, UC San Diego held a public Open House event to share the status of the campus' capital improvements program, including the proposed Project. Members of the surrounding communities were invited to come learn about current and upcoming projects and discuss with UC San Diego staff.

2.4 PROJECT OBJECTIVES

UC San Diego has identified the following objectives for the proposed Project:

- Provide affordable on-campus housing in the "living-learning community" model.
- Provide housing for undergraduate students in support of UC San Diego goals of housing up to 65 percent of students on campus to provide a four-year housing guarantee.
- Provide updated space for the Thurgood Marshall College academic program and student support services currently housed in aging facilities.
- Design a mixed-use housing neighborhood that integrates with the surrounding development and open space, and provides connections between existing pedestrian and bicycle facilities that would facilitate broader connections across the campus.
- Implement Low Impact Design (LID) opportunities with respect to stormwater management, landscape, planting, and hardscape design.
- Incorporate sustainable design principles to the greatest extent feasible to achieve Leadership in Energy and Environmental Design (LEED) Gold Certification, thereby reducing energy consumption, conserving nonrenewable resources, and complying with the UC Sustainable Practices Policy.
- Seek to focus new development within existing older/aging, lower density areas on campus in addition to developing infill housing sites to optimize land usage.

These objectives are consistent with the overall objectives of the 2018 LRDP (see Section 2.3 of the 2018 LRDP Program EIR).

2.5 PROJECT FEATURES

The Project would construct four buildings of varying heights, three of which would include student housing. Descriptions of these buildings (Buildings A, B, C, and E) and their amenities are described in Section 2.5.1 below. The Project would provide a total of 2,455 new beds (2,394 undergraduate student beds, 50 beds for resident student advisors, and 11 beds in 5 apartments for residential professional staff) for a total of approximately 933,520 GSF. This includes 757,500 GSF housing and dining, 131,750 GSF of academic and student support, and 44,270 GSF of community support. Apartments would be constructed in the proposed mix shown in Table 2-1.

The Project would construct landscape and hardscape improvements throughout the site and would integrate the new development with the surrounding campus, including the existing Thurgood Marshall College buildings, North Torrey Pines Living and Learning Neighborhood, Eleanor Roosevelt College, and the historic eucalyptus grove (Historic Grove) along the Project's eastern edge. Ridge Walk, the primary pedestrian thoroughfare through West Campus, would remain open throughout construction but the portion within the project site would be rebuilt and enhanced in phases as part of the Project. New pedestrian connections through the Project site would be constructed, which would provide new connectivity within the West Campus. These pedestrian pathways would provide improved access to connect the northwestern portion of campus (Eleanor Roosevelt College, Thurgood Marshall, and Seventh College) to Geisel Library and University Center. Three large open gathering areas would be located between the Project buildings, providing seating and recreation for residents. These include two large courtyards and Solis Garden.

Academic amenities include 18 classrooms, one 150-seat lecture hall, a glass blowing craft laboratory, and a computer laboratory. Other amenities include new restrooms, conference rooms, offices, student café/market, and maintenance facilities (trash rooms, storage rooms, maintenance shop, utility rooms, and an information technology room).

**Table 2-1
Proposed Unit Mix**

Unit Type	Number of Units	Number of Beds
8-Bedroom Suite	83	664
10-Bedroom Suite	178	1,780
Subtotal Student Beds (including RA)	-	2,444
2-Bedroom for Professional Resident Staff	4	8
3-Bedroom for Professional Resident Staff	1	3
Total Beds	-	2,455

2.5.1 Building Program and Design

The proposed Project would be notable for its four buildings rising above the adjacent Ridge Walk and Historic Grove. The buildings would be located on a site that generally slopes down from Ridge Walk in the west toward Hopkins Drive to the east. The buildings would follow this topography, with basement levels opening to the east. The residential component of the Project would be located

within Buildings A, B, and C. These buildings would also include residential support services. Building C would also provide the student café/market, academic facilities, the glass blowing craft laboratory, and classrooms. Building E¹ would provide academic facilities and student basic needs services. Figure 3, *Site Plan*, displays the project layout and components. Figure 4, *Conceptual View*, and Figure 5, *Pre- and Post-Project Views*, provide visualizations of the Project buildings and surroundings. Figures 6a through 6g, *Section Views*, provide elevation views of the project buildings.

Building A

Building A would be a roughly L-shaped structure located on the northern edge of the Project site south of Voigt Drive and Hopkins Parking Structure. Starting at the northwest corner closest to Building E, the building would rise 18 stories (including a walk-up basement level) stepping down to 14 stories as the building angles south away from Voigt Drive.

Building A would be primarily residential, with 1,078 total beds. Residences would be provided views of the Historic Grove and Geisel Library to the east, Building E and Thurgood Marshall College to the west, Building B to the south, and the Hopkins Parking Structure to the north. Residences would be configured in 8- and 10-bedroom suites, with a mixture of single- and double-occupancy bedrooms (one or two beds per room). An outdoor rooftop terrace would be provided, and rooftop equipment would include heating, ventilation, and air conditioning (HVAC), exhaust fans, and an elevator machine room at the tallest portions of the tower.

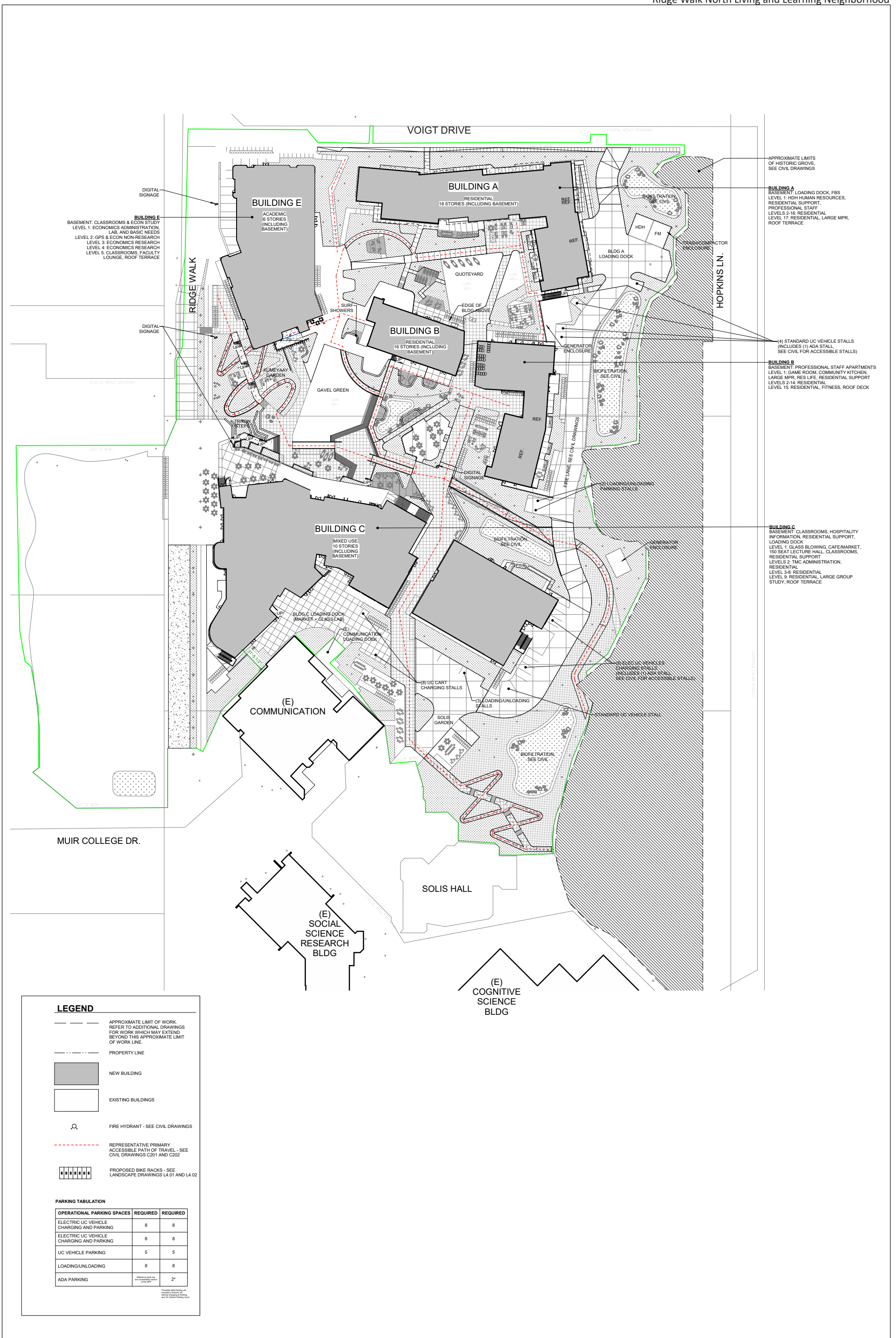
The building would be clad in a mix of fiber cement panels and metal panels, with glazing taking no more than 35 percent of the surface. The overall color scheme would be earth tones facing north, south, and west, and a muted green shade to match the Historic Grove for the façade facing east.

Building B

Building B would be in the center of the Project site, south of Building A, with 930 total beds. Like Building A, Building B would be L-shaped with a varied height, and would primarily house residences. It would rise 16 stories (including a walk-up basement level) at its northwest corner closest to Building E, stepping down to 12 stories in the southern portion. A large opening would be provided at ground level at the center of the building, which would provide a corridor for access between the northern and southern courtyards.

Residences would be throughout the building, providing views of the Historic Grove and Geisel Library to the east, Building E and Thurgood Marshall College to the west, Building C to the south, and Building A to the north. Residences would be configured in 8- and 10-bedroom suites, with a mixture of single- and double-occupancy bedrooms (one or two beds per room). An outdoor rooftop terrace would be provided. Rooftop equipment would include HVAC, exhaust fans, and an elevator machine room at the tallest portions of the tower. Design elements such as glazing, colors, and shading would be similar to Building A.

¹ Note there is no "Building D"; original planning efforts envisioned a Building D to replace Solis Hall; however, Solis Hall continues to meet the University's needs and would instead be preserved.



BUILDING E
 BASEMENT: CLASSROOMS & ECON STUDY
 LEVEL 1: ECONOMICS ADMINISTRATION, LAB, AND BASIC NEEDS
 LEVEL 2: GPS & ECON NON-RESEARCH
 LEVEL 3: ECONOMICS RESEARCH
 LEVEL 4: ECONOMICS RESEARCH
 LEVEL 5: CLASSROOMS, FACULTY LOUNGE, ROOF TERRACE

BUILDING A
 BASEMENT: LOADING DOCK, FBS
 LEVEL 1: HDH HUMAN RESOURCES, RESIDENTIAL SUPPORT, PROFESSIONAL STAFF
 LEVELS 2-16: RESIDENTIAL
 LEVEL 17: RESIDENTIAL, LARGE MPR, ROOF TERRACE

BUILDING B
 BASEMENT: PROFESSIONAL STAFF APARTMENTS
 LEVEL 1: GAME ROOM, COMMUNITY KITCHEN, LARGE MPR, RES LIFE, RESIDENTIAL SUPPORT
 LEVELS 2-14: RESIDENTIAL
 LEVEL 15: RESIDENTIAL, FITNESS, ROOF DECK

BUILDING C
 BASEMENT: CLASSROOMS, HOSPITALITY INFORMATION, RESIDENTIAL SUPPORT, LOADING DOCK
 LEVEL 1: GLASS BLOWING, CAFE/MARKET, 150 SEAT LECTURE HALL, CLASSROOMS, RESIDENTIAL SUPPORT
 LEVELS 2: TMC ADMINISTRATION, RESIDENTIAL
 LEVEL 3-8: RESIDENTIAL, LARGE GROUP STUDY, ROOF TERRACE

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Source: HMC Architects 9/2022

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Source: HMC Architects 9/2022



CURRENT AERIAL VIEW LOOKING EAST



PROPOSED AERIAL VIEW LOOKING EAST



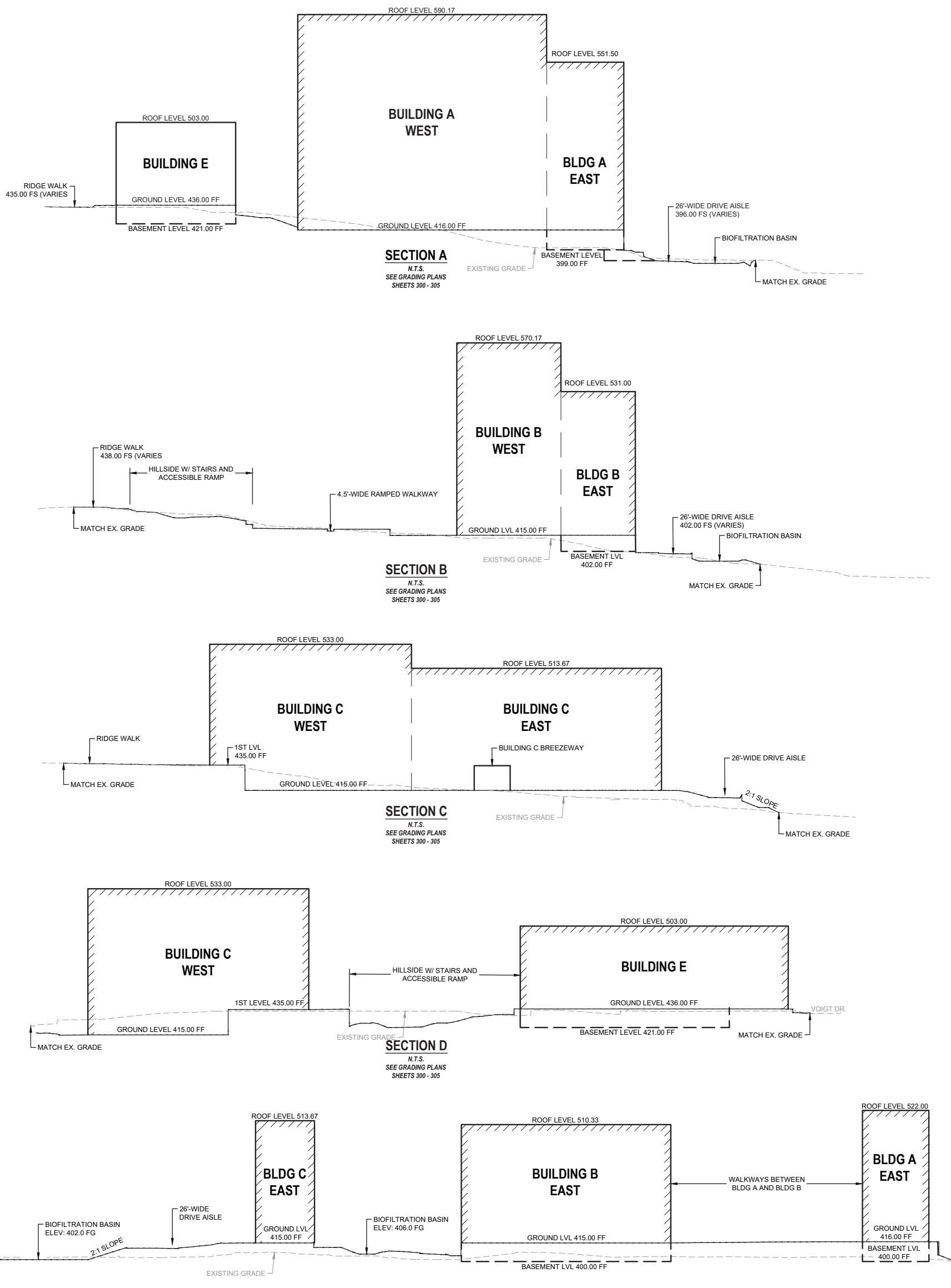
CURRENT AERIAL VIEW LOOKING WEST



PROPOSED AERIAL VIEW LOOKING WEST

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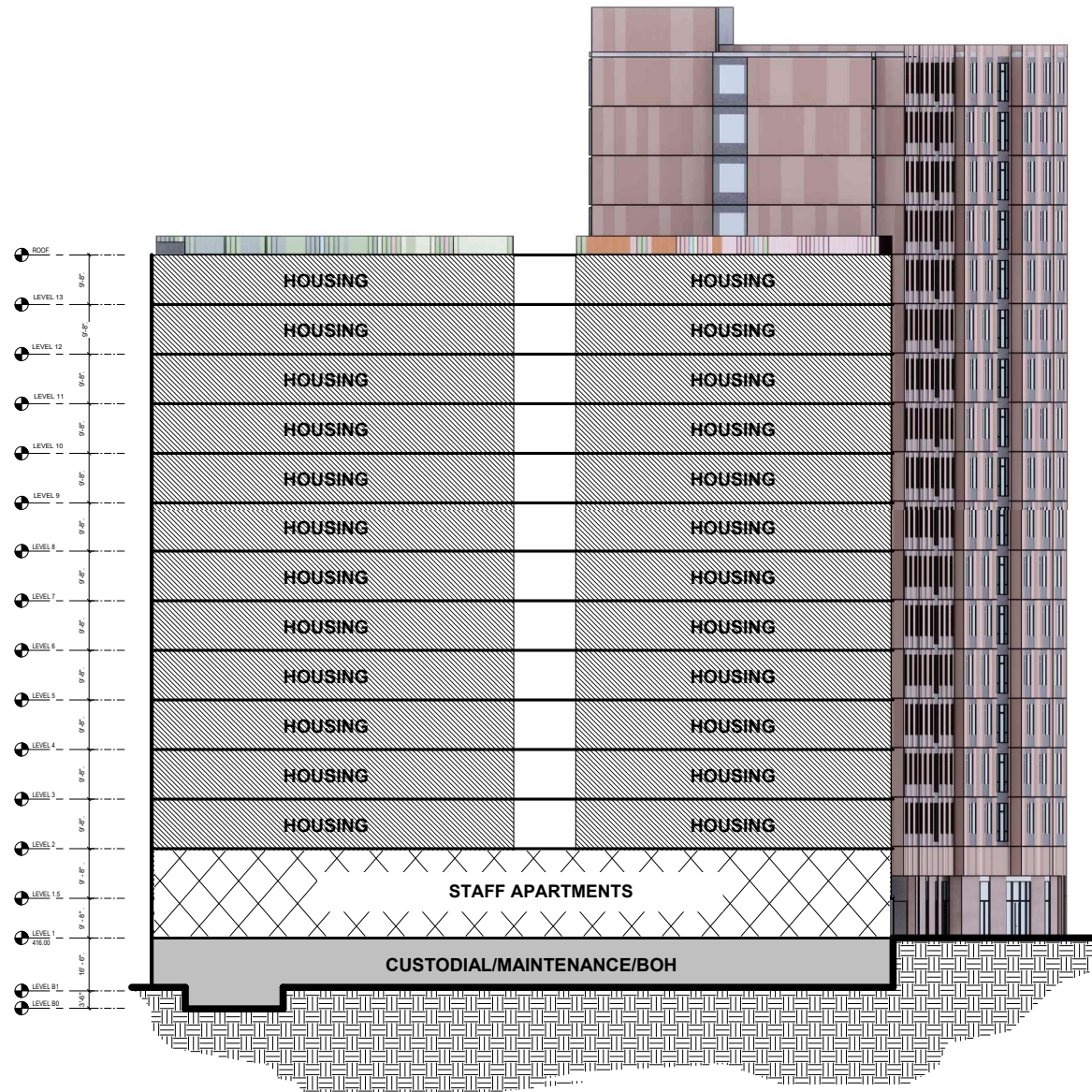
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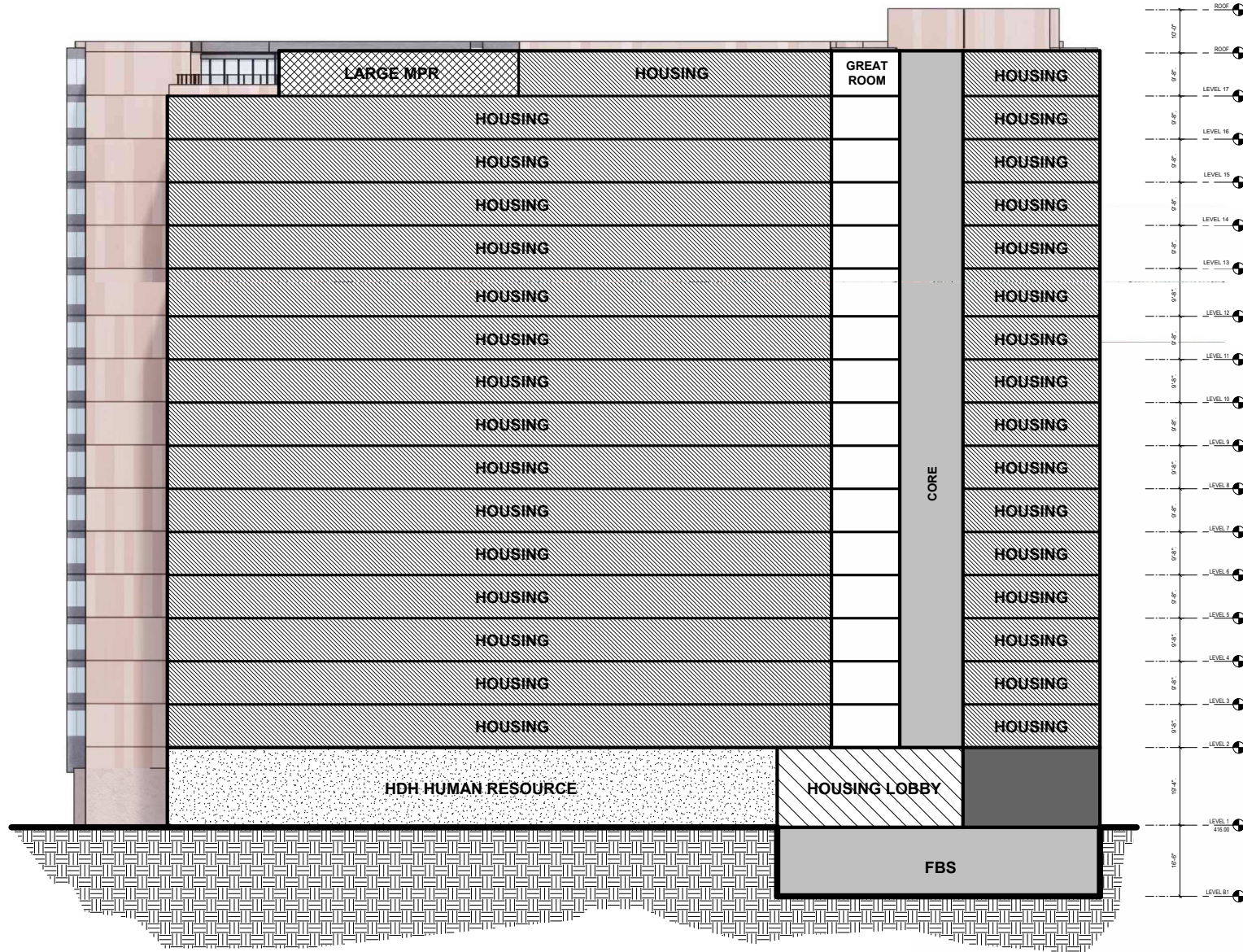
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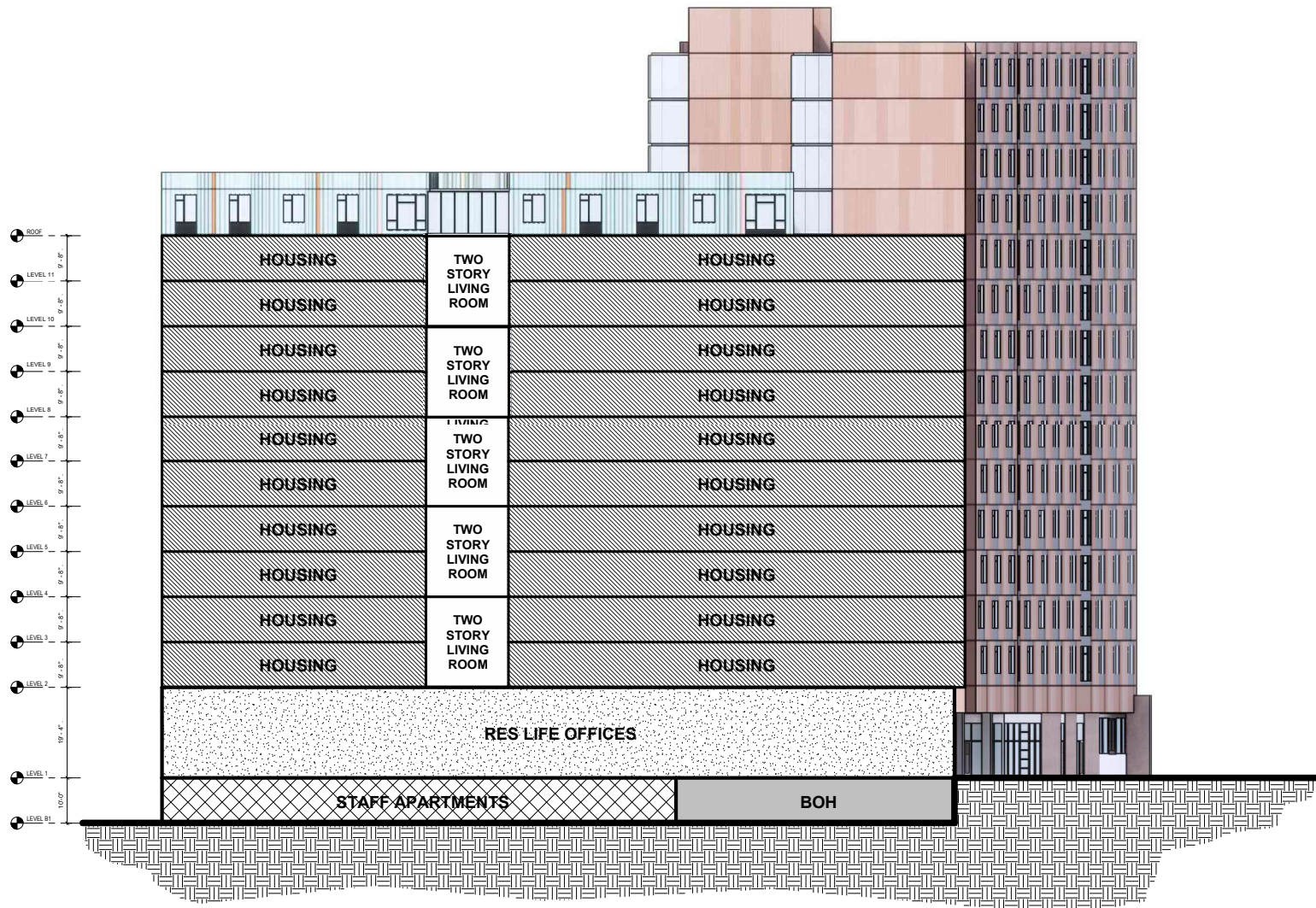
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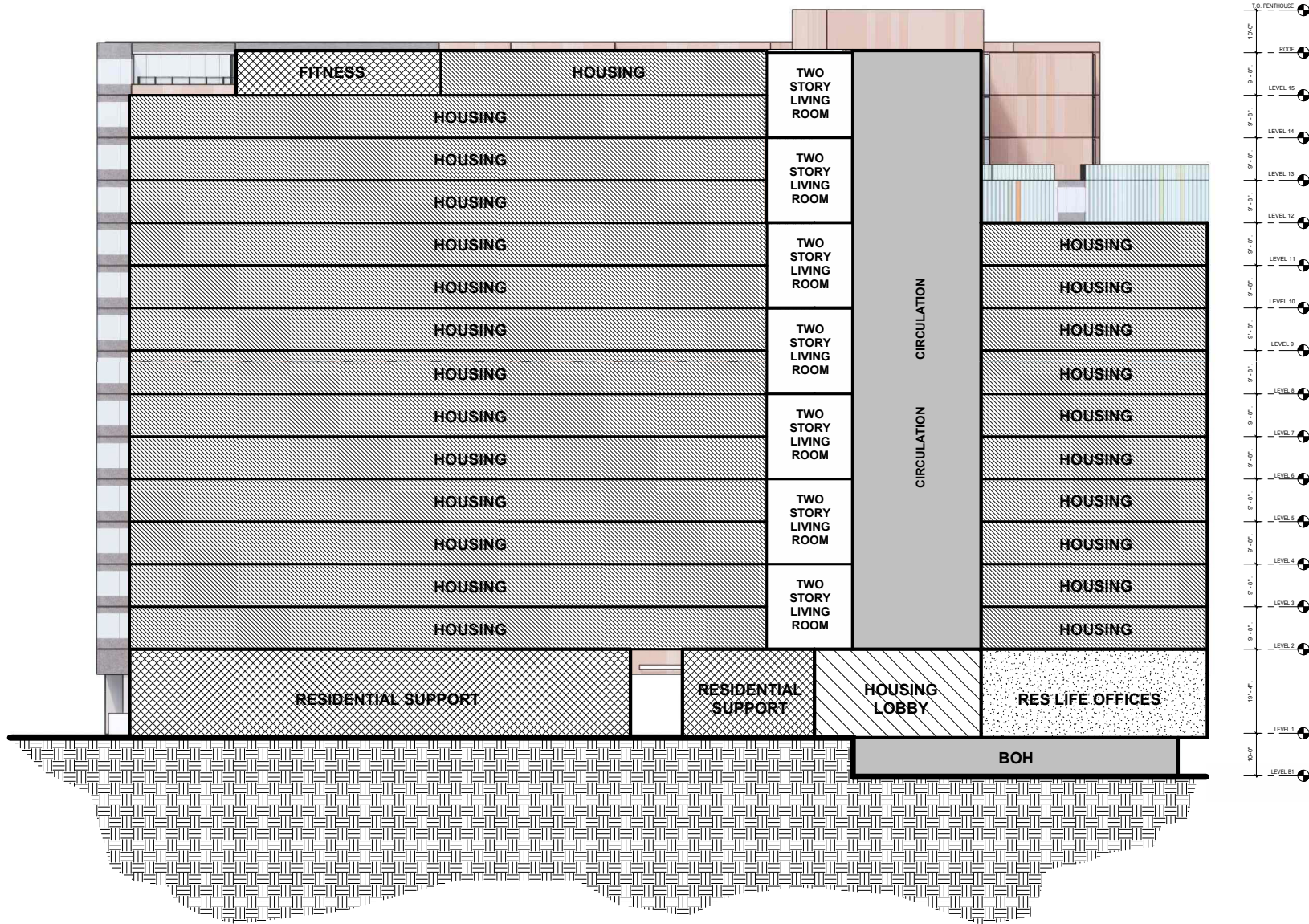
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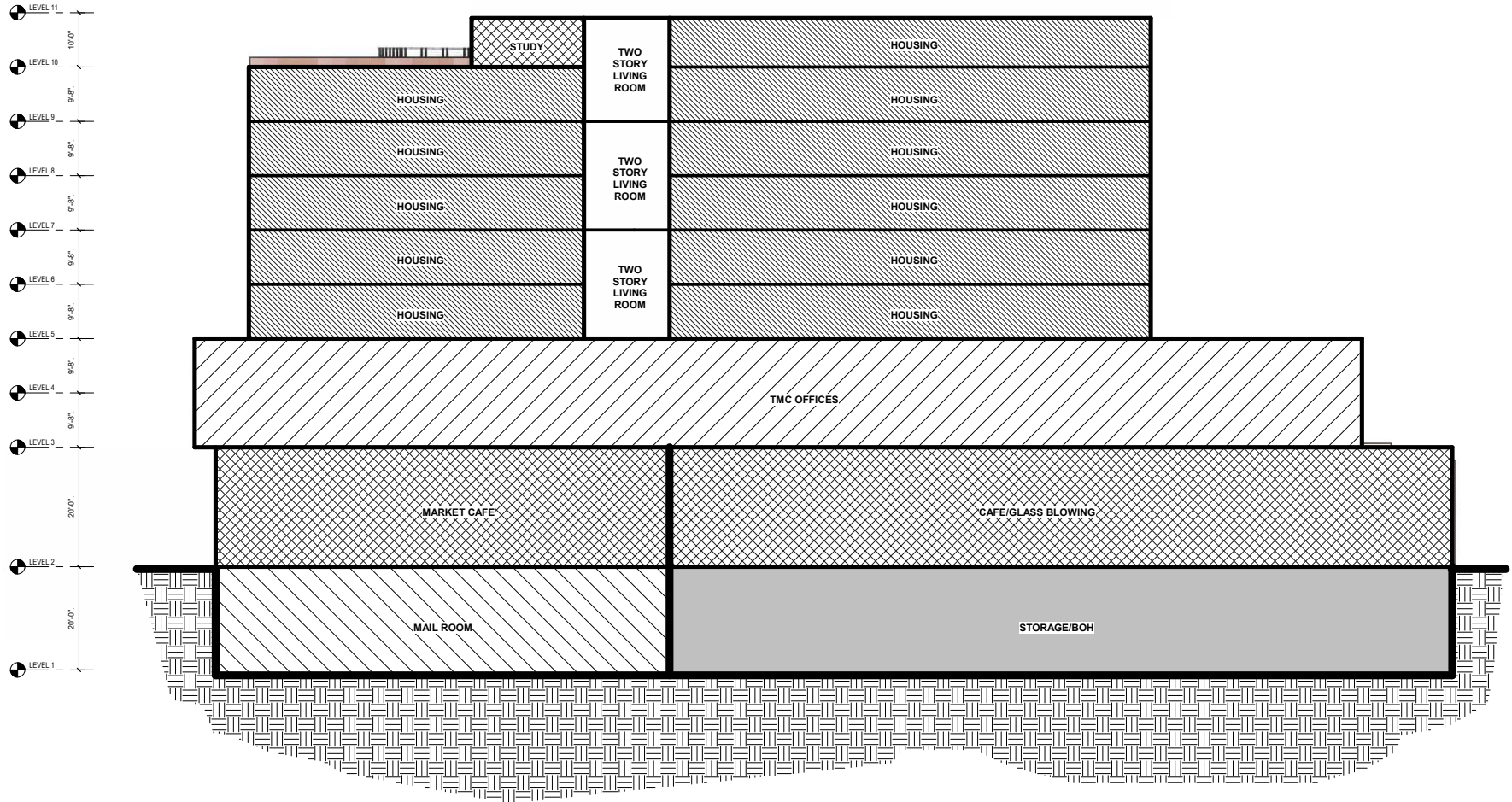
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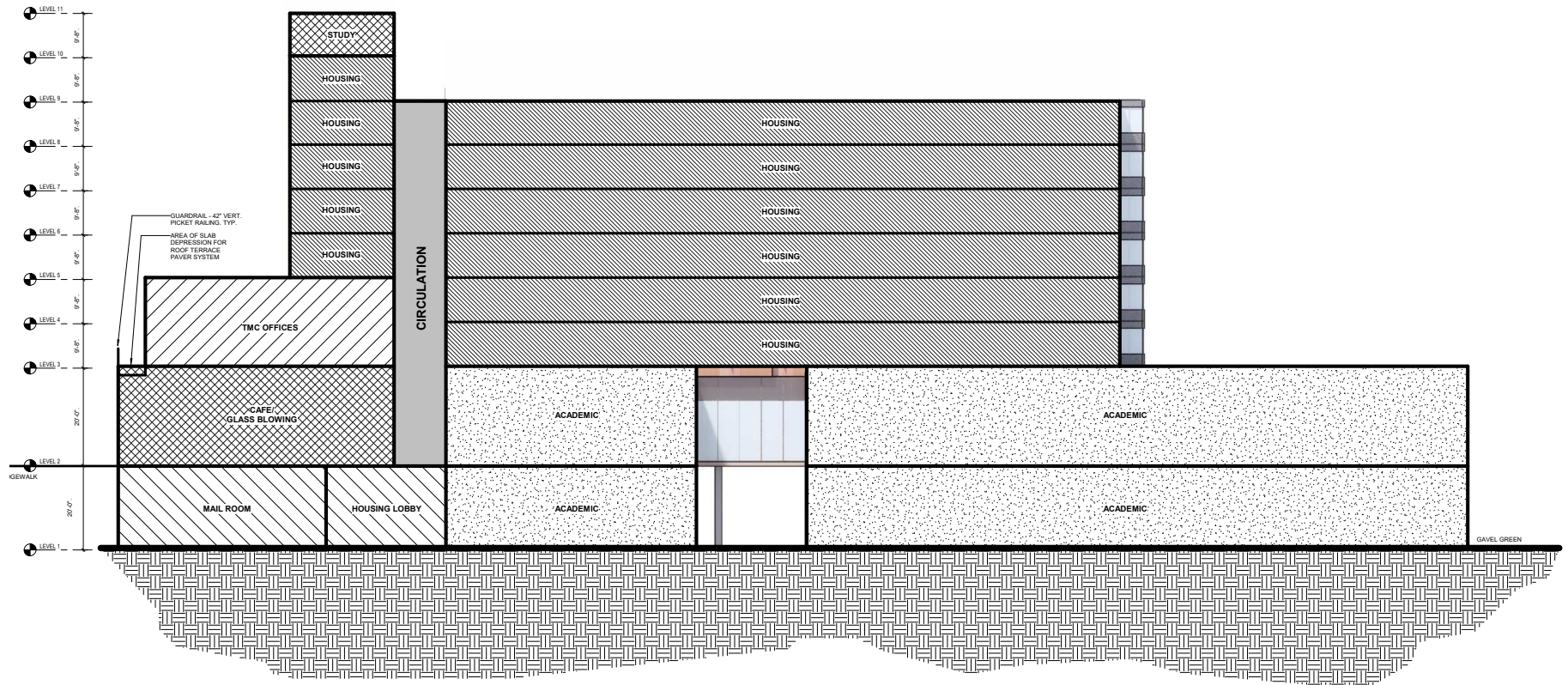
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Source: HMC Architects 9/2022

Building C

Building C would be a roughly L-shaped structure located on the southern half of the Project site south of Building B and east Ridge Walk. Building C would provide 436 residential beds and academic support space in a 10-story tower (including a walk-up basement level). A large opening would be provided at ground level, providing north-south access through the building.

Residences would be located within the tower portion of the building. Residences would be provided with views of the Historic Grove to the east, Ridge Walk and Marshall Field to the west, the Communication Building and Solis Hall to the south, and Buildings B and E to the north. The residence configuration would be similar to Buildings A and B. An outdoor rooftop terrace would be provided, and rooftop equipment would include HVAC, exhaust fans, and an elevator machine room at the tallest portions of the tower. Building C would also provide academic and housing support within the building's first three stories. Academic spaces include the Project's 150-seat lecture hall, three 100-seat dividable classrooms, five 40-seat classrooms, and ten 56-seat classrooms.

Building E

Building E would be the smallest of the proposed structures. The roughly rectangular structure would rise six stories at the northwestern corner of the development site, east of Ridge Walk and south of Voigt Drive. The building would contain academic spaces, including two 40-seat classrooms and two 56-seat classrooms. Building E would also provide space for the Economics Department and Global Policy and Strategy Department, replacing offices and academic spaces previously housed at the Economics Building.

Views of the Buildings

Direct views of the Project buildings would be visible from surrounding facilities such as Solis Hall, Communication Building, Cognitive Science Building, Thurgood Marshall Upper Apartments, the Hopkins Parking Structure, Social Sciences Building, North Torrey Pines Living and Learning Neighborhood, Geisel Library, and Marshall Field. Due to its location within the center of West Campus, direct views of the Project buildings would generally be obscured from off-campus locations, but portions may be visible from Genesee Avenue to the northeast and North Torrey Pines Road to the west.

Bird Protection Features

The Project would incorporate design features in the layout of the buildings' façades and within the site plan to reduce the number of bird strikes. To protect bird safety, trees would be located away from buildings to minimize the interaction of birds with the building façades. Corridors between the Project buildings would allow for safe pathways which birds can travel. Building façades would be minimally glazed to reduce the number of reflective surfaces. Less than 35 percent of the buildings' surfaces would be covered in untreated glass, and the buildings' edges would be clearly defined with architectural features and other non-reflective glass surfaces. The Project would comply with UC San Diego's Lighting Policy, which includes shielded fixtures and downward-facing lighting.

2.5.2 Utility and Service System Improvements

Domestic and Fire Water Infrastructure

Existing Conditions

The existing site is currently served by a network of existing water lines that provide both domestic and fire water service. An internally looped system has connections to a 12-inch line along the south edge of the site, along with connections to a 12-inch line along Ridge Walk. All existing structures within the Project area are served by these looped systems.

Proposed Domestic and Fire Water

The proposed Project would require demolition of all existing onsite water infrastructure, except for the service to the existing Communications Building. Five new connections would be required to support the proposed Project. These connections include:

- 4-inch domestic line from Voigt Drive to serve Building A
- 8-inch line from Ridge Walk to serve Buildings B, C, and E with domestic water and Building E with fire water
- 8-inch fire lines at Voigt Drive and north of Solis Hall to provide a looped fire system serving Buildings A, B, and C

The proposed Project would include separate domestic and fire water systems. Based on initial meetings with the UC San Diego Fire Marshal, the following criteria would be met for the fire water system:

- Fire hydrant spacing at a minimum of 300 feet
- Two Fire Department Connections (FDC) per building: FDC shall be within 25 feet of proposed fire hydrants and 40 feet away from the building being served
- Two Automatic Fire Hose Connections per building: with 200-foot hose pulls

Reclaimed Water Infrastructure

Existing Conditions

An existing 12-inch PVC reclaimed water line loop runs through the west side of the existing site. The 12-inch line connects to the reclaimed water system in Voigt Drive and Ridge Walk. The existing reclaimed water line is part of the larger infrastructure system that serves the overall campus.

Proposed Reclaimed Water Infrastructure

The proposed Project would require partial demolition of the existing reclaimed water infrastructure, construction of a new 12-inch main along Ridge Walk, and new connections to the existing system. The proposed reclaimed water line would connect to the existing system at

Voigt Drive and Ridge Walk. This reclaimed water line through the site would be temporarily taken offline during construction while the new, rerouted main is constructed along Ridge Walk. The system is back-fed from the north and south, and a loss of service to other campus areas is not anticipated. To minimize interruption of service, a detailed phasing plan would be coordinated with UC San Diego during the Construction Phase.

Sanitary Sewer Infrastructure

Existing Conditions

The Project site is currently served by a network of existing sewer lines that ultimately flow to an 8-inch vitrified clay pipe sewer main at the east side of the site. One of the main lines serving the site also serves existing buildings to the west of the Project site.

In addition to the 8-inch sewer that currently serves the site, an existing 8-inch sewer main is located at the north edge of the Project site along Voigt Drive.

Proposed Sanitary Sewer

The Project site would require demolition of the existing sewer infrastructure within the Project limits and would install two new connections to the existing sewer system, including a reroute of the existing main that serves the upstream housing. The proposed new sewer lines would be located throughout the site to serve the proposed buildings and the connection points would be located along the west side of the Historic Grove and along Voigt Drive.

Other Utilities

During site demolition, portions of the existing electrical conduit, telecom conduit, gas line, street light conduit, transformer, fire water appurtenances, light poles and irrigation lines would be removed. Mechanical and electrical systems for the proposed buildings would be housed within the project buildings, containing electrical equipment, telecommunications systems, central lighting inverters and controls, fire detection and alarm systems, and security systems, as required.

Electrical power would be supplied to the proposed Project via the existing UC San Diego power grid, which provides 100 percent clean energy via the UC Regents Energy Services Unit Direct Access Program. Aside from some small-scale use of gas fuels within the glass blowing craft laboratory, the Project would not utilize any natural gas. Based on review of the Master Utility Plan (MUP) prepared for the 2018 LRDP there is sufficient capacity within the existing utility systems to support the proposed Project buildings. No major utility upgrades would be required for the proposed Project. Three emergency generators at the Project site would provide backup power for all life safety equipment, security, telecommunication, egress lighting, and all other safety and security monitoring systems.

Fire Protection

A fire system, fire alarms, and fire access plan will be prepared in accordance with applicable regulations as well as state and nationally recognized standards. The UC San Diego Campus Fire Marshal (CFM) and its fire inspectors review all project design plans to ensure adequate continued

emergency access at all times during construction and operation of projects and compliance with the California Building Code (CBC) Title 14 and 24 building standards and campus fire, life and safety protocol. Fire protection systems are regularly inspected, tested, and maintained.

Similar to existing conditions, emergency access would be provided through the Project site. A new driveway would be constructed starting at Voigt Drive to the north, running along the eastern side of the Project, between Buildings A, B, and C and the Historic Grove. This would allow for fire access to Project buildings and existing buildings to the south. Fire access to Solis Hall, Communication Building, and the Cognitive Science Building would be controlled by removable bollards per University standards.

2.5.3 Landscape/Hardscape Improvements

Courtyard Areas

The proposed Project would include the development of two primary courtyard areas, which serve as gathering spaces between Project buildings. The North Courtyard is formed by the space between Buildings A, B, and E. The South Courtyard is formed by the space between Building B, Building C, and Ridge Walk. Each courtyard comprises multiple gathering areas, with individual themes and designs. All landscape improvements in the courtyard areas would be focused on native and/or drought-tolerant species and supplemented by suitable climate adaptive, non-invasive, ornamental species.

Quoteyard

The Quoteyard would be a public courtyard that would be relatively isolated from the rest of the Campus due to its location between three Project buildings. It would be a resident-focused space, surrounded by a community garden, barbecue, and fireside lounge. The largest area within the courtyard would be a lawn serving as a gathering space for recreational and extracurricular activities primarily for resident use. The courtyard would be accessible via a path between Buildings A and E leading to Voigt Drive, a path between Buildings A and B leading to the Historic Grove, and paths between Building B and E and through an opening within Building B leading to the South Courtyard.

Kumeyaay Garden, Gavel Green, and the Huddle

South of the Quoteyard would be a larger hub that would serve as a gathering space for residents and a connecting corridor through the Project. This space would be comprised of the Kumeyaay Garden, Gavel Green, and the Huddle. The area would open east to Ridge Walk and west to the Historic Grove and ultimately toward Geisel Library. Individual areas within the courtyard include the Kumeyaay Garden, Gavel Green, the Huddle, and the Glen. The Gavel Green would serve the classrooms and academic spaces within Buildings C and E. The Kumeyaay Garden would be a transition area between Ridge Walk and would be planted with native and other drought-tolerant plants. The Huddle would provide a gathering space and seating. The area would be accessible to the surrounding campus and would provide visual and pedestrian connections between the University Center and Ridge Walk. Access would be provided to the Communication Building and Solis Hall via an opening within Building C.

Historic Grove

The Historic Grove is an existing grove of primarily eucalyptus trees that were planted around 1910 prior to the founding of the University. The grove is located throughout the campus, and occurs both within and outside the project boundary. The Historic Grove is considered a historic landscape and is protected under CEQA (see Section 4.1.4 of this document).

The Project has been designed to preserve the character of the Historic Grove and protect trees to the highest extent possible. No buildings or structures would be constructed within the Historic Grove; however, some trees would need to be removed to provide for construction access, utilities and building improvements with others potentially being impacted due to proximity of construction activities. A total of up to 63 eucalyptus (*Eucalyptus spp.*) trees within the Historic Grove are anticipated to be impacted by construction. The Project would replace each removed or failed eucalyptus tree at a 2:1 ratio. Therefore, up to 126 Eucalyptus trees would be planted at the Project site within the Historic Grove boundaries and not within any other areas of the project site. The final number of replacement trees would be determined based on the actual number of trees lost.

Torrey Pines

Torrey Pine (*Pinus torreyana*) is a rare pine species growing only in coastal San Diego County and Santa Rosa Island. The species is listed as Category 1B (rare and endangered) by the California Native Plant Society. While the West Campus does not support naturally occurring Torrey Pines trees, in some locations they have been planted as ornamental trees.

Sixteen existing planted Torrey Pines trees are located within the Project site. Due to site topography and some trees having been planted extremely close to existing buildings to be demolished with the project, the trees must be removed to accommodate demolition and construction activities. Consistent with guidance from the California Coastal Commission on past UC San Diego projects, all removed Torrey Pines would be replaced at a 2:1 ratio with 48-inch box size trees. The replacement trees would be planted along the Project's western edge, near Ridge Walk.

Solis Garden

The Solis Garden would be a small courtyard between Building C, the Communication Building and Solis Hall. The courtyard would provide vegetation and seating and would connect the project site to existing academic buildings to the south. Solis Hall and its associated hardscape and landscaping would remain, along with the Stuart Art Collection piece "Something Pacific."

A service driveway would be built between the Project buildings and the Historic Grove, providing access through the site connecting Voigt Drive to Solis Garden.

Marshall Field

Following the completion of the Project's building construction, Marshall Field and its Stuart Art Collection piece "UNDA" would reopen to public use. Damaged irrigation would be repaired or replaced, and the field would be reseeded. Access to "UNDA" would not be affected during construction. Following demolition of Sequoyah Hall and the Thurgood Marshall Administration Building, a flexible use green space would be added adjacent to Marshall Field and Ridge Walk.

Ridge Walk

Ridge Walk would generally remain open throughout construction of the Project. Pedestrian access due to movement of construction equipment and materials between the staging area and Project buildings may require temporary partial closures over a given day, however these would be short-term, lasting a few minutes at a time.

Demolition of the Economics Building, Sequoyah Hall, and the elevated pedestrian bridge connecting them would require a temporary closure of Ridge Walk of approximately one day requiring a detour. Part of the construction scope includes demolition and upgrading the current Ridge Walk connection sidewalk that is adjacent to the construction site (between Voigt Drive to the north and the Communications Building to the south). The process of demolition and refurbishment of Ridge Walk would be treated similarly to phasing an active roadway, where the construction would only close half of the Ridge Walk at a given time.

Intra-Project Circulation and Safety

Buildings B and C would have two ground-level openings which would provide access between the courtyards and the Solis Garden. Building entrances would incorporate lighting, signage, and security features according to UC San Diego standards. Outdoor bike racks to accommodate 500 bicycles would be provided throughout the Project. Bike racks would be located along Ridge Walk and in the courtyards surrounding the Project buildings.

This proposed Project would be a short distance to the University's campus shuttle stops along Hopkins Drive and Scholars Drive North, and an approximate five-minute walk to public transit stops along North Torrey Pines Road. Because of these transit connections, its proximity adjacent to the existing Hopkins Parking Structure, and its primary function as housing for undergraduate students, the Project does not include substantial parking. First and second year undergraduate students residing on campus are not provided parking passes except under unique circumstances. Therefore, the Project is not anticipated to result in increased vehicular traffic or parking demand.

The Project would remove 111 parking spaces in P308 and would provide 15 spaces throughout the new development. Parking Lot P302 (115 spaces) and a portion of parking lot P309 (16 spaces along the eastern edge of Hopkins Drive) would be temporarily inaccessible during construction but would reopen upon completion of the Project. While the Project would reduce parking supply in the immediate vicinity, campus parking supply is monitored and evaluated on a continuous basis to ensure parking availability within the overall campus parking system. Per the 2018 LRDP, surface parking lots are to be prioritized as redevelopment sites with new parking structures planned to accommodate loss of surface lots on an as-needed basis with an emphasis on Traffic Demand Management (TDM) to decrease single occupancy vehicle use and associated demand on parking. Much of the new space in the Project is meant to accommodate existing campus population and is thus not growth inducing. In addition, by expanding the on-site housing by more than 2,000 beds, students would have previously commuted to campus would now live on campus, significantly reducing commuter parking demands on the campus.

Mail and package storage rooms within the Project buildings would be accessible from Voigt Drive and Project's internal access road. Delivery parking spaces would be provided within designated loading areas to allow delivery trucks to stop and deliver mail and packages via handcart.

Central trash and recycling collection access and major deliveries would utilize the loading zone along the Project's service driveway. Trash/recycling from individual building chutes will be moved to central locations.

Safety lighting would be compliant with the UC San Diego Outdoor Lighting Policy. Signage would also be provided throughout the Project for internal wayfinding and to nearby Campus amenities and destinations.

2.5.4 Project Construction

The approximately 910,800 SF (20.9-acre) Project site includes approximately 265,970 SF (6.1 acres) of new development, with other areas of the site accommodating construction related staging activities. The Project is on an infill location redeveloping an existing low-density site within the interior of the campus. Construction activities are anticipated to begin in June 2023, with a phased completion of student beds by August 2025 and remainder of Project to be completed by late 2025. Construction of the Project is anticipated to take up to 30 months. Construction activities would occur Monday through Saturday, between the hours of 7:00 a.m. and 7:00 p.m. Limited nighttime construction may occur to eliminate daytime conflicts or other necessary reasons, with approval from the appropriate campus stakeholders.

Figure 7, *Site Logistics Plan*, depicts the construction limits, the anticipated area for construction staging area locations, anticipated options for site ingress and egress, the location of tower cranes, and other construction logistics.

Staging

The construction staging area would be located within the Marshall Field, west of Ridge Walk as shown within the Project boundaries on Figure 3. Site access would be actively managed during the construction period, including the notifications and signage to be employed for detours and publicly inaccessible areas. The entire construction site, including staging areas, would be enclosed in temporary fencing.

An approximately 3.7-acre staging area would be dedicated as a construction zone associated with the proposed Project. The staging area is currently occupied by Marshall Field and parking lot P302. Contactor trailers would be located in the construction staging area. Due to their use for staging, Marshall Field and parking lot P302 would not be publicly accessible during construction. They would be fully restored to their original conditions following completion of the Project. The Stuart Art Collection piece "UNDA" would remain in place within the staging area and would be protected from potential construction-related damage by clearly marked construction fencing.

Access

For public safety reasons, during the construction period, the public would not have access to the Project building site, which includes Marshall Field, Parking Lot P302, and the Historic Grove between Voigt Drive and the Cognitive Science Building.

Ridge Walk would remain open during construction, however access through the site would be restricted at times during each construction day to allow for construction equipment to pass

between the staging area and main construction site. The entirety of Ridge Walk would be resurfaced prior to completion of the Project, at which point portions of Ridge Walk would be closed to public access.

A construction management plan and traffic control plan would be developed and implemented during construction to ensure ingress and egress from the Project site would not interfere with traffic flows and emergency access for areas surrounding the Project.

Demolition

As part of the Project, the majority of existing site buildings, landscape, and hardscape would be demolished to accommodate construction of the new Project components. Demolition would involve the removal of 152,170 SF of existing structures. Site preparation would begin with demolition and clearing, followed by site grading and construction as described in the subsections below. As a conservative scenario, this analysis assumes that construction would not occur in phases and all components would be constructed concurrently.

West of Ridge Walk

The demolition plan west of Ridge Walk would include removal of Sequoyah Hall and the Thurgood Marshall College Administration building (currently unoccupied). An elevated pedestrian walkway connects Sequoyah Hall with the Economics Building east of Ridge Walk. This bridge would also be removed during demolition. The sites formerly occupied by Sequoyah Hall and the Administration building would not be developed as part of the project but restored as open space.

East of Ridge Walk

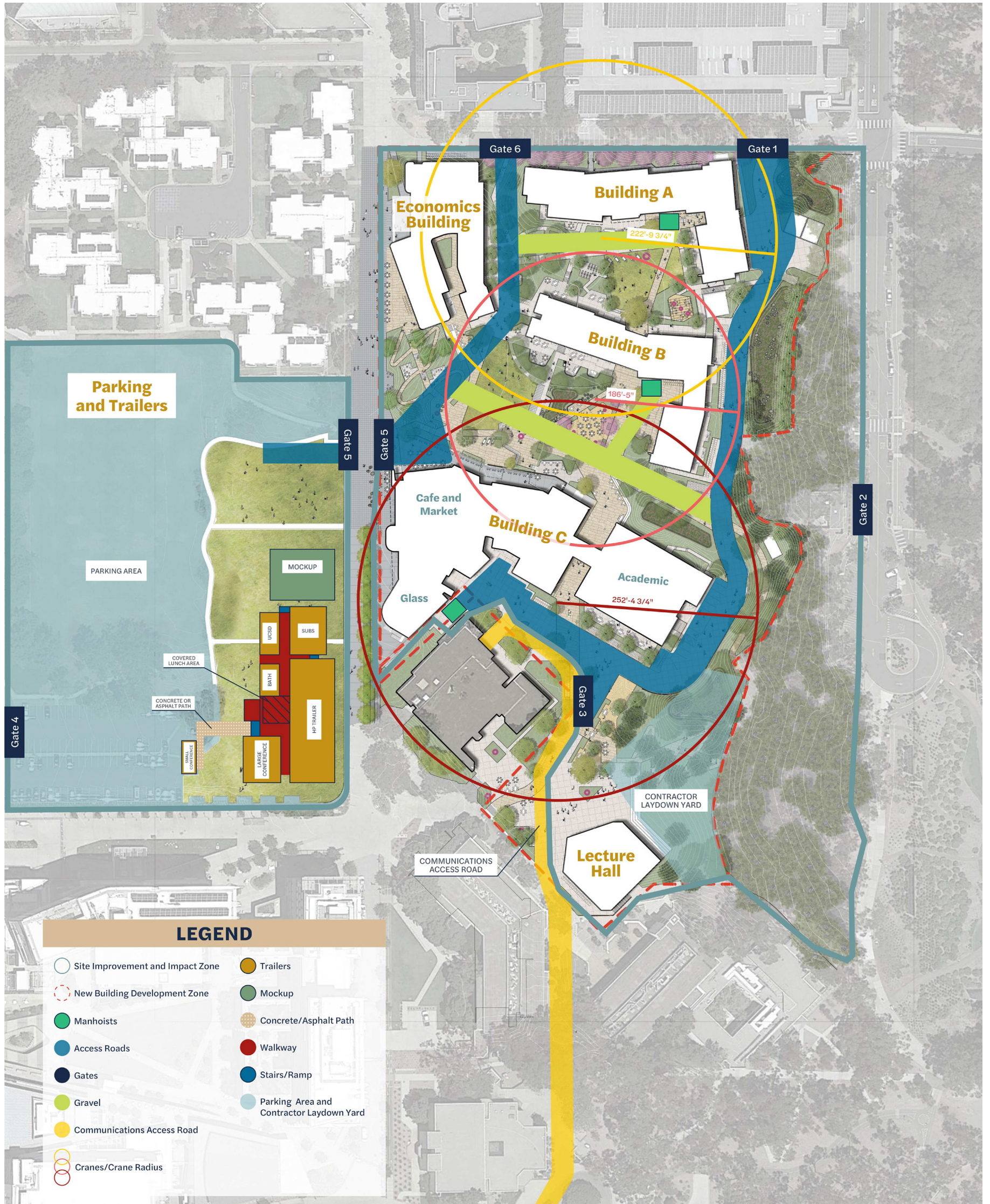
Demolition east of Ridge Walk would include the removal of most existing structures within the Project site between Hopkins Lane and Ridge Walk. These include the Economics Building, Fireside Lounge, Goody's Place, Eucalyptus Hall, and four one-story trailers (Buildings 101, 102, 103, and 103A). All buildings associated with Thurgood Marshall College Lower Apartments would be removed (six two-story walk-up apartment buildings), as would the Dean's Residence within the Historic Grove. The existing residential buildings were built in the 1970s and currently provide undergraduate student housing to approximately 250 students. Prior to demolition, abatement would be required for buildings containing asbestos or other harmful materials.

Additionally, the entirety of the 111-space parking lot P308 would be removed, along with all hardscaping, trees, and ornamental landscaping (excluding the Historic Grove).

Grading Plan

The existing Project site is situated on a sloping pad east of Ridge Walk that drains to the southeast, toward Hopkins Lane, with a generally flat pad west of Ridge Walk that drains to the west.

To the extent possible, the proposed grading for the Project site would coordinate and incorporate the following edge limits and conditions:



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Source: HMC Architects 9/2022

- East of Ridge Walk:
 - South Edge: Maintain the grading elevations and impact limits to the northern edge of the existing hardscape surrounding Solis Hall and Communications Building.
 - West Edge: Maintain the existing grading elevations adjacent to the west side of Ridge Walk.
 - North Edge: The northerly limits of grading would end at the southerly pavement edge for Voigt Drive.
 - East Edge: The Historic Grove would generally serve as the Project's easterly edge. Pathways through the grove would connect to Hopkins Lane and towards Geisel Library.
- West of Ridge Walk: Maintain existing grading elevations across the staging area and demolished pads of Sequoyah Hall and the Thurgood Marshall College Administration Building.

The proposed Project has been designed to minimize the amount of imported material required during grading. Grading would require a total cut of approximately 70,000 cubic yards of dirt and fill of approximately 15,000 cubic yards. Thus, approximately 55,000 cubic yards of dirt would be exported from the Project site via haul trucks, to a designated location outside of the Coastal Zone. Grading is anticipated to involve the following equipment: scrapers, excavators, grader, dozer, and forklifts. Grading would take up to five months.

Construction Methods

Construction will take place in phases including the following:

- Abatement and Demolition
- Grading and Site Utilities
- Installation of Foundations
- Construction of Structures
- Exterior Finishes
- Landscape/Hardscape

The proposed Project would also comply with the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activity (General Permit). Division II of the guidelines also requires stormwater best management practices (BMPs) to be implemented in accordance with UC San Diego's NDPES Phase II Small MS4 General Permit (2013 0001-DWQ) and/or Storm Water Management Program. As part of the General Permit, campus construction projects managed by outside contractors and disturbing more than one acre must implement Storm Water Pollution Prevention Plans (SWPPPs), which

specify BMPs to reduce the contribution of sediments, spilled and leaked liquids from construction equipment, and other construction-related pollutants to stormwater runoff.

2.5.5 Sustainability Features

The UC Sustainable Practices Policy covers nine areas of sustainable practices: green building, clean energy, climate protection, sustainable transportation, sustainable operations, recycling and waste management, environmentally preferable purchasing, sustainable foodservices, and sustainable water systems. The UC Sustainable Practices Policy establishes guidelines and includes climate change goals for the campus.

The proposed Project would embody UC San Diego's commitment to sustainable design, sustainable construction practices, and sustainable living. The Project would meet a rating of LEED Gold. Sustainable strategies have been organized around six primary focus areas:

1. **Site and Landscape:** The Project would have a robust landscape program, with the provision of two large housing courtyards. These zones would be landscaped with native and/or adapted plant species that would be low-water use. The program is designed to provide ample spaces for the residents, faculty, staff, and visitors to connect with outdoors. In addition, existing open space areas including the Historic Grove would be substantially preserved, with a 2:1 replacement of any tree removal within the Historic Grove.
2. **Water:** Indoor water use would be reduced through low-flow fixtures in kitchens and bathrooms. Outdoor water use would be reduced through the selection of native and/or adapted plant species. In addition, where irrigation is required, water would be provided via the campus recycled water loop.
3. **Energy:** Energy use for mechanical cooling would be greatly reduced by the provision of natural ventilation at all living units and student lounges and the use of operable windows for ventilation and exterior sunshades. Energy use for lighting would be reduced by the optimization of daylight at all occupied areas, except for outdoor safety lighting which would be the minimum necessary for nighttime safety. A rigorous commissioning process would ensure that all building systems are operating at their maximum efficiency. The Project would also obtain electricity from clean sources. The Project would also meter energy consumption at the end use level to monitor and track energy consumption over time.
4. **Materials:** Interior and exterior materials would be carefully evaluated for their health, their durability, and their maintenance requirements and selected through a life-cycle decision-making process. Recycled materials and materials from regional sources would be utilized where possible. Materials and products that disclose health related information will also be utilized where possible.
5. **Location and Transportation:** The Project's location near the center of campus also encourages pedestrian and bicycle transportation modes. As such, building occupants are not likely to utilize single-occupancy vehicles. The inclusion of amenities such as an on-site café, market, and bike storage for approximately 500 bicycles would further decrease reliance on fossil fuel-burning vehicles.

6. **Construction Methods:** Off-site methods of construction would be utilized for some building components to decrease construction waste and provide a quieter, safer, less-congested Project site. Demolition materials would be recycled in accordance with UC San Diego policies.

2.6 PROJECT APPROVAL/SCHEDULE

The project is anticipated to be constructed and occupied by fall 2025 to late 2025. As a public agency principally responsible for approving or carrying out the Project, the University of California is considered the Lead Agency under CEQA. The project directly implements the 2018 Long Range Development Plan which called for increased density and housing supply in the Thurgood Marshall Neighborhood and placed an emphasis on redevelopment of underutilized and lower-density areas. The Addendum for this Project would be considered by The Regents or their delegate and the Project may be approved at The Regents (or their delegate's) discretion, and only if The Regents (or their delegate) determine that such approval complies with CEQA.

UC San Diego would also seek approval of a Coastal Development Permit (CDP) from the California Coastal Commission.

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3 CONSISTENCY WITH 2018 LRDP

To determine whether the Project is covered by the 2018 LRDP and 2018 LRDP EIR, the following key questions should be analyzed and addressed:

- Are the objectives of the Project consistent with the objectives adopted for the 2018 LRDP?
- Are the changes to campus population associated with the Project included within the scope of the 2018 LRDP's population projections?
- Is the proposed location of the Project in an area designated for this type of use in the 2018 LRDP?
- Is the Project included in the amount of the development projected in the 2018 LRDP?
- Are the Project activities within the scope of the environmental analysis in the 2018 LRDP EIR?
- Have the conditions described in State CEQA Guidelines Section 15162 calling for the preparation of a subsequent EIR occurred?

Sections 3.1 through 3.4 document the Project's consistency with the objectives, population projections, land use designations, and development projections contained in the 2018 LRDP.

Section 4 contains a detailed examination of environmental topics with the potential for significant impacts addressed in the 2018 LRDP EIR and documents whether or not the Project is consistent with and within the scope of the environmental impact analysis of the 2018 LRDP EIR.

3.1 2018 LRDP OBJECTIVES

Key objectives of the 2018 LRDP, as outlined in the plan, include accommodate projected growth by expanding both academic and non-academic programs in support of the UC mission; establish two new undergraduate colleges; locate buildings in accordance with the established character, scale and design; co-locate and strengthen campus programs; activate and enliven the campus through mixed-use and transit-oriented development; redevelop the University Center into a town center; house approximately 65 percent of eligible students; provide faculty/staff affordable housing options; expand and enhance facilities for UC Health; expand multi-modal connections and trip reduction programs; implement sustainable development practices; and be responsible stewards for the campus open space systems.

The Project would support the following 2018 LRDP objectives:

Accommodating Projected Growth. The Project would provide 757,500 GSF of space for student housing and dining, 131,750 GSF of academic and student support, and 44,270 GSF of community support. As described below in Section 3.2, the 2018 LRDP anticipates an increase in total campus population. This increased population would require additional on-campus housing, which the

Project provides. Furthermore, the Project would provide academic and community services, dining facilities, and passive recreation space within the Project area to serve students, staff, faculty, and visitors to the campus.

Mixed-use and Transit-oriented Development. The Project would provide a dense, mixed-use development that integrates with the surrounding development and open space, and provides connections between existing pedestrian and bicycle facilities that would facilitate broader connections across the campus. Furthermore, the Project would provide housing for a largely undergraduate population. The Project would therefore encourage the use of campus and regional transit networks and reduce the need for automobile commuting for residents and staff. A ground-level café/market would be provided for ease of use for the Project's residents and students. The Project would be located near Triton Transit shuttle stops along Hopkins Drive and Scholars Drive North. The North County Transit District (NCTD) BREEZE bus service runs along North Torrey Pines Road, with the nearest stop at Muir College Drive, approximately 1,000 feet west of the Project.

Additional Campus Housing. The Project would directly support the goal to provide housing for 65 percent of the eligible student population. The Project would replace the aging low-density housing currently located on the site through the construction of a high-density project that incorporates the physical site constraints and introduces mixed-uses. The Project proposes 2,455 beds within three of the four proposed buildings and would be designed to connect to nearby campus amenities.

Sustainable Development Practices. The Project would minimize environmental impacts through sustainable development practices related to building siting and design. The Project would be certified as LEED Gold, with sustainability measures described in Section 2.5.5 such as water and energy-reducing features. Landscaping areas would be planted with native and drought-tolerant plants to promote native species and reduce water use.

Campus Open Space Systems. The Project recognizes the importance of campus open spaces and would form a balance between the built environment of the Project's structures and the adjacent Historic Grove. The Project would also provide landscaped courtyards and maintain Marshall Field and Ridge Walk.

3.2 2018 LRDP CAMPUS POPULATION

The 2018 LRDP anticipates that the total campus population would grow by 16,750 people over the 2018 LRDP planning period, resulting in a total population of 65,600 by 2035 (Table 3-1). The Project would not result in new campus populations related to new academic or research programs but would provide housing for student populations, which are anticipated to increase regardless of Project implementation. The Project would provide beds for 2,394 students, 50 resident student advisors, and 11 professional resident staff (Table 3-2). In addition, approximately 480 full time equivalent staff and faculty would work in the proposed facilities. While the majority of these employees would already be employed by the University and would be relocated from the buildings removed by the project or other campus locations, approximately 80 of these staff members would result from program expansion facilitated by the Project.

While the Project would increase the number of students residing on campus, it would not cause an increase in student enrollment as the Project will serve an existing demand for on-campus housing. Student employees are also students already enrolled in academic programs, and therefore student employment by itself is not population inducing. In addition, the majority of staff and faculty located in the new facilities would be relocated from existing programs. The Project would be associated with an expansion of approximately 80 new employees. This growth is consistent with the population projections evaluated in 2018 LRDP EIR, and the Project would not cause an exceedance of the population growth anticipated by the 2018 LRDP.

The campus population presented in this table does not represent just those physically present on campus in any given day. Rather, it represents total student enrollment and fulltime-equivalent employees (e.g., “headcount”). The population figures are not adjusted to reflect the fact that not all students, faculty, and staff are on campus simultaneously on any given day due to variations in class and working/teaching schedules, vacations, sick leave, and sabbaticals. Additionally, since the onset of the COVID-19 pandemic in early 2020, a portion of the total campus population has transitioned to remote work schedules which may continue long-term. Based on work arrangement agreements completed by all campus and health employees in May 2022, the majority of campus employees work at least one day a week from remote locations (e.g., from home) with many working remote full time. Roughly half of campus employees are working from a campus location full time. While hybrid schedules may shift over time, it is expected that hybrid remote work will continue to the foreseeable future. Thus, the actual on-campus population on any given weekday would be substantially less than what is presented in this table.

**Table 3-1
Total Campus Population Growth Projections**

Category	Fall 2015 (Baseline)¹	Fall 2022 (Actual)²	Fall 2035 (LRDP Projected)¹
Students	32,850	42,000	42,400
Faculty	1,300	1,770*	2,200
Staff	14,700	18,730*	21,000
Total Population	48,850	62,500	65,600

*Fall 2022 population data for faculty and staff were not available at the time this document was completed; therefore, fall 2021 data was utilized.

Sources:

- 1 UC San Diego 2018a.
- 2 Current annual data provided by Campus Planning Office.

**Table 3-2
Residential Population Estimate for Proposed Project**

Category	Beds
Student Residents	2,394
Resident Student Advisors	50
Residential Professional Staff	11
Total Project Population	2,455

3.3 2018 LRDP LAND USE

The Land Use Plan of the 2018 LRDP describes functional land use categories that reflect those activities that would be predominant in any given area of campus (Figure 2-3 in the 2018 LRDP EIR). Predominant uses are the primary programs, facilities, and activities in a general geographic area. Other support or ancillary uses are allowable within any given area defined by a predominant use.

The 2018 LRDP designates the Project site as Academic, Housing, and Sports and Recreation, defined, respectively, as land and structures that provide classrooms with associated academic operations facilities, residential areas with supporting facilities, and playing fields or other recreational open space. The Project would construct four buildings, which would provide housing, dining facilities, academic and student support services, and community support services. Marshall Field and Ridge Walk would be maintained while new landscaped open spaces would be created within the Project. Therefore, it has been determined that the Project is consistent with the land use categories in the 2018 LRDP.

3.4 2018 LRDP DEVELOPMENT SPACE

The 2018 LRDP provides capacity for approximately 9 million GSF of additional building space for academic, clinical, housing, administrative, and service programs. This projected net increase accounts for the potential removal (demolition) of approximately 1 million GSF of buildings that are beyond their useful life and/or are located in strategic redevelopment areas. The total new campus building space is presented by geographic area on the UC San Diego La Jolla campus and compared to the 2018 LRDP Program EIR baseline (2015) and horizon year projection (2035) as shown in Table 3-3 below.

**Table 3-3
Total Campus Space Projections**

Campus Location	Baseline Fall 2015 GSF¹	Actual Fall 2022 GSF	LRDP Projected Fall 2035 GSF
West Campus	11,099,000	12,551,800	16,046,000
East Campus	3,075,300	5,011,900	9,358,300
Scripps Institution of Oceanography	1,018,000	1,018,000	2,011,000
Nearby Properties	471,000	471,000	471,000
Total Space	15,663,300	19,052,700	27,886,300

Sources:

- 1 UC San Diego 2018a
- 2 Actual GSF provided by Campus Planning Office

The table above presents the existing, operable building space on campus as of Fall 2022. In addition, at the time this document was prepared, approximately 1.5 million GSF of net new building space was approved and under construction on the West Campus (i.e., the Theatre District Living and Learning Neighborhood, Pepper Canyon West Housing, and the Central Utilities Plant

Expansion) and approximately 100,000 GSF of net new building space was approved and pending construction on the East Campus (Viterbi Family Vision Research Center). As described in Section 2.5.4, the Project would demolish the majority of the structures on the site totaling 152,170 GSF. The Project would construct 933,520 GSF of building space. Based on this data, it has been determined the Project would not exceed the building space projections contemplated in the 2018 LRDP and is consistent with the plan.

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4 CONSISTENCY WITH 2018 LRDP EIR

The evaluation contained in this consistency review was conducted in accordance with §21094 of the California Public Resources Code. Pursuant to §15164 and 15168 of the State CEQA Guidelines, this Addendum documents that the Project's effects have been adequately addressed in a prior (or earlier) programmatic analysis. The 2018 LRDP EIR is a Program EIR that comprehensively addressed the potential environmental effects of campus growth and development due to implementation of future projects and activities proposed under the 2018 LRDP EIR. Therefore, given the consistency of the proposed Project with the 2018 LRDP, preparation of an addendum is appropriate.

In January 2019 and following certification of the 2018 LRDP EIR, amendments and additions to Appendix G of the State CEQA Guidelines went into effect. Because the Governor's Office of Planning and Research (OPR) proposed these amendments and additions to Appendix G of the State CEQA Guidelines in 2018, UC San Diego was able to anticipate the checklist changes during the preparation of the 2018 LRDP EIR and incorporate those concepts into the certified EIR. Therefore, while the 2018 LRDP EIR reflects the Appendix G checklist questions that were in effect at the time of EIR certification, the analysis contained therein reflect the context of and appropriately address the amended Appendix G that was approved in 2019. To address the amendments directly, this Addendum Checklist reflects the current Appendix G of the CEQA Guidelines and refers to sections of the 2018 LRDP EIR where relevant analysis can be found.

4.1 EVALUATION OF PROJECT ENVIRONMENTAL IMPACTS

Checklist Explanation

On the basis of the tiering and subsequent review concepts identified in the CEQA Guidelines, the University has defined the following column headings in this Addendum Checklist. Both headings rely on the relevant analyses in the 2018 LRDP EIR:

Impacts Adequately Examined in the 2018 LRDP EIR: This column is checked where the potential impacts of the Project were adequately examined in the certified 2018 LRDP EIR. Where applicable, mitigation measures identified in the 2018 LRDP EIR would mitigate the impacts of the Project. All applicable mitigation measures from the 2018 LRDP are incorporated into the Project as noted in Section 5 of this Addendum Checklist. The Project is consistent with the analysis evaluated in the 2018 LRDP EIR.

Impacts Not Examined in the 2018 LRDP EIR: If a column is checked in this section, this indicates potential effects of the Project were not adequately evaluated in the certified 2018 LRDP EIR. However, as described in the supporting text, the potential effects of the Project could result in a) no impact in the category, b) less-than-significant impact in the category, or c) new potentially significant impact. In the instance that a) or b) is checked, no additional CEQA documentation would be necessary. In the instance that c) is checked, additional CEQA documentation would be necessary to further address the issue. All applicable mitigation measures (LRDP Program and/or project-specific) would be incorporated into the Project as noted in Section 5 of this Addendum Checklist.

Environmental Topics Addressed

The following environmental resources, if checked below, would be potentially affected by this Project and would involve at least one significant impact that substantially exceeds or is otherwise outside the scope of activities evaluated for potential environmental effects in the 2018 LRDP EIR, as discussed below in Sections 4.1.1 through 4.1.17 of the Addendum Checklist. Agriculture and Forestry and Mineral Resources are discussed in Section 4.1 of the 2018 LRDP EIR under *Effects Not Found to be Significant*. As noted in those discussions, no potential for significant impacts to those topics would occur due to the lack of such resources on the UC San Diego La Jolla campus. As such, those topics are not discussed in this Addendum Checklist.

If “None” is checked below, this Project is deemed entirely consistent with and covered by the environmental analysis contained in the 2018 LRDP EIR.

- | | | |
|---|--|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Air Quality | <input type="checkbox"/> Biological Resources |
| <input type="checkbox"/> Cultural and Tribal Cultural Resources | <input type="checkbox"/> Energy | <input type="checkbox"/> Geology and Soils |
| <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards and Hazardous Materials | <input type="checkbox"/> Hydrology and Water Quality |
| <input type="checkbox"/> Land Use and Planning | <input type="checkbox"/> Noise | <input type="checkbox"/> Population and Housing |
| <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation/Traffic |
| <input type="checkbox"/> Utilities and Service Systems | <input type="checkbox"/> Wildfire | <input type="checkbox"/> Mandatory Findings of Significance |
| <input checked="" type="checkbox"/> None | | |

4.1.1 Aesthetics

Section 3.1 of the 2018 LRDP EIR evaluates the impacts of campus growth under the 2018 LRDP on aesthetics. The 2018 LRDP EIR concludes that implementation of future projects under the plan would result in potentially significant impacts to scenic vistas, visual character or quality, and light or glare (Sections 3.1.3.1 through 3.1.3.3). No potential for significant impacts to scenic resources within the viewshed of the state scenic highway is identified (Section 3.1.5). Mitigation Measures (MM) Aes-1 (scenic vistas) and Aes-2A and Aes-2B (visual character/quality) and Aes-3 (night lighting) are identified in the mitigation framework of the 2018 LRDP EIR for projects that would contribute to these impacts. Implementation of the measures would reduce the future aesthetics impacts to less than significant levels, consistent with the 2018 LRDP.

AESTHETICS Would the Project...	Impact Examined in 2018 LRDP EIR	Impact Not Examined in 2018 LRDP EIR		
		No Impact	Less-than-Significant Impact	Potentially Significant Impact
a) Have a substantial adverse effect on a scenic vista?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a) As shown in Figure 3.1-2, Campus Visual Resources, of the 2018 LRDP EIR, the Project site is not located within the Visual Sensitive Zone, or in the Perimeter Development Zone. Also, the Project is not within the viewshed of any Key Vantage Point (KVP) identified in the 2018 LRDP EIR. The Project is located in the vicinity of KVP 3 and 4, which is a vantage point of Geisel Library as viewed from Voigt Drive. Although KVP 3 and 4 are located within approximately 1,000 feet east of the Project boundary, the Project buildings would not obstruct views of Geisel Library or the surrounding open space due to the location and orientation of the view point. The Project would not have the potential for a significant impact to views because it is not located at a scenic vista location.

It should be noted that per Senate Bill 743, a project's aesthetic impacts will not be considered significant if the project is a residential, mixed-use residential, or employment center project and is located on an infill site within a Transit Priority Area (TPA), which is defined as being within 0.5-mile of a major transit stop (e.g., the Gilman Transit Center). Because the Project is a mixed-use residential project and is located within 0.5-mile of a major transit stop, impacts associated with aesthetics are considered less than significant. Therefore, the Project would result in less than significant impacts consistent with the scenic vistas/views analysis evaluated in the 2018 LRDP EIR.

- b) Implementation of the Project would not result in substantial damage to scenic resources within a state scenic highway because no such resources or roads exist on or adjacent to the UC San Diego, La Jolla campus. Therefore, the Project would result in less than significant impacts consistent with the scenic resources analysis evaluated in the 2018 LRDP EIR.
- c) The Project is located within an urbanized area and would comply with the 2018 LRDP land use designation and UC San Diego design guidelines. As discussed in Section 2.5.4, the majority of existing features and landscaping would be demolished to construct the Project buildings, as well as associated landscaping and hardscaping features. While Marshall Field would be utilized for construction parking and materials staging, it would be restored to existing conditions, and nearby Stuart Collection artwork ("UNDA" and "Something Pacific") would be protected during construction. Furthermore, any removed eucalyptus trees associated with the Historic Grove would be replaced within the Grove at a 2:1 ratio. Because the Project would comply with all applicable UC regulations governing scenic quality, the Project would not have the potential for a significant impact related to degradation of the visual character of the site and its surroundings.

In addition, the Project is not within the Visual Sensitive Zone or Perimeter Development Zone of the campus, (refer to Figure 3.1.2 in the 2018 LRDP EIR). It should be noted that per Senate Bill 743, a project's aesthetic impacts will not be considered significant if the project is a residential, mixed-use residential, or employment center project and is located on an infill site within a TPA, which is defined as being within 0.5-mile of a major transit stop. Furthermore, the Project's design was reviewed by the UC San Diego Design Review Board (DRB) in January and August 2019 to assess its consistency with the visual landscape and character of the surrounding development. Input received on the design included shadows, pedestrian pathways, landscape connections, and architectural fenestration and materials. The design incorporated DRB input and was endorsed by the DRB in September 2022 as required by 2018 LRDP MM Aes-2A. Therefore, the Project would result in less than significant impacts consistent with the visual character and quality analysis evaluated in the 2018 LRDP EIR.

- d) Lighting fixtures, including safety lighting, would be provided on pathways within the Project, including Ridge Walk. As with all projects at UC San Diego, the Project has been designed to comply with the UC San Diego Design Guidelines which includes an Outdoor Lighting Policy. The Outdoor Lighting Policy includes lighting restrictions and standards (such as down-lighting) that reduce nighttime light pollution from campus facilities to minimally acceptable levels to support and advance local astronomical research, and to limit nuisance light and glare impacts to adjacent properties, while ensuring adequate lighting levels for safety and security. Building materials would be selected to appropriately reduce glare (e.g., "clear vision" glass to minimize glare and reflectivity) as well as light fixtures that would be downcast and

would minimize light pollution or spill over. Further, the Project design does not include an above-ground parking garage that would result in vehicle headlights affecting nighttime views. Therefore, the Project would result in less than significant impacts consistent with the light and glare analysis evaluated in the 2018 LRDP EIR.

4.1.2 Air Quality

Section 3.2 of the 2018 LRDP EIR addresses the air quality effects of campus growth under the 2018 LRDP and concludes that its implementation would result in significant and unavoidable impacts from construction and operational activities that would lead to a violation of air quality standards or contribute substantially to an existing or projected air quality violation (Section 3.2.3.2). Cumulatively significant impacts were identified due to a considerable net increase in criteria pollutants in a region that is in non-attainment (Section 3.2.3.3). Construction and operational emissions would result in the exposure of on- and off-campus sensitive groups, off-campus residents, and off-campus workers to substantial toxic air contaminant (TAC) concentrations resulting in significant and unavoidable impacts (Section 3.2.3.5). Less than significant impacts were identified related to conflicts with the Regional Air Quality Strategy (RAQS) and State Implementation Plan (SIP). Less than significant impacts were identified related to carbon monoxide hot spots (Sections 3.2.3.1 and 3.2.3.4). No potential for significant odors impacts was identified (Section 3.2.5).

MM AQ-2A (fugitive dust emissions) and AQ-2B (off-road construction emissions) are required for projects that would contribute to these impacts. However, the 2018 LRDP EIR acknowledges that not all projects under the plan can feasibly implement MM AQ-2B and certain projects would contribute to significant and unavoidable impacts related to criteria pollutants and TACs.

AIR QUALITY	Impact Examined in 2018 LRDP EIR	Impact Not Examined in 2018 LRDP EIR		
		No Impact	Less-than-Significant Impact	Potentially Significant Impact
Would the Project...				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- a) An Air Quality Technical Report was completed for the Project and is attached to this Addendum as Appendix A.

The 2018 LRDP incorporates development strategies identified in the San Diego Association of Governments (SANDAG) Regional Transportation Plan and Sustainable Communities Strategy by integrating land use, housing, and transportation planning, which is consistent with the goals developed by SANDAG and the University land use assumed in the Regional Air Quality Strategy (RAQS). Since the 2018 LRDP EIR was certified, the 2020 Ozone Attainment Plan has superseded the 2016 RAQS as the applicable air quality plan for the San Diego Air Basin. The strategies and control measures in the 2020 Ozone Attainment Plan are similar to the RAQS and projects which are consistent with the growth assumptions in local plans would not result in vehicle miles traveled (VMT) exceeding the assumption in regional transportation plans and would not conflict with the 2020 Ozone Attainment Plan. The Project would be consistent with the land use proposed in the 2018 LRDP, would not exceed the building space projections in the 2018 LRDP, and would not result in a campus population increase, as described in Section 3 of this Addendum Checklist. The Project would result in an increase in the portion of students housed on campus compared to the assumptions in the 2018 LRDP; however, students who live on campus typically drive less than students living off campus as they no longer need to commute to get to school, generating less VMT. In addition, the Project would provide new and enhanced connections between existing pedestrian and bicycle facilities that would facilitate broader connections across the campus, as described in Section 2.5 of this Addendum Checklist. Therefore, the Project would result in less than significant impacts and would be consistent with the air quality management plan analysis evaluated in the 2018 LRDP EIR.

- b) Although the Project's land use and buildings would be consistent with the projections in the 2018 LRDP, the intensity of Project construction activity would exceed the assumptions used in the 2018 LRDP EIR construction emissions calculations. The 2018 LRDP EIR assumed 25 percent of the planned facilities could be built in one year, resulting in demolition of 64,373 SF of existing buildings and construction of 513,625 SF of building space. The Project proposes demolition of 152,170 SF of existing buildings and construction of 933,520 SF of building space over a 30-month period between 2023 and 2025, and would be concurrent, at times, with other LRDP construction projects. Project-specific construction emissions modeling was therefore completed to evaluate consistency with the 2018 LRDP EIR air quality impact conclusions and is documented in Appendix A.

The results of the Project construction modeling show that criteria pollutant and precursor emissions would not exceed the applicable San Diego Air Pollution Control District (SDAPCD) screening thresholds, without consideration of MMs required by the 2018 LRDP EIR. However, because Project construction could coincide with other construction projects under the 2018 LRDP, combined emissions could exceed the maximum daily emissions thresholds for nitrogen oxides (NO_x), particulate matter less than 10 microns in diameter (PM₁₀), and particulate matter less than 2.5 microns in diameter (PM_{2.5}). These findings are consistent with the conclusion in the 2018 LRDP EIR analysis (Sections 3.2.3.2 and 3.2.3.3) which disclosed that impacts to these three emissions thresholds would occur. Therefore, proposed Project impacts related to construction emissions would be consistent with the potentially significant finding of the 2018 LRDP EIR, resulting in a cumulatively considerable contribution to an existing air quality violation.

The Project land use and building development would be consistent with the 2018 LRDP, as discussed in Section 3 of this Addendum Checklist. Therefore, the Project's operational emissions related to landscape maintenance, building maintenance, and building energy use would be consistent with the analysis in the 2018 LRDP EIR.

Though the Project would result in an increase in the portion of students housed on the West side of campus, Project-related growth would be consistent with the campus population projections evaluated in 2018 LRDP EIR. As discussed previously, these students would generate less VMT and associated mobile source emissions than if they were housed off campus. Project operational mobile source emissions would be consistent with the 2018 LRDP EIR (Sections 3.2.3.2 and 3.2.3.3), which concluded that mobile source operational emissions of PM10 would be potentially significant and cumulatively considerable. Although implementation of the LRDP, including the proposed Project, would benefit from UC San Diego's extensive Transportation Demand Management system and would include trip reduction from the San Diego Trolley service to the campus as well as increased on-campus housing, no feasible mitigation measures are available to further reduce PM10 emissions. Therefore, the impact related to mobile operational emissions would be significant, resulting in a cumulatively considerable contribution to an existing air quality violation.

Implementation the Project would contribute to a cumulatively considerable net increase of criteria pollutants for which the region is in nonattainment under an applicable federal or state ambient air quality standard. MMs AQ-2A (fugitive dust emissions) and AQ-2B (off-road construction equipment emissions) would be incorporated into construction specifications to minimize Project construction emissions impacts. As described above, the Project would result in less than significant impacts related to Project-specific construction emissions. The feasibility of implementing MM AQ-2B is not assured as documented in pages 3.2-25 through 3.2-26 in the 2018 LRDP EIR . Given the potential for simultaneous construction in addition to the Project, implementation of the Project would contribute to a cumulatively considerable net increase of criteria pollutants for which the region is non-attainment. The Project would be consistent with the air quality analysis evaluated in the 2018 LRDP EIR.

- c) Because Project trip generation and VMT would not exceed the assumptions in the 2018 LRDP EIR (as described in Section 4.1.15 of this Addendum checklist), future traffic associated with the Project would not result in or contribute to any exceedances of the 1-hour or 8-hour CO standards during the AM peak period. Therefore, operation of the Project would not expose sensitive receptors to substantial pollutant concentrations caused by localized CO impacts. The Project would result in less than significant impacts related to localized CO concentrations and would be consistent with the air quality analysis evaluated in the 2018 LRDP EIR.

For emergency generators, the 2018 LRDP EIR assumed one future generator in the Project area: an 850-horsepower diesel generator operating 26 hours per year. Instead, the Project proposes three 750-horsepower generators operating up to 30 hours per year each, exceeding the assumptions in the 2018 LRDP EIR. However, the proposed Project generators produce even lower emissions than USEPA Tier 4 Final emission standards (Toxics Best Available Control Technology for diesel powered generators) and would have lower combined annual exhaust emissions compared to the single generator assumed in the 2018 LRDP EIR (see complete generator analysis in Appendix A). Therefore, the health risks associated with Project emergency generators would be lower than calculated in the 2018 LRDP EIR. Because the Project emergency

generators would be located near the Project buildings, a health risk assessment (HRA) was completed to analyze potential health risks to on-campus residents and on-campus workers sited near the Project generators. The methods and complete results of the HRA are included as Appendix A to this Addendum Checklist. The results of the HRA show that health risks to future on-campus residents and workers sited near the generators would be a maximum incremental increased cancer risk of 0.15 in 1 million, less than the 10 in 1 million SDPACD threshold, resulting in a less than significant impact.

TAC emissions would be associated with Project-related construction and operations due to diesel PM emissions from construction equipment and motor vehicles. As described in Section 3.2.3.5 of the 2018 LRDP EIR, TAC emissions from combustion sources, emergency generators, laboratories, and high volume roadways, including emissions from the Project, would not result in health risks exceeding the SDAPCD thresholds for on-campus residents (students) and workers; however, the TAC emissions would result in health risks exceeding the SDAPCD thresholds for cancer risks for off-campus residents and workers and on- and off-campus sensitive groups. Because construction of the Project would contribute TAC emissions, MM AQ-2B would be incorporated into construction specifications to minimize this impact. However, the feasibility of implementing MM AQ-2B is not assured as detailed on page 3.2-38 of the 2018 LRDP EIR. TAC emissions from high volume roadways are the primary driver of health risk, not construction equipment emissions. Therefore, the Project would contribute to the significant and unavoidable air quality (TAC) impacts associated with implementing the 2018 LRDP, consistent with the air quality analysis evaluated in the 2018 LRDP EIR.

- d) Potential sources that may emit odors during construction of the Project would include exhaust from diesel construction equipment. However, because of the temporary nature of these emissions and the highly diffusive properties of diesel exhaust, odors from construction equipment would not affect a substantial amount of people. The Project would use typical construction techniques, and the odors from off-road equipment and on-road vehicles would be typical of most construction sites and temporary in nature. Project operation would not include different land uses or potential odor sources than presently exist on the campus or are anticipated in the 2018 LRDP. Therefore, the Project would not include new sources of odor or other pollutants that would adversely affect a substantial number of people. Therefore, the Project would result in no odor impacts and would be consistent with the air quality analysis evaluated in the 2018 LRDP EIR.

4.1.3 Biological Resources

Section 3.5 of the 2018 LRDP EIR addresses the effects of campus growth under the 2018 LRDP on biological resources and concludes that its implementation would result in potentially significant impacts to sensitive biological resources, including candidate, sensitive, or special-status plant species (Section 3.3.3.1); sensitive animal species (Section 3.3.3.2); and sensitive vegetation communities (Section 3.3.3.3) and federally-protected wetlands (Section 3.3.3.4). No potential for significant impacts to wildlife corridors or linkages and conflicts with local policies or ordinances, including any adopted habitat conservation plans exists (Section 3.3.5).

The mitigation framework addresses all of the potentially significant impacts identified in Section 3.3.3 of the 2018 LRDP EIR. If an LRDP project would impact sensitive plants, the site would be

surveyed for sensitive plants in accordance with MM Bio-1A and, if applicable, San Diego barrel cactus would be relocated in accordance with MM Bio-1B. For impacts to sensitive animal species, surveys for the species, construction noise attenuation, and agency consultation is required by MMs Bio-2A, 2B, and 2C and avian nest surveys and avoidance measures are required by MMs Bio-2D and 2E. MMs Bio-3A and 3B require project-level surveys for sensitive vegetation communities, while avoidance and compensatory mitigation is required by MMs Bio-3C and Bio-3D. Indirect construction impacts are addressed through the implementation of MMs Bio-3E and Bio-3F, and indirect operational impacts require compliance with MMs Bio-3G through Bio-3M. Implementation of these measures would reduce future project-level impacts to less than significant levels.

BIOLOGICAL RESOURCES	Impact Examined in 2018 LRDP EIR	Impact Not Examined in 2018 LRDP EIR		
		No Impact	Less-than-Significant Impact	Potentially Significant Impact
Would the Project...				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 Wildlife or US Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on state or 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

BIOLOGICAL RESOURCES	Impact Examined in 2018 LRDP EIR	Impact Not Examined in 2018 LRDP EIR		
		No Impact	Less-than-Significant Impact	Potentially Significant Impact
Would the Project...				
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a) A biological resources evaluation was completed for the Project and is attached to this Addendum as Appendix B. The portion of the Project site that would be directly impacted by Project implementation is developed and the 2018 LRDP EIR defines it as Urban/Developed Land (refer to Figures 3.3-1 and 3.3-2 in the 2018 LRDP EIR). The Project would therefore not result in direct impacts to sensitive vegetation communities, as all grading, staging, and other construction would occur within the limits of the developed site. No special-status plant or animal species were observed within the Project site, though Cooper’s hawk has the potential to occur due to the presence of suitable nesting trees within the ornamental landscaping throughout the site and the Historic Grove. Monarch butterflies have been documented at an overwintering site within the Historic Grove approximately 315 feet south of the Project boundary, however the overwintering site would not be impacted by the proposed Project.

As noted above, the Project site hosts mature trees, including eucalyptus within the Historic Grove, which may house Cooper’s hawk while nesting. Construction would require the removal of up to 63 eucalyptus trees, which would be replaced at a 2:1 ratio within the Historic Grove. Implementation of MMs Bio-2D and Bio-2E from the 2018 LRDP EIR would reduce potential impacts to nesting birds and raptors to a less than significant level.

As shown in Figures 4 and 5 of Appendix B to this Addendum, no native habitat is present within the Project site. However, there is native habitat located within the Ecological Reserve to the east of Hopkins Drive. The nearest building would be constructed more than 100 feet from the edge of the Ecological Reserve, separated by Hopkins Drive and the Historic Grove. While some utility connections will occur within Hopkins Drive, the majority of construction will be confined within construction fencing to be placed on the west side of Hopkins Drive, limiting the potential for unanticipated construction impacts to habitat area. Still, the Project has the potential to result in indirect impacts to off-site sensitive lands related to runoff/water quality, non-native plant species, construction noise, night lighting, errant construction impacts, and invasive insect pests. Implementation of 2018 LRDP EIR MMs Bio-3E(i) through (iv) and Bio-3F during construction and Bio-3G(i) through (vi), Bio-3I(i) through (iii), Bio-3J, and Bio-3K(i) and (ii) during operation would reduce indirect impacts to a less than significant level.

Compliance with the 2018 LRDP EIR mitigation framework would ensure the Project would reduce its potentially sensitive species impacts to less than significant levels and is consistent with the sensitive species analysis evaluated in the 2018 LRDP EIR.

- b, c) The Project site is developed, as noted above under item a, and does not contain any aquatic, wetland, or riparian habitat. No significant impacts to such resources would occur and the Project is consistent with the biological resources analysis evaluated in the 2018 LRDP EIR.
- d) Development of the Project would not preclude wildlife movement or impact wildlife corridors or linkages as none exist on the campus. Therefore, the Project is consistent with the biological resources analysis evaluated in the 2018 LRDP EIR.
- e) UC San Diego is a part of the UC, a constitutionally created unit of the State of California. As a state entity, UC is not subject to municipal plans, policies, and regulations, such as County and City General Plans or local ordinances. Thus, the Project would not result in any conflicts with any local policies protecting biological resources and is consistent with the biological resources analysis evaluated in the 2018 LRDP EIR.
- f) The Project would not directly or indirectly affect resources preserved by the City of San Diego as part of its Multiple Species Conservation Plan (MSCP). Therefore, no impacts are anticipated to the City's MSCP or the NCCP Program and is consistent with the biological resources analysis evaluated in the 2018 LRDP EIR.

4.1.4 Cultural and Tribal Cultural Resources

Section 3.4 of the 2018 LRDP EIR addresses the effects of campus growth under the 2018 LRDP on archaeological and historical resources, including tribal cultural resources, and concludes that its implementation would result in potentially significant impacts due to potential alterations of historical (built environment) resources that would cause a substantial adverse change in their significance (Section 3.4.3.1); land disturbance of recorded archaeological resources and unrecorded subsurface archaeological resources (Section 3.4.3.2); disturbance of human remains and of potential human remains in unrecorded subsurface sites (Section 3.4.3.4); and disturbance of tribal cultural resources (TCRs) (Section 3.4.3.5). Disturbance of geological formations containing paleontological (fossil) resources (Section 3.4.3.3) is discussed further in Section 4.1.6, Geology and Soils, of this Addendum.

The mitigation framework addresses all of the potentially significant impacts identified in Section 3.4.3 of the 2018 LRDP EIR. For impacts to historical resources, MM Cul-1A requires an analysis of historical resources and avoidance through compliance with the Secretary of the Interior's Standards for Rehabilitation; project redesign is required in accordance with MM Cul-1B; preparation of documentation is required by MM Cul-1C; and feasible relocation of historical resources through compliance with MM Cul-1D. Supplemental measures are also required for certain projects as described in MM Cul-1E through Cul-1G. Demolition would be considered a significant and unavoidable impact of the 2018 LRDP implementation.

The mitigation framework requires the identification of archaeological resources in the Area of Potential Effects (APE) and evaluation in accordance with MM Cul-2A; avoidance of impacted resources per MM Cul-2B; documentation and treatment is required by MM Cul-2C; unknown resources, including human remains, are treated in accordance with MM Cul-2D; and construction monitoring to comply with MM Cul-2E. Compliance with California Health and Safety Code Sections 7050.5 and 7052 and PRC Section 5097.98 is required for inadvertent discoveries of human remains,

as noted in MM Cul-2E. Implementation of these measures would reduce future project-level impacts to archaeological resources, including human remains, to less than significant levels.

If campus development would affect TCRs, UC San Diego would initiate tribal consultation and identify feasible avoidance and minimization measures in accordance with MM Cul-5A. If avoidance is not feasible, TCRs would be treated through construction monitoring in accordance with MM Cul-5B; any cultural materials would be returned to the tribe per MM Cul-5C. Implementation of these measures would reduce future project-level impacts to TCRs to less than significant levels.

Would the Project...	Impact Examined in 2018 LRDP EIR	Impact Not Examined in 2018 LRDP EIR		
		No Impact	Less-than-Significant Impact	Potentially Significant Impact
a) Cause a substantial adverse change in the significance of a historical resource as pursuant to §15064.5?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of formal cemeteries?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Cause a substantial adverse change in the significance of a Tribal Cultural Resource as defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
1) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.				

- a) In addition to the analysis contained in the 2018 LRDP EIR, a cultural and historical resources report was completed for the Project and is attached to this Addendum as Appendix C.

Based on the inventory and analysis contained in the Historic Resources Report prepared for the 2018 LRDP EIR (Architectural Resources Group 2018), the Project site contains no structures that are considered historic resources. However, as identified in Figure 3.4-1b of the 2018 LRDP EIR, a portion of the Project site includes a historic landscape, the Historic Grove. A discussion of potential impacts to UC San Diego historic vernacular landscapes concludes that, "It is possible to remove some trees and landscape features without adversely affecting the overall integrity of the landscape, provided that the district's essential character and significance remain unimpaired." (Architectural Resources Group 2018:35). Therefore, intact concentrations of trees within the project site should be preserved so that the landscape would continue to convey its historical significance and major features upon Project completion, as described in the 2018 LRDP EIR (UCSD 2018b: 3.4-51). The removal of individual trees on the periphery of concentrations and outside the designated Historical Grove boundary would generally not impact the historic integrity of the resource.

The Project has been designed to minimize impacts to the Historic Grove. Up to 63 eucalyptus trees requiring removal would be replaced at a 2:1 ratio, with 126 new trees planted within the Historic Grove. Additionally, vernacular landscapes, by definition, have evolved over time, generally cover large areas, and often have boundaries that blur into the surrounding environment. As such, buildings constructed adjacent to the Grove would not adversely affect the overall integrity of the vernacular landscape. Therefore, the Historic Grove would continue to convey its historical significance and major features upon Project completion, as described in the 2018 LRDP EIR.

Implementation of MM Cul-1A requires that UC San Diego determines whether a project may have a substantial adverse impact on a historical resource, and if so, a historic preservation professional be provided to ensure the Project meets the Secretary of the Interior Standards for the Treatment of Historic Properties. Following initiation of the Project, a historic resources report was conducted. The report concluded that with the replacement of eucalyptus trees within the Historic Grove, impacts would be less than significant (HELIX 2022b). Compliance with the 2018 LRDP EIR mitigation framework would ensure the Project is consistent with the historic resources analysis evaluated in the 2018 LRDP EIR.

- b,c) Based on a review of the Project's Area of Potential Effects in accordance with MM Cul-2A and the inventory and analysis contained in the Archaeological Resources Report prepared for the 2018 LRDP EIR (AECOM 2018), the Project site contains no known archaeological resources. However, there is a prehistoric secondary deposit located approximately 280 feet west of the northernmost Project boundary. Because of the presence of known resources in close proximity, the potential also exists for unknown resources and/or buried human remains to be encountered during Project construction. Construction monitoring by a qualified archaeologist would be conducted as required by MM Cul-2E. If human remains are inadvertently discovered, the campus would comply with California Health and Safety Code Sections 7050.5 and 7052 and PRC Section 5097.98. Compliance with the 2018 LRDP EIR mitigation framework would ensure the Project would reduce its potentially significant impacts to less than significant levels and is consistent with the cultural resources analysis evaluated in the 2018 LRDP EIR.

- d) Assembly Bill 52 (AB 52) requires that CEQA lead agencies consult with California Native American tribes that have requested such consultation, at initiation of the CEQA process, to identify and evaluate the significance of TCRs. The process for identification of TCRs on the UC San Diego campus consisted of the formal consultation process mandated by AB 52, as well as a Native American consultation and outreach program conducted for the 2018 LRDP EIR.

In January 2016, UC San Diego proactively contacted California Native American tribes traditionally and culturally affiliated with the San Diego region to solicit their interest in being notified of proposed campus development projects as part of the planning process pursuant to AB 52. UC San Diego did not receive any responses as a result of this outreach attempt. However, UC San Diego was contacted independently by the San Luis Rey Band of Mission Indians, who expressed interest in receiving formal notifications of proposed projects on campus. Accordingly, UC San Diego has been sending out formal consultation request letters to the San Luis Rey Band of Mission Indians on a project-by-project basis. Such a letter describing the 2018 LRDP and requesting a consultation was sent to the San Luis Rey Band of Mission Indians on December 9, 2016. Because no response was received within the requested 30 days, UC San Diego assumed that consultation was declined.

The 2018 LRDP EIR Notice of Preparation (NOP) dated November 3, 2016, was also sent to 13 Native American tribes and the Native American Heritage Commission (NAHC) notifying them of the preparation of the 2018 LRDP EIR and soliciting input from them regarding potential environmental issues associated with implementing the 2018 LRDP. Although an NOP response letter was received from the NAHC, no response letters were received from the notified tribes (refer to Appendix A to the 2018 LRDP EIR).

In February 2017, a Sacred Lands File (SLF) search was requested from the NAHC as part of the 2018 LRDP EIR preparation (see Appendix D to the 2018 LRDP EIR). The NAHC responded that sites had been identified within the project area and recommended contacting the Lipay Nation of Santa Ysabel for more information. Campus representatives then contacted the tribe, which indicated there are several sites in the vicinity of UC San Diego that are considered sacred due to the known presence of human remains.

Additionally, the University regularly consults with the Kumeyaay Nation, the band of tribes whose territory includes the land on which UC San Diego is built. Consultation between the campus and the Kumeyaay Nation occurs via monthly meetings. The Kumeyaay Cultural Repatriation Committee (KCRC) was notified of the proposed Project at their September 1, 2022 meeting with UC San Diego, and Project details were later presented to the group committee at the December 1, 2022 and January 9, 2023 meetings. Consultation on the project would continue to occur through detailed design development, construction planning, and construction, including mitigation monitoring.

Because the Project is consistent with the 2018 LRDP and is not located on or near the TCRs identified on campus through these prior consultation and communication efforts, less than significant impacts to TCRs are anticipated occur. The Project is consistent with the cultural resources analysis evaluated in the 2018 LRDP EIR. Though impacts to TCRs are not anticipated, MM CUL-5B (Native American construction monitoring) will nonetheless be implemented during construction of the proposed Project as requested by the KCRC. Native American monitoring

above the minimum requirements of the 2018 LRDP EIR is already standard practice for all significant construction efforts on campus, regardless of location or sensitivity.

4.1.5 Energy

Since the 2018 LRDP EIR was certified, the CEQA Guidelines were amended to provide new requirements to address a project’s impacts on energy. While a separate section on Energy was not included in the 2018 LRDP EIR, applicable analyses and discussion to these new CEQA Guidelines questions are located in Section 3.15, Utilities, Service Systems, and Energy (specifically Section 3.15.3.6) of the 2018 LRDP EIR as well as Section 3.6, Greenhouse Gas Emissions. These analyses are referenced below as appropriate. No mitigation related to energy was required in the 2018 LRDP EIR.

ENERGY	Impact Examined in 2018 LRDP EIR	Impact Not Examined in 2018 LRDP EIR		
		No Impact	Less-than-Significant Impact	Potentially Significant Impact
Would the Project...				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a) During construction, the Project would result in an increase in energy consumption through the combustion of fossil fuels in construction vehicles, worker commute vehicles, and construction equipment, and the use of electricity for temporary buildings, lighting, and other sources. The Project would also consume energy for building heating and cooling, refrigeration, lighting, electricity, and commercial equipment. New student, visitor, and faculty vehicle trips and fleet vehicle trips associated with the Project would also be a source of energy consumption. However, the Project would comply with the energy conservation strategies expressed in the UC Sustainable Practices Policy.

During a short period of time each winter once Building A is complete, a partial shading of existing solar panels located on top of the Hopkins Parking Structure would occur. While this could lead to a small change in the electricity generation of those panels, the reduction would be minor due to the minimal number of panels that would be affected and the time they would be shaded. Furthermore, the Project would use electricity purchased from the UC Energy Services Unit Direct Access Program (100 percent renewable). Aside from some small-scale use of gas fuels within the glass blowing craft laboratory, the Project would not utilize any natural gas. The Project would also incorporate the sustainability features listed in Section 2.5.5, including achieving LEED Gold certification, using drought-tolerant landscaping, and installing energy-efficient features.

As noted under the VMT discussion below under item b) of the Transportation/Traffic discussion, the campus as a whole, including the Project would produce a VMT that would be measurably lower than the regional and City averages, thus reducing energy usage associated with vehicle trips. The Project would not result in wasteful, inefficient, or unnecessary use of energy and is consistent with the energy analysis evaluated in the 2018 LRDP EIR.

- b) Construction of the Project would implement sustainability measures identified in Section 2.5.5 of this Addendum Checklist. Conformance with the UC Sustainable Practices Policy and other UC requirements related to energy reduction and carbon-free energy use would ensure that the Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, the Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding conflict with energy plan or policy.

4.1.6 Geology and Soils

Section 3.5 of the 2018 LRDP EIR addresses the geology and soils effects of campus growth under the 2018 LRDP and concludes that implementation of future projects under the plan that comply with the applicable regulations related to geologic and soils hazards and result in less than significant impacts related to exposure to seismic-related hazards (Section 3.5.3.1), soil erosion and topsoil loss associated with ground disturbance (Section 3.5.3.2); unstable geologic or soil conditions (Section 3.5.3.3), and expansive soils (Section 3.5.3.4). The analysis determined there is no potential for a significant geology or soils impact related to use of septic tanks or alternative waste water disposal systems (Section 3.5.5).

No geology and soils mitigation is required in the 2018 LRDP EIR.

Section 3.4, Cultural and Tribal Cultural Resources, of the 2018 LRDP EIR addresses the effects of campus growth under the 2018 LRDP on paleontological resources and concludes that its implementation would result in potentially significant impacts to disturbance of geological formations containing paleontological (fossil) resources (Section 3.4.3.3). Paleontological monitoring is required in formations of high sensitivity; identification and evaluation; avoidance; documentation and treatment; and construction monitoring in accordance with MM Cul-3. Implementation of this measure would reduce future project-level impacts to less than significant levels.

GEOLOGY AND SOILS	Impact Examined in 2018 LRDP EIR	Impact Not Examined in 2018 LRDP EIR		
		No Impact	Less-than-Significant Impact	Potentially Significant Impact
Would the Project...				
a) Directly or indirectly cause 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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a) Although the campus contains seismic hazards, implementation of the Project would not result in significant impacts because the UC San Diego campus and the surrounding area are not located within an Alquist-Priolo Earthquake Fault Zone. The Project site would not be subject to surface fault rupture but could be subject to a severe level of seismic ground shaking. In addition, portions of the campus could be subject to earthquake-induced landslides; however, according to the 2018 LRDP EIR, the Project is in a location considered to be stable.

A geotechnical evaluation was prepared in March 2022 for the area including the Project site. During the December 2021 and February 2022 surveys, 43 borings were drilled within the Project site to depths up to 31.5 feet (Ninyo and Moore 2022). Materials encountered consisted of fill and Linda Vista Formation very old paralic deposits. Fill materials were found to depths of approximately 11 feet. Very old paralic deposits were found from beneath the fill materials to the depths explored. The very old paralic deposits consist of various shades of brown, gray, and yellow, moist, weakly to strongly cemented, silty to clayey sandstone and yellow, moist, moderately cemented, sandy siltstone. Groundwater was not encountered in the borings. Based on referenced geologic maps, literature, topographic maps, and stereoscopic aerial photographs, no landslides or indications of deep-seated landsliding were noted underlying the Project site.

Based on the analysis contained in the 2018 LRDP Program EIR and the results of the Project-specific geotechnical evaluation, the potential for seismic-related liquefaction at the site is considered very low due to the types of soils and depths to groundwater. The Project would comply with the California Building Code (CBC) and the UC Policy on Seismic Safety, which require independent review of structural seismic design of both new construction and remodeling projects. Project compliance with these policies would avoid any potential for seismic hazards and the Project is consistent with the geology and soils analysis evaluated in the 2018 LRDP EIR.

- b) Similar to other campus development, the Project would comply with the UC San Diego Design Guidelines, which include the incorporation of low impact development (LID) and erosion and sediment control BMPs, and UC San Diego's Stormwater Management Program and other regulatory requirements, as needed to minimize erosion and topsoil loss. Specifically, the Project would comply with relevant National Pollutant Discharge Elimination System (NPDES) permits, including the General Permit for Storm Water Discharges Associated with Construction Activity (General Construction Permit) and the General Permit for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (Phase II Small MS4 Permit), which require soil erosion control measures. Project compliance with these regulations during construction and operation would provide adequate protection against soil erosion during and after site construction. Therefore, the Project is consistent with the geology and soils analysis evaluated in the 2018 LRDP EIR
- c) As described above, the Project site is considered geologically stable. The Project would comply with the CBC and the University of California Seismic Safety Policy which would address unstable soil and slope conditions, if needed. Project compliance with these regulations during construction and operation would provide adequate protection against impacts. The Project is consistent with the geology and soils analysis evaluated in the 2018 LRDP EIR
- d) The Project would be required to comply with the CBC and the University of California Seismic Safety Policy. Project compliance with these regulations during construction and operation would provide adequate protection against impacts related to expansive soils. The Project is consistent with the geology and soils analysis evaluated in the 2018 LRDP EIR.
- e) UC San Diego is provided sanitary sewer service by the City of San Diego and no septic tanks or alternative wastewater systems are used or anticipated to be associated with the

implementation of the 2018 LRDP, including the Project. The Project is consistent with the geology and soils analysis evaluated in the 2018 LRDP EIR.

- f) Based on the mapping and analysis contained in the 2018 LRDP EIR, the Project site is not located within an area of high potential for paleontological resources. Therefore, implementation of the Project would not cause impacts to unique paleontological resources and is consistent with the cultural resources analysis evaluated in the 2018 LRDP EIR.

4.1.7 Greenhouse Gas Emissions

Section 3.6 of the 2018 LRDP EIR addresses potential impacts from greenhouse gas (GHG) emissions and climate change and determines that implementation of the 2018 LRDP would generate GHG emissions that may have a potentially significant cumulative impact on the environment during construction and operation (Section 3.6.3.1) even with the implementation of GHG Reduction Actions contained in the 2018 LRDP and described in Section 3.6.3.1 of the 2018 LRDP EIR. Despite the projected increase in GHG emissions over time, the campus would not conflict with UC policies and plans adopted for the purposes of reducing GHG emissions which are consistent with GHG reduction targets contained in Assembly Bill (AB) 32 and Senate Bill (SB 32) (Section 3.6.3.2).

Implementation of programmatic measures identified in the 2018 LRDP EIR mitigation framework require the campus to decarbonize the cogeneration plant after 2032 (MM GHG-1A), to install electric vehicle charging stations across the campus (MM GHG-1B), and to conduct annual inventory updates and determine the need for and purchase of carbon credit purchases (MM GHG-1C) would reduce campus-wide contributions to cumulative GHG emissions (and related climate change impacts) to less than significance. No project-level mitigation measures are required for cumulative GHG emissions impacts.

GREENHOUSE GAS EMISSIONS	Impact Examined in 2018 LRDP EIR	Impact Not Examined in 2018 LRDP EIR		
		No Impact	Less-than-Significant Impact	Potentially Significant Impact
Would the Project...				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose or reducing the emissions of greenhouse gases?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- a) Construction and operation of the Project would result in GHG emissions from site preparation, construction vehicle trips, construction equipment, building energy use, water treatment/usage, solid waste disposal, and mobile sources (air and vehicle travel). However, the Project would include multiple design features that would reduce its overall contribution to campus wide GHG emissions. These green building design features, as described in the Project description in Section 2 of this Addendum Checklist, would help achieve the Project goal of being certified as a LEED Gold building and achieve building energy efficiency of 20 percent better than Title 24 energy performance standard, in accordance with the UC Sustainable Practices Policy. The

project would also utilize 100 percent clean electricity and does not include any on-site natural gas combustion for space heating. These design elements are reflective of UC San Diego's commitment to the sustainability.

Although the Project would result in GHG emissions, through the initiatives to reduce campus-wide GHG emissions, Project-related emissions would likely be reduced or offset over time. The Project would also result in lower VMT due to on-campus students driving less than those who live off-campus. Furthermore, the Project's emissions would be included in the annual GHG inventory as part of the campus' implementation of MM GHG-1C. The Project is consistent with the GHG analysis evaluated in the 2018 LRDP EIR.

- b) The 2018 LRDP contains several GHG Reduction Actions focused as minimizing and reducing future GHG emissions across the campus. Implementation of those strategies would support the University's efforts in reaching the UC Sustainable Practices Policy target of climate neutrality for Scope 1 and 2 emissions by 2025 and climate neutrality for Scope 3 emissions by 2050, which are in line with the UC Carbon Neutrality Initiative and the UC San Diego Climate Action Plan. As described above in item a, the Project would not conflict with UC Sustainable Practices Policy. Consistent with the overall 2018 LRDP, the Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose or reducing the emissions of GHGs and is consistent with the GHG analysis evaluated in the 2018 LRDP EIR.

4.1.8 Hazards and Hazardous Materials

Section 3.7 of the 2018 LRDP EIR addresses the hazards and hazardous materials effects of campus growth and determined that implementation of the 2018 LRDP would not result in a potentially significant impact related to the transport, use, and disposal of hazardous materials (Section 3.7.3.1 and 3.7.3.2); or pose a health risk to occupants of the school or the campus community (Section 3.7.3.3). The potential for significant hazards related to listed hazardous materials sites on the UC San Diego campus would exist due to the unknown potential for munitions debris or munitions and explosives of concern (MEC) associated with historical military training (Section 3.7.3.4). Aircraft operations and activities would not pose significant safety hazards (Section 3.7.3.5). Construction-related road closures or detours on the campus could impair or intervene with emergency response and result in potentially significant impacts (Section 3.7.3.6). Based on the analysis of wildfire hazards on campus, there would be less than significant potential for large-scale wildland fires (Section 3.7.3.7).

The 2018 LRDP EIR mitigation framework requires the assessment of hazardous materials contamination on the Project site and removal or remediation if a public health risk is identified (MM Haz-4A and -4B). MM Haz-4C requires construction activities to be halted if unknown contamination is encountered and implementation of remedial activities. Implementation of these measures during project-level planning and construction would reduce potential hazards from past contamination to less than significant levels. Compliance with MM Haz-6 would require contractors to notify Campus Fire Marshall and the campus community of any required road closures to reduce emergency access/response impacts to less than significant levels.

HAZARDS AND HAZARDOUS MATERIALS	Impact Examined in 2018 LRDP EIR	Impact Not Examined in 2018 LRDP EIR		
		No Impact	Less-than-Significant Impact	Potentially Significant Impact
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a, b) Adherence to existing regulations and compliance with campus safety standards mandated by applicable federal, state, University, and local laws and regulations, would minimize the risks resulting from the routine transportation, use, storage, or disposal of hazardous materials or hazardous wastes and from accidental releases during Project construction. The Project is consistent with the hazards and hazardous materials analysis evaluated in the 2018 LRDP EIR.

c) The Project would involve the use or transport of hazardous materials during construction. However, the campus would continue to comply with federal and state regulations pertaining to

hazardous wastes and with existing campus programs, practices, and procedures that would ensure that risks associated with hazardous emissions or materials to existing or proposed primary or secondary schools located within one-quarter mile from the campus would remain less than significant through proper handling procedures, disposal practices, and/or cleanup procedures. The Project is consistent with the hazards and hazardous materials analysis evaluated in the 2018 LRDP EIR.

- d) The Project site is not located on a contaminated site pursuant to Government Code Section 65962.5 (2018 LRDP EIR Impact 3.7-4). The Project would not disturb known contamination sites associated with the former Camp Matthews training activities. However, due to the Project site's location relative to historic training operations associated with Camp Callan, the potential exists for unknown contamination from munitions debris or MEC. The campus would require compliance with MM Haz-4A to assess the potential for risk and require remediation in accordance with MM Haz-4B, if required. In the event that undocumented areas of contamination are encountered during construction, the contractor in collaboration with UC San Diego would stop work in compliance with MM Haz-4C to allow for the proper implementation of appropriate health and safety procedures, as required by applicable regulations. Compliance with the 2018 LRDP EIR mitigation framework would ensure the Project would reduce its potentially significant impacts to less than significant levels and is consistent with the hazards and hazardous materials analysis evaluated in the 2018 LRDP EIR.
- e) UC San Diego is not located within any Aircraft Potential Zones (APZs) for MCAS Miramar and, thus, implementation of the Project would not result in a significant aircraft safety hazard. With regard to the Torrey Pines Gliderport, its short-term use is not a safety hazard to the campus and surrounding area because the gliders do not take-off or land over UC San Diego structures. The Project is consistent with the hazards and hazardous materials analysis evaluated in the 2018 LRDP EIR.
- f) Project construction would require the temporary closure of the existing campus roadway network but would not interfere with response times of emergency vehicles during its operation. As required by MM Haz-6, UC San Diego would require the construction contractor to notify the CFM and community to prevent conflicts with emergency access or evacuation routes during construction. Compliance with the 2018 LRDP EIR mitigation framework would ensure the Project would reduce its potentially significant impacts to less than significant levels and is consistent with the hazards and hazardous materials analysis evaluated in the 2018 LRDP EIR.
- g) The Project is adjacent to an undeveloped canyon that was considered high fire hazard in the 2018 LRDP EIR. As described in Section 2.5.2, the Project design has been reviewed by the CFM and would meet specific criteria for a fire water system. UC San Diego would continue to implement brush management around buildings that are adjacent to undeveloped areas of the campus, would equip all new on-campus academic, residential, medical, research, and support facilities (including the proposed Project) with emergency fire sprinkler systems and would continue to retrofit existing buildings with fire sprinklers, in accordance with the CBC. The UC San Diego Fire Marshal would be responsible for ensuring that adequate access is maintained on campus at all times and would meet regularly with the City of San Diego Deputy Fire Chief to maintain a site plan/access plan that would adequately serve the campus. The Project would result in less than significant wildfire impacts and is consistent with the hazards and hazardous materials analysis evaluated in the 2018 LRDP EIR.

4.1.9 Hydrology and Water Quality

Section 3.8 of the 2018 LRDP EIR addresses the hydrology and water quality effects of campus growth under the 2018 LRDP and determined it would result in less than significant impacts related to the alteration of drainage patterns and potential water quality effects due to project compliance with applicable policies and regulations (i.e. UC San Diego’s Design Guidelines, Sustainability Policies, Phase II Small MS4 Permit and additional Storm Water Management Program requirements (Sections 3.8.3.1 and 3.8.3.2)). No potential for seiches exists on campus, while less than significant risk associated with tsunamis would occur (Section 3.8.3.3). No potential exists for significant impacts related to the depletion of groundwater supplies and flooding (Section 3.8.5).

No mitigation is required for hydrology and water quality impacts as described in the 2018 LRDP EIR.

HYDROLOGY AND WATER QUALITY	Impact Examined in 2018 LRDP EIR	Impact Not Examined in 2018 LRDP EIR		
		No Impact	Less-than-Significant Impact	Potentially Significant Impact
Would the Project...				
a) Violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or groundwater quality?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input 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 or through the addition of impervious surfaces, in a manner which would:				
(i) result in substantial erosion or siltation on- or off-site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(iii) create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or				
(iv) impede or redirect flood flows?				
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

HYDROLOGY AND WATER QUALITY	Impact Examined in 2018 LRDP EIR	Impact Not Examined in 2018 LRDP EIR		
		No Impact	Less-than-Significant Impact	Potentially Significant Impact
Would the Project...				
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a,c) Construction of the Project would not contribute substantial loads of sediment or other pollutants to stormwater runoff due to compliance with the NPDES state-wide General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activity (General Permit). As part of the General Permit, campus construction projects managed by outside contractors and disturbing over one acre (including the Project) must implement Stormwater Pollution Prevention Plans (SWPPPs), which specify BMPs to reduce the contribution of sediments, spilled and leaked liquids from construction equipment, and other construction-related pollutants to stormwater runoff. Compliance with the regulations would provide adequate protection from stormwater contamination and water quality protection from construction activities on campus.

According to the Project’s hydrology study (Coffman Engineers 2022; Appendix D), development of the Project would result in an overall increase in impervious surfaces in the Miramar Reservoir Hydrologic Area and an overall decrease in impervious surfaces in the Scripps Hydrologic Area. These alterations would produce changes to site-specific stormwater infrastructure. During the Project’s planning and design phases, it underwent review by UC San Diego Campus Planning, Capital Program Management (CPM), and Design and Development Services (DDS) staff to ensure utility infrastructure would be appropriately considered. Without treatment measures, post-Project runoff in the Miramar Reservoir Hydrologic Area would increase by 5.4 cubic feet per second during a 100-year storm event and runoff in the Scripps Hydrologic Area would decrease by 2.8 cubic feet per second. However, according to the Project-specific drainage study, the increased flows to the Miramar Reservoir Hydrologic Area would be accommodated by the six biofiltration basins that collect runoff from this area prior to entering the UC San Diego storm drain system and would ultimately decrease peak flows from the site. In addition, the Project would be required to comply with UC San Diego Design Guidelines and Storm Water Management Program and other regulatory requirements related to storm water runoff. Campus development, including the Project, is covered under the Phase II Small MS4 Permit, which requires management of long-term stormwater discharges and implementation of pollution protection measures. These management practices are enforced under the campus stormwater management program and ensure long-term protection related to stormwater pollution.

Therefore, the Project would result in less than significant water quality impacts and is consistent with the hydrology/water quality analysis evaluated in the 2018 LRDP EIR.

b) No removal of groundwater is proposed, as the Project, similar to the rest of campus, would use potable and recycled water supplied by the City of San Diego Public Utilities Department via existing and future lines on UC San Diego's campus. The Project would not result in impacts to

groundwater resources and is consistent with the hydrology/water quality analysis evaluated in the 2018 LRDP EIR.

- d) The entire UC San Diego campus is outside of the 100-year and 500-year flood hazard areas or any County-identified flood hazard areas. In addition, the Project site is not within an area that contains risk from seiches because this phenomenon is typically associated with land-locked bodies of water. The Project is also not within SIO and therefore not at risk for inundation by tsunamis. Thus, the Project would not result in significant impacts related to potential pollutant release during floods, tsunamis, and seiches. The Project is consistent with the hydrology/water quality analysis evaluated in the 2018 LRDP EIR.
- e) Construction activities could result in significant short-term water quality impacts from uncontrolled sediment and pollutants in storm water runoff that could conflict with the policies of the Basin Plan. The proposed Project would be required to comply with the UC San Diego Design Guidelines, policies, SWMP and other regulatory requirements related to storm water runoff to minimize the potential for pollutants to enter receiving waters.

Operation of the Project could result in significant long-term water quality impacts from uncontrolled pollutants in storm water runoff that could conflict with the policies of the Basin Plan. The proposed Project would integrate a number of storm water BMPs, including those identified in Sections 3.8.3.1 and 3.8.3.2 of the 2018 LRDP EIR, to promote on-site treatment prior to being discharged. Flows would be routed through biofiltration basins or underground storage vaults that have been sized to accommodate the proposed Project.

With the incorporation of the proposed site design, source control, and treatment control BMPs and the continued implementation of UC San Diego Design Guidelines, SWMP and other regulatory requirements, water quality impacts associated with changes in storm water runoff would be minimized and would not conflict with or obstruct implementation of the Basin Plan. In addition, the Project is not in an area governed by a sustainable groundwater management plan. Therefore, impacts would be less than significant, and the Project is consistent with the hydrology and water quality analysis evaluated in the 2018 LRDP EIR.

4.1.10 Land Use and Planning

Section 3.9 of the 2018 LRDP EIR addresses the land use and planning effects of campus growth under the 2018 LRDP and determined that its implementation would not result in inconsistencies with applicable land use plans, policies, and regulation (Section 3.9.3.1). In addition, as noted in Section 3.9.5 of the 2018 LRDP EIR, there is no potential for significant impacts related to physically dividing an established community or conflict with a Habitat Conservation Plan or Natural Community Conservation Plan (NCCP) Program.

No mitigation is required for land use and planning impacts as described in the 2018 LRDP EIR.

LAND USE AND PLANNING	Impact Examined in 2018 LRDP EIR	Impact Not Examined in 2018 LRDP EIR		
		No Impact	Less-than-Significant Impact	Potentially Significant Impact
Would the Project...				
a) Physically divide an established community?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- a) The Project does not involve any development outside of established campus properties or boundaries, and no incursion into, or division of, the surrounding residential communities would occur. The Project would not result in an impact and is consistent with the land use analysis evaluated in the 2018 LRDP EIR.
- b) As described in Section 3 of this document, the Project is consistent with the objectives, population forecasts and building space projections in the 2018 LRDP, which is the applicable land use plan for the UC San Diego campus. The Project would not result in significant environmental impacts due to a conflict with a land use plan, policy, or regulation and is consistent with the land use analysis evaluated in the 2018 LRDP EIR.

4.1.11 Noise

Section 3.10 of the 2018 LRDP EIR addresses the noise effects of campus growth under the 2018 LRDP and concludes there is the potential for significant impacts due to noise-sensitive land uses (NSLUs) being exposed to noise levels in excess of applicable standards (Section 3.10.3.1); exposure of vibration sensitive land uses to or the generation of excessive groundborne vibration or groundborne noise levels (Section 3.10.3.2); permanent increases in ambient noise levels (Section 3.10.3.3); and temporary increases in ambient noise levels (Section 3.10.3.4). No potential for significant impacts from noise produced by a private, public, or public use airport (Section 3.10.5).

The mitigation framework in the 2018 LRDP addresses these potentially significant impacts by evaluating whether screening distances can be observed to avoid the impact; requiring site-specific studies based on the type of noise source; and integrating source-specific controls into project designs to reduce noise levels at sensitive land uses as required by MM Noi-1A through Noi-1F. MM Noi-2A requires new vibration sensitive uses near the San Diego Trolley to prepare a vibration mitigation program to identify controls to reduce vibration effects and the incorporation of those controls into the project designs. Certain construction projects are required to prepare and implement a construction vibration program to comply with MM Noi-2B. Implementation of these measures would reduce future project-level impacts from noise and vibration to less than significant levels.

NOISE	Impact Examined in 2018 LRDP EIR	Impact Not Examined in 2018 LRDP EIR		
		No Impact	Less-than-Significant Impact	Potentially Significant Impact
Would the Project...				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or 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 expose people residing or working in the project area to excessive noise levels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a) **Temporary Noise Increases:** Construction activities associated with the Project could temporarily expose NSLUs to noise levels in excess of standards due to their proximity to the Project site or use of certain construction equipment. NSLUs within 150 feet of the Project site include the Social Sciences Building to the north; the Thurgood Marshall Upper Apartments to the west; and the Sixth College, Cognitive Science, Media Center and Communication, and Social Science Research Buildings to the south. No pile driving would be required during Project construction; however, the use of other noisy construction equipment could expose the NSLUs identified above to noise levels exceeding applicable standards. As described in Section 2.5.4., construction would typically occur between 7:00 a.m. and 7:00 p.m. from Monday to Sunday, with the potential for limited nighttime construction when necessary for unique construction scenarios such as large concrete pours or to avoid peak hour roadway impacts. As described in Section 2.5.4, if nighttime construction is required to eliminate daytime conflicts or other necessary reasons, approval from the appropriate campus stakeholders (e.g., UC San Diego Housing, Dining and Hospitality and other departments) would be required prior to construction work conducted during nighttime hours. The Project would also be required to comply with MM Noi-1F of the 2018 LRDP EIR, which requires the integration of construction noise mitigation recommendations into the contractor specifications and its implementation during construction.

Therefore, incorporation into the contractor’s specifications the construction noise control measures as required by the mitigation framework in the 2018 LRDP EIR would ensure that construction-related noise impacts would be less than significant, and the Project is consistent with the noise analysis evaluated in the 2018 LRDP EIR.

Permanent Noise Increase: Implementation of the Project would contribute to projected increases in traffic noise along local roadways; however, LRDP-related traffic, including from that of the proposed Project, would not result in a substantial noise increase because the overall

change in noise levels would be less than 3 decibels (dB) which would be imperceptible to noise-sensitive land uses adjacent to the roads (as shown in Table 3.10-11 in the 2018 LRDP EIR).

Noise Compatibility: The Project would not involve the establishment of new noise-sensitive land uses near the San Diego Trolley line or in close proximity to existing stationary noise sources (i.e., HVAC units, utility plants or parking structure ventilation units). The Hopkins Parking Structure contains ventilation units, but they are located within the interior of the structure and were designed to limit contribution to the ambient noise environment to a maximum of 57 dBA at the nearest façade of the existing Marshall Lower Apartments. Therefore, less than significant noise impacts would occur due to Project implementation and the Project is consistent with the noise analysis evaluated in the 2018 LRDP EIR.

The Project would establish new NSLUs near existing traffic noise sources. However, the Project would be outside of the 65 dB noise contours for nearby roadways and therefore would not be impacted by road noise (refer to Table 3.10-10 of the 2018 LRDP EIR).

No new utility plants or ventilated parking structures would be established by the Project. New HVAC units could be located within 100 feet of existing and proposed NSLUs. MM NOI-1C from the 2018 LRDP EIR requires that major HVAC systems not shielded by a noise-reducing barrier be located at least 100 feet from an existing or proposed NSLU. Shielding of new HVAC units would be provided such that the new equipment would not adversely impact existing NSLUs. With implementation of MM NOI-1C, stationary source-related noise impacts would be less than significant and the Project is consistent with the noise analysis evaluated in the 2018 LRDP EIR.

- b) The Project would construct new campus housing and academic buildings, which would establish new vibration-sensitive receptors on campus. As shown in Table 3.10-16 of the 2018 LRDP EIR, the Project buildings are outside of the vibration screening criteria distances for the San Diego Trolley.

The Project does not propose land uses that would generate substantial operational vibration; however, Project construction would require the use of vibratory rollers. Construction activities would therefore generate ground-borne vibration. Table 3.10-16 of the 2018 LRDP EIR provides screening distances for vibratory sources and associated vibration-sensitive receptors. If vibration sources are located within the screening distances for a given receptor, the Project may result in a significant impact.

The screening distances between campus housing and vibratory roller construction is 75 feet. Existing residences at Marshall Upper Apartments would be located approximately 50 feet from Project construction and would therefore be within the screening distance for a vibratory roller.

The screening distances between classrooms and vibratory roller construction is 60 feet. Existing classrooms in the Communications Building south of the Project site would be approximately 30 feet from the Building C footprint and would therefore be within the screening distance for a vibratory roller.

Therefore, implementation of the construction vibration mitigation program per MM Noi-2B would ensure that vibration impacts resulting from construction of the Project would be less than significant and the Project is consistent with the noise analysis evaluated in the 2018 LRDP EIR.

- c) Because there are no private airstrips within two miles of the UC San Diego campus and the campus is not located within the 60 dBA CNEL contour of any airport, including MCAS Miramar and the Medical Center heliport operations; there is no potential for significant noise impacts from aircraft operations in the Project area. Therefore, the Project is consistent with the noise analysis evaluated in the 2018 LRDP EIR.

4.1.12 Population and Housing

Section 3.11 of the 2018 LRDP EIR addresses the population and housing effects of implementing the 2018 LRDP and concludes that plan implementation would result in the direct inducement of substantial population growth in the area (Section 3.11.3.1). However, the 2018 LRDP would not result in indirect inducement of substantial population growth due to the extension of roads or other infrastructure (Section 3.11.3.1). Less than significant impacts are identified for the temporary displacement of existing on-campus housing and people (Section 3.11.3.2). No feasible mitigation is available for direct inducement of substantial population growth in the area; therefore, the population-related impacts of the campus growth are unavoidable.

POPULATION AND HOUSING	Impact Examined in 2018 LRDP EIR	Impact Not Examined in 2018 LRDP EIR		
		No Impact	Less-than-Significant Impact	Potentially Significant Impact
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- a) The Project would provide housing for the projected increased student population by replacing the existing low-density housing at the site. The Project would replace 250 existing beds with 2,455 beds for residents for a net increase of 2,205 residents. Approximately 480 full time equivalent staff and faculty would work in the proposed facilities. Of this, approximately 80 staff and faculty would be new employees to support program growth facilitated by the proposed project; the remaining 400 staff and faculty would be already employed by the university and relocated from the demolished buildings or elsewhere on campus. Any staff growth associated with the program was considered and anticipated in the 2018 LRDP, and the Project would not cause an exceedance of the 21,000 total staff anticipated by the 2018 LRDP. Although the Project would lead to an increase in the number of students, faculty and/or staff on the UC San Diego

campus, contributing to a direct population growth in the region, the level of growth is consistent with 2018 LRDP population projections, as discussed in Section 3 of this Addendum.

In addition, because the Project would construct residences and associated amenities on a previously developed portion of the West Campus, no new roads would be extended into undeveloped areas as part of the Project and any utility upgrades would be sized to accommodate projected campus growth as noted in Section 2 of this Addendum. Therefore, the Project is consistent with the population and housing analysis evaluated in the 2018 LRDP EIR.

- b) The Project would demolish the Thurgood Marshall College Lower Apartments and Dean’s Residence, resulting in the removal of 250 beds. However, the demolition of housing would begin over the summer months after the end of the school year and would not displace existing student residents. In addition, the campus would stagger the opening of the new housing facilities to correspond with any temporary decreases in housing availability such that the level of on-campus housing is maintained or increased year-to-year. Therefore, less than significant impacts would occur, consistent with the population and housing analysis evaluated in the 2018 LRDP EIR.

4.1.13 Public Services

Section 3.12 of the 2018 LRDP EIR addresses the physical effects of providing public services to meet the needs of the campus growth under the 2018 LRDP and determines that less than significant environmental impacts would occur due to the need for additional fire protection facilities (Section 3.12.3.1), police protection facilities (Section 3.12.3.2), and public school facilities (Section 3.12.3.3). No mitigation is required for public services impacts as described in the 2018 LRDP EIR.

PUBLIC SERVICES	Impact Examined in 2018 LRDP EIR	Impact Not Examined in 2018 LRDP EIR		
		No Impact	Less-than-Significant Impact	Potentially Significant Impact
Would the Project...				
a) 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:				
i) Fire protection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii) Police protection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii) Schools?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv) Parks?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
v) Other public facilities	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- a) As described in Section 4.1.12, *Population and Housing*, the Project would support an increase of approximately 80 new faculty and staff. Many of the existing faculty and staff occupying the proposed buildings would be relocated from existing buildings on campus and/or buildings to be demolished as part of the proposed Project. Implementation of the proposed Project would contribute to the overall need for new fire protection, police protection, and school facilities in the University area, consistent with Section 3.12.3 of the 2018 LRDP EIR. However, it would not be at a level that would require new facilities beyond those that exist or are already planned by the various service providers, nor would any new facilities result in a significant physical impact to the environment. The proposed Project would comply with all applicable building and fire code requirements. As a result, the likelihood of a large fire exceeding the effective response capability of the San Diego Fire Department (SDFD) at the proposed project is extremely low. The proposed Project does not include elements susceptible to fire hazards and would be unlikely to generate substantial demand for Emergency Management Services.

UC San Diego provides its own police service for the UC San Diego campus as well as other UC San Diego properties. Pursuant to California Education Code §67381, the UC San Diego Police Department and the San Diego Police Department (SDPD) have adopted and signed a written agreement that clarifies and affixes operational responsibilities for the investigation of violent and non-violent crimes occurring on UC San Diego property. Pursuant to the agreement UC San Diego Police Department is the primary reporting and investigating law enforcement agency for nearly all crimes occurring on campus and over all UC San Diego-administered properties up to one-mile of campus. Both UC San Diego Police Department and SDPD provide mutual aid assistance as appropriate, when requested. As a result, the SDPD rarely responds to on-campus calls for police services. The campus' low demand for SDPD police services reduces the need for new off-campus police facilities or expansions of existing facilities. The proposed Project is not expected to generate the need for new on-campus police facilities or expansions of existing facilities as it is consistent with population and development projections of the 2018 LRDP. Therefore, the physical impacts of providing police protection to the proposed project would be less than significant.

The demand for kindergarten through 12th grade public education facilities generated by the UC San Diego campus population is associated primarily with married students, faculty, and staff households. UC San Diego analysis concluded impacts to service ratios for public schools associated with implementation of the 2018 LRDP would be considered less than significant regarding off-campus grade school facilities. Further, the proposed Project is not expected to generate a need for new public educational facilities or an expansion of existing facilities as it would only house single undergraduate students and would not include family housing.

Therefore, implementation of the Project would contribute to the overall need for new fire and police protection and school, park, and other public facilities in the University area, but not at a level that would require new facilities beyond those that exist or are already planned by the various service providers nor would any new facilities result in a significant physical impact to the environment. Therefore, the Project is consistent with the public services analysis evaluated in the 2018 LRDP EIR.

4.1.14 Recreation

Section 3.13 of the 2018 LRDP EIR addresses the environmental effects associated with modifying recreational facilities to meet the needs of campus growth under the 2018 LRDP and concludes that despite the increase in usage of on- and off-campus recreational facilities, less than significant impacts would occur (Section 3.13.3.1). Any construction and expansion of recreational facilities would be addressed through compliance with the 2018 LRDP EIR mitigation framework and less than significant impacts would occur (Section 3.13.3.2). No mitigation is required for recreation impacts as described in the 2018 LRDP EIR.

RECREATION	Impact Examined in 2018 LRDP EIR	Impact Not Examined in 2018 LRDP EIR		
		No Impact	Less-than-Significant Impact	Potentially Significant Impact
Would the Project...				
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a) The increase in campus population attributable to the Project (approximately 2,205 residents and 80 staff and faculty) would contribute to increased demands for recreational facilities on and off campus. The 2018 LRDP anticipates the need for new recreation facilities and the campus would continue to manage and maintain its existing recreation facilities. The City of San Diego would continue to expand and maintain its off-campus recreational facilities in response to its own population growth, whose residents could include the new campus population associated with the Project. Substantial physical deterioration in recreational facilities is, therefore, not expected to occur as a result of the Project. Therefore, the Project is consistent with the recreation analysis evaluated in the 2018 LRDP EIR.

b) The Project would provide passive recreation facilities in the form of multiple courtyard areas, gardens, and a flexible green space. Although the Project would temporarily use Marshall Field for construction staging, it would be returned to pre-existing conditions following construction of the Project. The Project would also demolish an existing tennis court; however, this would be an insignificant loss to UC San Diego’s recreational facilities, which provides other tennis and pickleball court opportunities nearby on campus. Despite the increase in residential population attributable to the Project, implementation of the Project would not require the construction or expansion of additional recreational facilities on campus or contribute to the campus-wide need for new or expanded facilities. Needs for new or expanded recreational needs are continually evaluated based on overall campus population and facility usage, independent of development projects. The environmental impacts associated with the development of new campus recreational facilities would be less than significant or would be mitigated to below a level of

significance through the application of the mitigation framework in the 2018 LRDP EIR. Therefore, the Project is consistent with the recreation analysis evaluated in the 2018 LRDP EIR.

4.1.15 Transportation and Circulation

Section 3.14 of the 2018 LRDP EIR addresses the transportation and traffic effects of campus growth under the 2018 LRDP. The 2018 LRDP EIR concludes that traffic associated with plan implementation would result in cumulatively significant impacts due to exceedances of level of service (LOS) criteria in the Near-Term (Year 2025) and Long-Term (Year 2035) Scenarios for intersections, street segments, freeway mainline segments, and freeway ramp meters in the area (Section 3.14.3.1). However, implementation of the 2018 LRDP would not cause substantial additional VMT to exceed the regional averages for applicable campus land uses therefore less than significant VMT impacts are identified (Section 3.14.3.2). In addition, implementation of the 2018 LRDP would not conflict with applicable policies, plans, or programs regarding safety or performance of public transit, bicycle, or pedestrian facilities and its impact would be less than significant (Section 3.14.3.3). There is no potential for significant impacts to air traffic patterns, conflicts with a congestion management plan, safety hazards due to a design feature or incompatible uses, or inadequate emergency access (Section 3.14.5).

The 2018 LRDP mitigation framework includes programmatic mitigation to reduce or minimize the LOS impacts of plan implementation, as described in Section 3.14.3.1 of the 2018 LRDP EIR. Specifically, the campus would implement MM Tra-1A-OPT2 by funding and installing the needed improvements at a subset of impacted intersections, and freeway ramp meters in phases over the next five years. UC San Diego would work with the City of San Diego and Caltrans to obtain the appropriate agreements and permits. Despite these improvements, impacts would be cumulatively significant and unavoidable as described in Section 3.14.3.1 of the 2018 LRDP EIR. No project-level mitigation measures are required for cumulative traffic impacts.

On September 27, 2013, SB 743 was signed into law, which changed the way that transportation impacts are analyzed under CEQA. The transportation impact assessment updates to the CEQA Guidelines required under SB 743 were approved on December 28, 2018, and were required to be implemented statewide by July 1, 2020. Under the new (i.e., current) CEQA transportation guidelines, LOS, or vehicle delay, is no longer considered an environmental impact under CEQA; and, VMT has been adopted as the most appropriate measure of transportation impacts under CEQA. Therefore, this Addendum addresses the Project's consistency with the Program EIR's VMT analysis.

TRANSPORTATION/TRAFFIC	Impact Examined in 2018 LRDP EIR	Impact Not Examined in 2018 LRDP EIR		
		No Impact	Less-than-Significant Impact	Potentially Significant Impact
Would the Project...				
a) Conflict with an applicable plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Result in inadequate emergency access?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a) Implementation of the Project would not conflict with applicable policies, plans, or programs regarding safety or performance of public transit, roadway, bicycle, or pedestrian facilities. The Project proposes on-campus housing, which provides residents with access to on-site amenities and alternative transportation options including regional transit, on-campus transit, and bicycle facilities. At a less than 15-minute walk to the Central Campus Trolley Station and Gilman Transit Center, and less than five minutes' walk to the nearest Triton Transit shuttle stop, the Project would provide housing in a location for residents to make use of the numerous alternative transit options on campus that facilitate vehicle trip reduction. Additionally, the Project would create new and upgraded pedestrian and bicycle connections through the site, as compared to existing conditions. The proposed Project site is designed to provide open connections to the adjacent Ridge Walk, a primary north-south pedestrian path through West Campus, and maintains existing rustic pathway connections through the Historic Grove that allow for easy access beyond, such as to Geisel Library and University Center. The Project would therefore provide better connectivity between University Center, Thurgood Marshall College, Eleanor Roosevelt College, and RIMAC. This is consistent with Section 3.14.3.2 of the 2018 LRDP EIR, which notes that UC San Diego would continue to look for opportunities to close gaps in the transit and bicycle/pedestrian network in and adjacent to campus and improve last mile connections to campus Trolley stations, whenever feasible. Therefore, less than significant impacts would occur, and the Project is consistent with the transportation analysis evaluated in the 2018 LRDP EIR.				
b) CEQA Guidelines section 15064.3 pertains to impacts associated with VMT. As part of the 2018 LRDP EIR, a six-tier analysis of VMT impacts was conducted in accordance with the concepts expressed in Senate Bill (SB) 743. As shown in that comprehensive analysis, the 2018 LRDP VMT per resident, VMT per employee, and VMT per capita would be measurably lower than the regional and City averages. In addition, the campus TDM program combined with its location within a TPA would lower automobile dependency and VMT over time. As described above in item 4.1.15 a, the Project would increase on-campus housing in the West Campus, which				

reduces VMT by reducing the number of students commuting to the campus each day for school. In addition, the Project would promote the use of existing transit options within the region because the project does not provide resident parking, and student residents would not be permitted to purchase parking passes (except under limited, unique circumstances). The Project would provide connections to the campus' extensive multimodal path network, which lead to multiple transit options including the San Diego Trolley. Therefore, less than significant impacts would occur, and the Project is consistent with the transportation analysis evaluated in the 2018 LRDP EIR.

- c) The Project would not change the campus circulation system or off-site circulation system nor would it substantially increase hazards due to design features or incompatible uses. Therefore, no impacts would occur, and the Project is consistent with the transportation analysis evaluated in the 2018 LRDP EIR.
- d) Upon implementation of the Project, the campus would amend the emergency access route map, as necessary, to ensure that adequate fire protection and emergency access is maintained on campus at all times, which would be reviewed and approved by the Campus Fire Marshal. Therefore, no impacts would occur, and the Project is consistent with the transportation analysis evaluated in the 2018 LRDP EIR.

4.1.16 Utilities and Service Systems

Section 3.15 of the 2018 LRDP EIR addresses the physical effects of expanding the utility infrastructure and the energy demands associated with campus growth under the 2018 LRDP and concludes that less than significant impacts would occur related to wastewater treatment capacity (Section 3.15.3.1); new and expanded water and wastewater infrastructure (Section 3.15.3.2); new or expanded storm water drainage facilities (Section 3.15.3.3), water supply availability (Section 3.15.3.4); and compliance with statutes and regulations related to solid waste management (Section 3.15.3.5). The 2018 LRDP EIR further determines there is no potential for significant impacts related to solid waste disposal needs or the capacity of local infrastructure to impact the provision of solid waste services or impair the attainment of solid waste reduction goals. No mitigation is required for utilities, service systems or energy impacts as described in the 2018 LRDP EIR.

UTILITIES, SERVICE SYSTEMS AND ENERGY	Impact Examined in 2018 LRDP EIR	Impact Not Examined in 2018 LRDP EIR		
		No Impact	Less-than-Significant Impact	Potentially Significant Impact
Would the Project...				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities or expansion of existing facilities, the construction or relocation of which could cause significant environmental effects?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) 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 providers existing commitments?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Generate solid waste in excess of State or local standards or the capacity of local infrastructure or negatively impact the provision of solid waste services or impair the attainment of solid waste reduction goals?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Comply with federal, state, and local management and reduction statues and regulations related to solid waste?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a) During the planning and design phase for the Project, UC San Diego Campus Planning, Capital Program Management (CPM), and Design and Development Services (DDS) staff conducted a review of the Project's utility needs to verify that adequate infrastructure would be available to serve its domestic water, wastewater, storm water, energy, and telecommunication needs. Additionally, as part of the site evaluation process and/or site feasibility study, the Campus Planner also consulted the Master Infrastructure Plan (MIP) and CPM/DDS engineers to identify any capacity constraints and determine whether system improvements would be required to support the Project.

Following the internal utility infrastructure evaluation process, improvements to utility and service systems were implemented into the proposed Project, as described in Section 2.5.2. These improvements include the demolition of the existing sewer infrastructure within the Project limits and installation of two new connections to the existing sewer system. Similarly, the majority of existing water infrastructure (service to the existing Communications Building would

remain) would be removed to provide five new connections to support the Project's domestic and fire water needs. The existing reclaimed water infrastructure would be partially demolished and construction of a new 12-inch reclaimed water main along Ridge Walk and new connections to the existing system would occur. New electrical and telecommunication infrastructure would be provided to service the Project site. Existing gas line infrastructure would be removed and would not be replaced within the Project site. The utility infrastructure improvements to be implemented with the Project would be required to comply with the applicable mitigation framework in the 2018 LRDP EIR, as discussed in this Addendum. Therefore, less than significant impacts would occur, and the Project is consistent with the utilities and service systems analysis evaluated in the 2018 LRDP EIR.

- b) Implementation of the Project would increase potable water usage on the campus; however, it would not exceed the levels anticipated in the City's Water Supply Assessment Report prepared for the 2018 LRDP. The Project would meet a minimum rating of LEED Gold and include sustainability strategies to reduce water use. These strategies include installing low-flow fixtures, drought-tolerant landscaping, and connections to reclaimed water. Therefore, less than significant impacts would occur, and the Project is consistent with the utilities and service systems analysis evaluated in the 2018 LRDP EIR.
- c) Implementation of the Project would increase the amount of on-campus building space and the on-campus residential population. Such increases would result in the generation and discharge of additional wastewater from the campus; the additional wastewater would require treatment at the Point Loma Wastewater Treatment Plant (PLWTP). However, as described in the 2018 LRDP EIR, the PLWTP would have more than adequate capacity to receive and treat wastewater from UC San Diego's population projects through the LRDP horizon year of 2035, as well as its existing commitments. Additionally, water conservation efforts implemented on campus, including the Project, would further reduce flow rates from the campus. Therefore, less than significant impacts would occur, and the Project is consistent with the utilities and service systems analysis evaluated in the 2018 LRDP EIR.
- d) Implementation of the 2018 LRDP would not result in inadequate capacity of solid waste facilities in the region such that construction of a new landfill or expansion of an existing landfill would be necessary. As noted above under item e), the Project would minimize its waste disposal needs and assist the state and local agencies in achieving their applicable solid waste management and diversion goals. No impacts would result, and the Project is consistent with the utilities and service systems analysis evaluated in the 2018 LRDP EIR.
- e) Project implementation would require demolition, clearing/grubbing, and grading activities that would produce excavated soils, green waste, asphalt/concrete, and other construction and demolition waste. Operations of the Project would contribute additional non-recyclable/non-reusable waste which would be deposited at Miramar Landfill, after accounting for waste reduction and diversion. However, the Project would comply with applicable waste reduction and diversion programs as part of the campus-wide effort to meet the UC Sustainable Practices Policy's zero waste goal. This includes the recycling of demolition materials. Therefore, the Project would minimize its waste disposal needs and assist the state and local agencies in achieving their applicable solid waste management and diversion goals, resulting in less than significant impacts. The Project is consistent with the utilities and service systems analysis evaluated in the 2018 LRDP EIR.

4.1.17 Wildfire

Since the 2018 LRDP EIR was certified, the CEQA Guidelines were amended to provide new requirements to address a project's impacts on wildfire hazards. This section of this Addendum Checklist addresses those new questions, which were not explicitly addressed in the 2018 LRDP EIR. Relevant information provided in the 2018 LRDP EIR along with new Project-specific information is relied upon to make new impact determinations.

WILDFIRE	Impact Examined in 2018 LRDP EIR	Impact Not Examined in 2018 LRDP EIR		
		No Impact	Less-than-Significant Impact	Potentially Significant Impact
Would the Project...				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- a) UC San Diego has an Emergency Operations Plan, which addresses planned response instructions and procedures to various levels of human-made or natural emergency situations for all campus staff, students, and visitors. It provides information for building evacuation, emergency supplies, and related emergency contacts and information sources. Multiple emergency response regions are provided throughout the campus equipped to provide necessary supplies and trained personnel in the event of an emergency. Construction of the Project would require closure of the Project site, including intermittent closure of a portion of Hopkins Lane; however, a construction management plan and traffic control plan would be developed and implemented to ensure there would be no obstructions to emergency operations. In addition, the portion of Hopkins Lane that would be temporarily closed is the southern terminus of the road and would not require any reroute. Consistent with the 2018 LRDP, the Project would be reviewed by the Campus Fire Marshal to ensure that adequate fire protection and emergency access is maintained on campus at all times.

As required by MM Haz-6, UC San Diego would require the construction contractor to notify the Campus Fire Marshal and community to prevent conflicts with emergency access or evacuation routes during construction. Implementation of MM Haz-6, which requires the notification of the Campus Fire Marshal and campus community at large prior to the start of construction, would reduce impacts to less than significant levels. Therefore, the Project would not result in any new significant environmental effects.

- b) Vegetation used for landscaping, vehicles, and small machinery could exacerbate wildfire risk and expose project occupants to wildfire pollutants. As described in Section 2.5.2, the Project would connect a new fire water system to the existing campus water supply. The fire water system would provide fire hydrant spacing at a minimum of 300 feet, two FDC per building, within 25 feet of proposed hydrants, and two automatic fire hose connections per building. Implementation of these fire protection measures, fuel management regulations, and compliance with associated regulations would ensure impacts to project occupants due to wildfire pollutants under the proposed project would be less than significant. Therefore, the Project would not result in any new significant environmental effects regarding exposure of Project occupants to pollutant concentrations from a wildfire.
- c) Installation and/or maintenance associated with new infrastructure would be necessary for the Project. However, this would not exacerbate fire risk due to its location within the campus where fire protection measures including fuel management zones and building review by the Campus Fire Marshal. Any temporary or ongoing impacts to the environment resulting from the installation and maintenance of infrastructure is part of ongoing operations and projected future development of the campus and therefore evaluated under the 2018 LRDP EIR. Therefore, the Project would not result in any new significant environmental effects regarding installation or maintenance of associated infrastructure.
- d) As described in Geology and Soils, the Project would not be at risk of landslides and would therefore not be at a substantial risk of downslope or downstream flooding as a result of runoff, or post-fire slope instability. As described in Hydrology and Water Quality, the Project would result in a slight increase in peak flows as compared to existing conditions, however it would not significantly alter the drainage of the site or off-site drainages.

In the event that the steep slopes near the Project are burned, unstable soils could occur due to the lack of vegetation to anchor the hillside. UC San Diego would implement BMPs to stabilize slopes and prevent sediment movement exposure to off-site adjacent occupants. These BMPs would include the placement of fiber rolls, straw wattles, or sandbags on the affected slopes, as well as erosion control mats, to stabilize and protect the burned areas.

The Project would implement post-construction BMPs in accordance with the Project's SWMP to prevent impacts related to flooding or runoff. Therefore, the possibility of flooding or landslides as a result of running water down the slope would be greatly lessened. In addition, the Project would result in the redevelopment of a disturbed area and add additional fire protection measures, resulting in a less than significant impact. Therefore, the Project would not result in any new significant environmental effects regarding downstream or down slope flooding.

4.1.18 Mandatory Findings of Significance

	Impact Examined in 2018 LRDP EIR	Impact Not Examined in 2018 LRDP EIR		
		No Impact	Less-than-Significant Impact	Potentially Significant Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a) All applicable MMs identified in the 2018 LRDP EIR to avoid and reduce impacts are integrated into the Project and with the integration of these measures, the Project would not substantially degrade the quality of the environment. As described in Section 4.1.3, *Biological Resources*, of this Addendum Checklist, the Project would not significantly affect fish or wildlife habitat or species. The site is developed and mostly devoid of sensitive biological resources, except potential nest trees for special-status birds, which would be addressed by 2018 LRDP EIR MMs Bio-2D and Bio-2E. Indirect impacts to off-site sensitive biological resources would be addressed by LRDP EIR MMs Bio-3E(i) through (iv) and Bio-3F during construction and Bio-3G(i) through (vi), Bio-3I(i) through (iii), Bio-3J, and Bio-3K(i) and (ii) during operation.

As described in Section 4.1.4, *Cultural and Tribal Cultural Resources*, measures integrated into the Project would avoid disturbance, disruption, or destruction of inadvertent archaeological resource discoveries. Given the presence of the Historic Grove and nearby prehistoric deposits, 2018 LRDP EIR MMs Cul-1a and Cul-2E would be incorporated into the Project. Therefore, the Project would not eliminate any examples of the major periods of California history or prehistory.

- b) The 2018 LRDP EIR identified significant and unavoidable cumulative impacts to air quality (construction, operational and toxic air contaminant emissions), cultural resources (historical resources and tribal cultural resources), population and housing (physical effects of population growth), transportation/traffic (levels of service) and growth inducement (regional growth). As part of the 2018 LRDP EIR development program, the Project would contribute to significant and unavoidable impacts related to air quality as described in this Addendum Checklist. Measures from the 2018 LRDP EIR would work to address these impacts, specifically MMs AQ-2A, AQ-2B for air quality. However, the Project is within the scope of campus development and population evaluated in the 2018 LRDP EIR as noted in Section 3 of this document.

These impacts were also addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2018 LRDP. No conditions have changed, and no new information has become available since certification of the 2018 LRDP EIR that would alter this previous analysis. No additional mitigation is available to reduce the Project's contribution to these previously identified impacts.

- c) As described above, the Project would incrementally contribute to cumulative air quality (toxic air contaminants) that were identified as significant and unavoidable as well as cumulatively considerable in the 2018 LRDP EIR. The Project's construction and operation emissions are within the scope of impacts examined in the 2018 LRDP EIR. These impacts were also addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2018 LRDP.

Effects of the Project would not result in substantial adverse effects on human beings beyond those analyzed in the 2018 LRDP EIR. No conditions have changed, and no new information has become available since certification of the 2018 LRDP EIR that would alter this analysis. No additional mitigation is available to reduce the Project's contribution these impacts. Other impacts with the potential to affect human beings were determined to be less than significant.

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5 APPLICABLE MITIGATION MEASURES

The following mitigation measures from the certified 2018 LRDP EIR Mitigation Monitoring and Reporting Program (MMRP) would be applicable to the impacts associated with the Project. No new significant impacts or increased severity in impacts that were not analyzed in the 2018 LRDP EIR have been identified; therefore, no additional project-specific mitigation is required.

Air Quality

AQ-2A: Implement Measures to Control PM Emissions Generated by Construction Activities. UC San Diego shall require by contract specification that contractors implement the following measures during all phases of construction of individual projects developed under the proposed 2018 LRDP:

- Water the grading areas a minimum of twice daily to minimize fugitive dust;
- Stabilize graded areas as quickly as possible to minimize fugitive dust;
- Apply chemical stabilizer or pave the last 100 feet of internal travel path within the construction site prior to public road entry;
- Install wheel washers adjacent to a paved apron prior to vehicle entry on public roads;
- Remove any visible track-out into traveled public streets via regular street sweeping;
- Wet wash the construction access point at the end of each workday if any vehicle travel on unpaved surfaces has occurred;
- Provide sufficient perimeter erosion control to prevent washout of silty material onto public roads;
- Cover haul trucks or maintain at least 12 inches of freeboard to reduce blow-off during hauling;
- Suspend all soil disturbance and travel on unpaved surfaces if winds exceed 25 mph;
- Cover/water onsite stockpiles of excavated material;
- Enforce a 15-mph speed limit on unpaved surfaces;
- On dry days, dirt and debris spilled onto paved surfaces shall be swept up immediately to reduce re-suspension of particulate matter caused by vehicle movement. Approach routes to construction sites shall be cleaned daily of construction-related dirt in dry weather;
- Disturbed areas shall be hydroseeded, landscaped, or developed as quickly as possible to reduce dust generation; and
- Limit the daily grading volumes/area to extent feasible.

AQ-2B: Minimize Off-Road Construction Equipment Emissions. UC San Diego shall require by contract specification that the construction contractor use off-road construction diesel engines that meet, at a minimum, the Tier 4 interim California Emissions Standards, unless such an engine is not available for a particular item of equipment. Tier 3 engines will be allowed on a project-by-project basis when the contractor has documented that no Tier 4 interim equipment or emissions equivalent retrofit equipment is available or feasible for the project.

Biological Resources

Bio-2D: If project construction is scheduled to commence during the raptor nesting season (generally January 15 through July 31), pre-construction surveys for raptor nests shall be performed by a qualified biologist within 500 feet of project construction activities no more than seven days prior to the initiation of construction. Construction activities within 500 feet of an identified active raptor nest shall not commence during the breeding season until a qualified biologist determines that the nest is no longer active and any young birds in the area have adequately fledged and are no longer reliant on the nest. Trees with inactive nests can be removed outside the breeding season without causing an impact.

Bio-2E: No grubbing, trimming, or clearing of vegetation (including brush management) from project sites shall occur during the general avian breeding season (February 15 through August 31). If grubbing, trimming, or clearing cannot feasibly occur outside of the general avian breeding season, a qualified biologist shall perform a pre-construction nesting bird survey no more than seven days prior to the commencement of vegetation clearing or grubbing to determine if active bird nests are present in the affected areas. Should an active migratory bird nest be located, the project biologist shall direct vegetation clearing away from the nest until it has been determined by the project biologist that the young have fledged, or the nest has failed. If there are no nesting birds (includes nest building or other breeding/nesting behavior) within the survey area, clearing, grubbing, and grading shall be allowed to proceed.

Bio-3E: Prior to construction, a pre-construction meeting shall be held between the Project Manager, qualified Biologist, Environmental Planner, and construction crews to ensure crews are informed of the sensitivity of habitats in the Open Space Preserve and adjacent undeveloped lands.

- i. Prior to commencement of clearing or grading activities, fencing (e.g., silt fencing, orange construction fencing, and/or chain-link fencing as determined by campus planning) shall be installed around the approved limits of disturbance to prevent errant disturbance of sensitive biological resources by construction vehicles or personnel. Installation of fencing to demarcate the approved limits of disturbance shall be verified by the project biologist prior to initiation of clearing or grading activities. All movement of construction contractors, including ingress and egress of equipment and personnel, shall be limited to designated construction zones. This fencing shall be removed upon completion of all construction activities.
- ii. No temporary storage or stockpiling of construction materials shall be allowed within the Ecological Reserve or Restoration Lands, and all staging areas for equipment and materials shall be located at least 50 feet from the edge of these areas. This prohibition shall not be applied to facilities that are planned to traverse Ecological Reserve or Restoration Lands

(e.g., trails and utilities). Staging areas and construction sites in proximity to the Ecological Reserve or Restoration Lands shall be kept free of trash, refuse, and other waste; no waste dirt, rubble, or trash shall be deposited in these areas.

- iii. Equipment to extinguish small brush fires (e.g., from trucks or other vehicles) shall be present on site during all phases of project construction activities, along with personnel trained in the use of such equipment. Smoking shall be prohibited in construction areas adjacent to flammable vegetation.
- iv. Temporary night lighting shall not be used during construction unless determined to be absolutely necessary. If night lighting is necessary, lights shall be directed away from sensitive vegetation communities and shielded to minimize temporary lighting of the surrounding habitat.

Bio-3F: During project construction, a biological monitor shall visit the site weekly during site preparation and rough grading activities, and monthly following completion of rough grading, until construction is completed. During site visits, the monitor shall be responsible for ensuring that the construction activities and staging areas are restricted to the approved limits of work, and protective fencing is adequately maintained. The monitor shall be responsible for ensuring that the contractor adheres to the other provisions described above. The monitor, in cooperation with the on-site construction manager, shall have the authority to halt construction activities in the event that these provisions are not met. Monitors shall submit regular reports to the UC San Diego Campus Planning Office during construction documenting the implementation of construction measures Bio-3E.

Bio-3G: The following best management practices shall be implemented for each project that would remove or install tree species on UC San Diego that may be used as host trees by SHBs:

- i. Trees to be planted on UC San Diego shall be obtained from a reliable source and be free of sign of SHB infestation.
- ii. An education program for on-site workers responsible for tree installation shall be implemented. The program shall describe the signs of SHB infestation (e.g., sugary exudate on trunks or branches, and SHB entry/exit holes [approximately the size of the tip of a ballpoint pen]).
- iii. Sign of SHB infestation shall be reported to CDFW and UC Riverside's Eskalen Lab (www.eskalenlab.ucr.edu) by the UC San Diego Project Manager and/or the project biologist.
- iv. Trees with sign of SHB infestation shall be pruned or removed, as appropriate, and potential host materials shall be chipped to less than one inch prior to composting on site or transfer to a landfill.
- v. Equipment that is used to prune or remove SHB-infected trees shall be disinfected prior to additional use.
- vi. Biologists monitoring mitigation sites shall be knowledgeable regarding sign of SHB infestation.

Bio-3I: Landscaping adjacent to the Open Space Preserve shall comply with the following requirements to prevent the introduction of invasive species:

- i. Appropriate landscaping shall be selected based on the vegetation communities within the portion of the Open Space Preserve adjacent to the project. In areas supporting native (or disturbed native) vegetation communities, revegetation of impacted slopes shall be with appropriate native plant materials. In particular, where the Open Space Preserve is disturbed by construction of the Campus Meander, installation of native plants such as lemonadeberry, toyon, deerweed (*Acmispon glaber*), monkey flower (*Diplacus aurantiacus*), and sages (*Salvia* spp.) are recommended to make the Open Space Preserve more impenetrable to people while reinforcing the boundaries and edges of the Campus Meander (The Harrison Studio 1997).
- ii. Only non-invasive plant species shall be included in the landscape plans for projects (species not listed on the California Invasive Plant Inventory prepared by the Cal-IPC [2006]). A qualified landscape architect and/or qualified biologist shall review landscape plant palettes prior to implementation to ensure that no invasive species are included.
- iii. Any planting stock brought onto a project site adjacent to the Open Space Preserve for landscaping or habitat restoration shall be inspected to ensure it is free of pest species that could invade natural areas, including but not limited to Argentine ants and South American fire ants. Inspections of planting stock for habitat restoration shall be by a qualified biologist, and inspections of planting stock for landscaping shall be the responsibility of qualified UC San Diego Project Manager or their designated assignee. Any planting stock found to be infested with such pests shall be quarantined, treated, or disposed of according to best management practices by qualified personnel, in a manner that precludes invasions into natural habitats.

Bio-3J: Permanent lighting within or adjacent to the Ecological Reserve and Restoration Lands shall be selectively placed, shielded, and directed to minimize potential impacts to sensitive species. In addition, lighting from buildings or parking lots/structures abutting the Ecological Reserve shall be shielded and/or screened by vegetation to the extent feasible.

Bio-3K: The following best management practices shall be implemented by the campus along areas that interface with the Open Space Preserve to address runoff/water quality impacts from landscaping:

- i. Integrated Pest Management principles (University of California Integrated Pest Management Program) shall be implemented to the extent practicable for areas in and adjacent to the Open Space Preserve for chemical pesticides, herbicides, and fertilizers. Examples of such measures may include, but are not limited to, alternative weed/pest control measures (e.g., removal by hand) and proper application techniques (e.g., conformance to manufacturer specifications and legal requirements).
- ii. Irrigation for project landscaping shall be minimized and controlled in areas in and adjacent to the Open Space Preserve through efforts such as designing irrigation systems to match landscaping water needs, using sensor devices to prevent irrigation during and after

precipitation, and using automatic flow reducers/shut-off valves that are triggered by a decrease in water pressure from broken sprinkler heads or pipes.

Cultural and Tribal Cultural Resources

Cul-1A: Compliance with the Standards. When a development project is initiated, UC San Diego shall first determine, as early as possible in the planning process, whether the project may have a substantial adverse impact on a historical resource (individual resource, district, or landscape) based on information contained in this EIR and its appendices. If the project may result in impacts to an individual historical resource, then UC San Diego shall retain the services of a qualified historic preservation professional. The UC San Diego-retained historic preservation professional shall be tasked with determining whether the project meets the Secretary of the Interior's Standards for Rehabilitation, as defined in 36 CFR Part 67.7 as described below.

- i. The consultant shall evaluate the project and prepare a memorandum or equivalent level of documentation indicating whether the project meets the Standards. If the project meets the Standards, then any potential impacts are presumed fully mitigated per the CEQA Guidelines, and no additional action is necessary.
- ii. If a project involving historical resources does not meet the Standards, then UC San Diego shall attempt to bring the project into compliance with the Standards. UC San Diego shall consider means of reducing the impact to a level of less than significant by redesigning or modifying the project, or undertaking other measures deemed feasible and prudent to meet the Standards.

Cul-2E: Construction Monitoring.

- i. Prior to beginning any work that requires monitoring:
 - a. a preconstruction meeting shall be held that includes the qualified archaeologist, Project Manager and/or Grading Contractor, and other appropriate personnel so the archaeologist can make comments and/or suggestions concerning the archaeological monitoring program to the Project Manager and/or Grading Contractor.
 - b. the qualified archaeologist shall (at that meeting or subsequently) submit to the Project Manager a copy of the site/grading plan (reduced to 11 x 17 inches) that identifies areas to be monitored as well as areas that may require delineation of grading limits.
 - c. the archaeologist shall also coordinate with the Project Manager on the construction schedule to identify when and where monitoring is to begin and including the start date for monitoring.
- ii. The qualified archaeologist shall be present during grading/excavation as detailed in Cul-2D and shall document such activity on a standardized form. A record of activity shall be sent to the Environmental Planner and Project Manager each month.

iii. Discoveries

- a. Discovery Process – In the event of a discovery, and when requested by the qualified archaeologist, or the Archaeological Principal Investigator (PI) if the archaeological monitor is not qualified as a PI, the Environmental Planner and Project Manager shall be contacted and shall divert, direct, or temporarily halt ground-disturbing activities in the area of discovery to allow for preliminary evaluation of potentially significant archaeological resources. The PI shall also immediately notify Campus Planning of such findings at the time of discovery.
 - b. Determination of Significance – The significance of the discovered resources shall be determined by the PI in consultation with Campus Planning and the Native American Community, as appropriate. Campus Planning must concur with the evaluation before grading activities will be allowed to resume. For archaeological resources considered significant by the PI, a Research Design and Data Recovery Program shall be prepared, approved by Campus Planning, and carried out to mitigate impacts before ground-disturbing activities in the area of discovery will be allowed to resume.
- iv. If human remains are discovered, work shall halt in that area and the procedures detailed in the California Health and Safety Code (Section 7050.5) and the California PRC (Section 5097.98) and will be followed.
 - v. Notification of Completion – The qualified archaeologist shall notify Campus Planning, as appropriate, in writing of the end date of monitoring.
 - vi. Handling and Curation of Significant Artifacts and Letter of Acceptance
 - a. The qualified archaeologist shall ensure that all significant cultural remains collected are cleaned, catalogued, and permanently curated with an appropriate institution; that a letter of acceptance from the curation institution has been submitted to Campus Planning; that all artifacts are analyzed to identify function and chronology as they relate to the history of the area; that faunal material is identified as to species; and that specialty studies are completed, as appropriate.
 - b. Curation of artifacts associated with the survey, testing, and/or data recovery for this project shall be completed in consultation with Campus Planning and the Native American representative, as applicable.
 - vii. Final Results Reports (Monitoring and Research Design and Data Recovery Program) – Prior to completion of the project, two copies of the Final Results Report (even if no significant resources were found) and/or evaluation report, if applicable, which describe the results, analysis, and conclusions of the archaeological monitoring program (with appropriate graphics) shall be submitted to Campus Planning for approval. For significant archaeological resources encountered during monitoring, the Research Design and Data Recovery Program shall be included as part of the Final Results Report.

- viii. Recording Sites with State of California Department of Park and Recreation – The qualified archaeologist shall record (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) any significant or potentially significant resources encountered during the Archaeological Monitoring Program and submit such forms to the SCIC with the Final Results Report.

Cul-5B: Monitoring.

Activities with the potential to cause a substantial adverse change to the significance of a TCR shall be monitored by a Native American tribal representative. Where the TCR is also considered a historical resource under CEQA, monitoring by a qualified archaeologist may also be required.

- i. Prior to any work that requires monitoring:
 - a. UC San Diego shall enter into a Tribal Monitoring Agreement with the tribe. This agreement will specify procedures for the proper treatment of any tribal cultural resources and/or Native American human remains discovered during the monitoring. The agreement will also specify the roles and authorities of the Native American monitors and other participants.
 - b. A preconstruction meeting shall be held that includes the tribal representative, archaeologist, Construction Manager and/or Grading Contractor, and other appropriate personnel so the tribal representative can make comments and/or suggestions concerning the Archaeological Monitoring Program to the Construction Manager and/or Grading Contractor.
- ii. Discoveries
 - a. Discovery Process – In the event of a discovery, the tribal representative, in consultation with the Construction Project Manager, may divert, direct, or temporarily halt ground-disturbing activities in the area of discovery to allow for preliminary evaluation of potentially significant tribal cultural resources. The tribal representative shall also immediately notify Campus Planning of such findings at the time of discovery.
 - b. Determination of Significance – The significance of the discovered resources shall be determined by the tribal representative in consultation with Campus Planning and the Native American Community, as appropriate. Campus Planning must concur with the evaluation before grading activities will be allowed to resume.
 - c. If human remains are discovered, work shall halt in that area and the procedures detailed in the California Health and Safety Code (Section 7050.5) and the California PRC (Section 5097.98) and will be followed.
- iii. Notification of Completion – The tribal representative shall notify Campus Planning, as appropriate, in writing of the end date of monitoring.

Hazards and Hazardous Materials

Haz-4A: During project planning, EH&S shall be consulted in order to identify if any past contamination, USTs, ASTs, or other contamination could potentially occur in areas to be impacted. EH&S will consider the cases on file at the County of San Diego DEH and information on historical uses in the area to be impacted such as old maps and photos. If EH&S determines that there is limited potential for contamination to occur on site, no additional mitigation is necessary. If it is determined that contamination has potential to exist on a project site, Mitigation Measure Haz-4B shall be implemented.

Haz-4B: If contamination exists on a proposed project site and if it poses a risk to human health or the environment, actions shall be taken prior to any construction, pursuant to applicable regulations, to remove or otherwise remediate the contamination through appropriate measures such as natural attenuation, active remediation, and engineering controls. Assessment and remediation activities shall incorporate the following conditions:

- i. All assessment and remediation activities shall be conducted in accordance with a work plan that is approved by the regulatory agency having oversight of the activities.
- ii. It may be necessary to excavate existing soil within the project site, or to bring fill soils into the site from off-site locations. At sites that have been identified as being contaminated or where soil contamination is suspected, appropriate sampling and classification are required prior to disposal of excavated soil. Contaminated soil shall be properly disposed of at an approved off-site facility. Fill soils also shall be sampled to ensure that imported soil parameters are within acceptable levels.
- iii. Caution shall be taken during excavation activities near existing groundwater monitoring wells, so that they are not damaged. Existing groundwater monitoring wells may have to be abandoned and reinstalled if they are located in an area that is undergoing redevelopment.

Haz-4C: In the event that USTs not identified in consultation with EH&S, or undocumented areas of contamination are encountered during construction or redevelopment activities, work shall be discontinued until appropriate health and safety procedures are implemented. Either the County of San Diego DEH or the San Diego RWQCB, depending on the nature of the contamination, must be notified regarding the contamination. Each agency and program within the respective agency has its own mechanism for initiating an investigation. The appropriate program (e.g., the DEH Local Oversight Program for tank release cases, the County of San Diego DEH Voluntary Assistance Program for non-tank release cases, the RWQCB for non-tank cases involving groundwater contamination) will be selected based on the nature of the contamination identified. The contamination remediation and removal activities will be conducted in accordance with pertinent regulatory guidelines, under the oversight of the appropriate regulatory agency.

Haz-6: In the event that the construction of a project requires a lane or roadway closure on campus, prior to construction the contractor and/or Project Manager shall ensure that the UC San Diego Fire Marshal and campus community at large are notified. If determined necessary by the UC San Diego Fire Marshal, local emergency services will be notified by the Fire Marshal of the closure.

Noise

Noi-1F: If project construction activities resulting from implementation of the 2018 LRDP are proposed less than 150 feet of NSLU, or may involve the use of vibratory or impact-type pile drivers, impact-type equipment (including but not limited to: clam shovels, hydra break rams, hoe rams, and jackhammers), concrete saws, pavement scarifiers, sand blasters, or vibrating hoppers, mitigation shall be integrated into the project's construction specifications to minimize temporary noise caused by construction activities to less than significant levels:

- i. Require the construction contractor to work with proper administrative controls on equipment operation periods so as not to exceed a 12-hour average sound level of 75 dBA L_{eq} at any NSLU between 7:00 a.m. and 7:00 p.m. Monday through Saturday.
- ii. Outfit construction equipment with properly maintained, manufacturer-approved or recommended sound abatement means on air intakes, combustion exhausts, heat dissipation vents, and the interior surfaces of engine hoods and power train enclosures.
- iii. Locate (to the extent practical) steady-state, continuously operating stationary construction equipment such as generators, pumps, and air compressors at least 150 feet from nearby NSLUs. If this screening distance cannot be achieved in the field, consider deployment of temporary noise walls or acoustical blankets/curtains that would block direct sound paths between the operating equipment and the receptor(s) of concern.
- iv. Position (to the extent practical) construction laydown and vehicle staging areas as far from NSLUs as feasible.
- v. Inform, whenever possible and preferably with at least a two week advanced notice, all neighboring NSLUs expected to be exposed to elevated noise levels that a construction project would commence.
- vi. Where NSLU are expected to be less than 100 feet away, schedule anticipated loud construction activities, which could involve impact-type equipment and processes such as pile driving, jackhammering, pavement breaking, compactors, etc., to not coincide with any finals week of classes and recognized holidays. Adjust hours or days of the construction activity to occur before or after these noise-sensitive periods of the UC San Diego academic year.

Noi-2B: Prior to the commencement of construction of projects that would involve heavy earth-moving equipment or impact-type pile driving within the applicable screening distance per Table 3.10-16, or if the existing receptor involves activities that are vibration-sensitive at a level more stringent than VC-A as appearing in Table 3.10-15, UC San Diego shall retain a qualified acoustician to prepare a construction vibration mitigation program to be implemented by the construction contractor(s). The construction vibration mitigation program shall identify and require measures to reduce vibration resulting from construction activities to the maximum extent practicable, as well as detail construction activity notification and monitoring processes that include, but are not limited to, the following:

- i. Vibration monitoring shall be performed during construction to establish the level of vibration produced by high impact activities. Monitoring shall be conducted when any construction activity would occur within the above-described screening distances noted in Table 3.10-16. Monitoring shall be conducted using portable vibration-monitoring instrumentation that provides a calibrated record of local ground movement/accelerations. If construction vibration exceeds the appropriate threshold, work should be stopped and resumed when alternative work methods and equipment can be implemented. Baseline vibration levels at specified locations shall be established prior to the construction activity.
- ii. Building occupants of vibration-sensitive land uses within the applicable screening distance per Table 3.10-16 shall be notified at least two weeks prior to the start of construction.

6 REFERENCES

The primary sources of information for the Addendum Checklist are the 2018 LRDP and its EIR, including all relevant technical studies and references noted in those documents, which are incorporated by reference herein. Additional Project-specific information has been added to supplement the information in those primary references.

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Appendix A

Air Quality Technical Report

Ridge Walk North Living and Learning Neighborhood Project

Air Quality Technical Report

February 2023 | 00888.00033.018

Prepared for:

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Acronyms and Abbreviations

AB	Assembly Bill
ADMRT	Air Dispersion Modeling and Risk Tool
AERMAP	AERMOD terrain preprocessor
AERMOD	USEPA gaussian plume air dispersion model
AQIA	Air Quality Impact Assessment
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CO	carbon monoxide
CO ₂	carbon dioxide
CY	cubic yard
DPM	diesel particulate matter
EIR	Environmental Impact Report
HI	Hazard Index
HRA	Health Risk Assessment
HVAC	heating, ventilation, and air conditioning
I-5	Interstate 5
IEM	Iowa Environmental Mesonet
LRDP	UC San Diego 2018 Long Range Development Plan
MEIR	maximally exposed individual resident
MEIW	maximally exposed individual worker
mg/m ³	milligrams per cubic meter
mpg	miles per gallon
mph	miles per hour
NAAQS	National Ambient Air Quality Standards
NED	National Elevation Dataset
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
O ₃	ozone
OEHHA	Office of Environmental Health Hazard Assessment

Acronyms and Abbreviations (continued)

Pb	lead
PM ₁₀	particulate matter 10 microns or less in diameter
PM _{2.5}	particulate matter 2.5 microns or less in diameter
ppm	parts per million
RAQS	Regional Air Quality Strategy
RMP	Risk Management Policy
ROG	reactive organic gas
SANDAG	San Diego Association of Governments
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SF	Square feet/foot
SIO	Scripps Institution of Oceanography
SIP	State Implementation Plan
SO ₂	sulfur dioxide
SO _x	sulfur oxides
T-BACT	Toxics Best Available Control Technology
TACs	toxic air contaminants
USEPA	U.S. Environmental Protection Agency
VMT	vehicle miles traveled
VOC	volatile organic compound
WRCC	Western Regional Climate Center

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EXECUTIVE SUMMARY

This report presents an assessment of potential air quality impacts resulting from construction and operation of the proposed Ridge Walk North Living and Learning Neighborhood Project (Project). This report has been prepared to support an Addendum checklist for consistency with the 2018 Long Range Development Plan (LRDP) for the UC San Diego La Jolla Campus and the certified Program Environmental Impact Report (2018 LRDP EIR) assessing the environmental impacts of implementing the plan.

The Project would construct four buildings with 757,500 square feet (SF) of housing and dining, 131,750 SF of academic and student support, and 44,270 SF of community support, totaling of approximately 933,520 SF on a 20.9-acre site in the West Campus area of the UC San Diego La Jolla Campus.

The Project would not result in student population increase on the campus and the Project would be consistent with the population projections evaluated in 2018 LRDP EIR. The Project would be consistent with the land use categories in the 2018 LRDP, and the Project would not exceed the building space projections in the 2018 LRDP. The Project would result in an increase in the portion of students housed on campus; however, students who live on campus typically drive significantly less than students living off campus commuting to and from classrooms and campus activities, generating less vehicle miles traveled (VMT). The Project would be consistent with the growth and VMT assumptions in regional transportation plans would not conflict with the San Diego Air Pollution Control District's (SDAPCD's) 2020 Ozone Attainment Plan. The impact would be less than significant and the and the Project would not result in a new or more severe impact than analyzed in the 2018 LRDP EIR.

The Project would result in more intense construction than assumed in the 2018 LRDP EIR analysis. Although Project-specific construction modeling shows that emissions would not exceed the SDAPCD's screening level thresholds, the Project could coincide with other construction projects under the 2018 LRDP resulting in a potentially significant impact, consistent with the conclusion in the 2018 LRDP EIR. The Project's land use, building development and VMT would be consistent with the assumption in the 2018 LRDP EIR and the Project operational emissions would also be consistent with the potentially significant impact conclusion in the 2018 LRDP EIR. Mitigation measure AQ-2A to require fugitive dust control measures would reduce 2018 LRDP and Project construction emissions. Mitigation measure AQ-2A to require Tier 4 Interim emissions standards for diesel powered construction equipment would also reduce 2018 LRDP and Project construction emissions. However, impacts would remain significant and unavoidable, and the Project would not result in a new or more severe impact than analyzed in the 2018 LRDP EIR.

The Project would be consistent with the trip generation and VMT assumptions used in the 2018 LRDP EIR to evaluate Carbon Monoxide (CO) hotspots. The Project would not result in substantial localized concentrations of CO. The impact would be less than significant and the and the Project would not result in a new or more severe impact than analyzed in the 2018 LRDP EIR.

Construction and operation of the Project would be consistent with the assumptions used to evaluate community health risks in the 2018 LRDP EIR. Combined toxic air contaminants (TACs) from construction and operations for the 2018 LRDP and the Project would result in cancer risks for off-campus residents, off-campus workers, and sensitive groups in excess of the SDAPCD's cancer risk threshold. The Project would install more emergency generators in the West Campus area than assumed in the 2018 LRDP EIR.

A Project-specific health risk assessment (HRA) evaluated potential health risks to on-campus residents and on-campus workers at sites near the Project's three emergency generators. Cancer risks from the Project's emergency generators would not exceed the SDAPCD's cancer risk threshold. Impacts resulting from 2018 LRDP and Project TAC emissions would remain significant and unavoidable, and the Project would not result in a new or more severe impact than analyzed in the 2018 LRDP EIR.

Neither the 2018 LRDP nor the Project would result in odors affecting a substantial number of people and there would be no odor impact.

1.0 INTRODUCTION

This report presents an assessment of potential air quality impacts resulting from construction and operation of the proposed Ridge Walk North Living and Learning Neighborhood Project (Project). This report has been prepared to support an Addendum checklist for consistency with the 2018 Long Range Development Plan (LRDP) for the UC San Diego La Jolla Campus (UC San Diego 2018a) and the certified Program Environmental Impact Report (2018 LRDP EIR) assessing the environmental impacts of implementing the plan (SCH No. 2016111019; UC San Diego 2018b). The 2018 LRDP EIR was prepared in accordance with §15168 of the California Environmental Quality Act (CEQA) Guidelines and Public Resources Code §21094 and analyzed the environmental impacts of the 2018 LRDP. The 2018 LRDP EIR (Volume I) analyzes full implementation of uses and physical development proposed under the 2018 LRDP and identifies measures to mitigate the significant adverse and cumulative impacts associated with that growth. This report compares the site-specific development proposed by the Project with the assumptions used in the 2018 LRDP EIR to evaluate air quality impacts. Where the Project would exceed assumptions used to evaluate air quality impacts in the 2018 LRDP EIR, Project-specific analyses were completed (and documented in this report) to determine whether the Project would result in new or more severe air quality impacts.

1.1 PROJECT LOCATION

The UC San Diego La Jolla campus is located adjacent to the communities of La Jolla and University City, within the northwest portion of the City of San Diego (see Figure 2-1 of the 2018 LRDP EIR). UC San Diego's campus is generally composed of three distinct, but contiguous, geographical areas: the Scripps Institution of Oceanography (SIO) portion of the campus (178.7 acres), the western area of the campus (West Campus, 634.8 acres), and the eastern area of the campus (East Campus, 265.7 acres). The East and West Campuses are bisected by Interstate 5 (I-5). The La Jolla del Sol housing complex (12 acres) is located southeast of these larger geographical areas and not contiguous to the campus. Also included in the 2018 LRDP are the beach properties, consisting of the Audrey Geisel House and an adjacent coastal canyon and beachfront parcel (25.8 acres), and the Torrey Pines Gliderport, Torrey Pines Center and Torrey Pines Court (41.0 acres). The 2018 LRDP addresses campus properties that encompass a total of 1,158 acres in La Jolla, California. The approximately 20.9-acre (910,800-square foot [SF]) Project site would be located on the West Campus, which is situated between Genesee Avenue to the north, La Jolla Village Drive to the south, North Torrey Pines Road to the west, and I-5 to the east (see Figure 1, *Project Location*, and Figure 2, *Aerial View*).

1.2 PROJECT DESCRIPTION

The Project would construct four buildings of varying height, three of which would include student housing. Descriptions of these buildings (Buildings A, B, C, and E) and their amenities are provided below. The Project would provide a total of 2,455 new beds (2,394 undergraduate student beds, 50 beds for resident student advisors, and 11 beds in 5 apartments for residential professional staff) for a total of approximately 933,520 SF of building area. Project building area includes 757,500 SF of housing and dining, 131,750 SF of academic and student support, and 44,270 SF of community support.

The Project would construct landscape and hardscape improvements throughout the site and would integrate the new development with the surrounding campus, including the existing Thurgood Marshall College buildings, North Torrey Pines Living and Learning Neighborhood, Eleanor Roosevelt College, and

the historic eucalyptus grove (Historic Grove) along the Project's eastern edge. Ridge Walk, the primary pedestrian thoroughfare through West Campus, would remain open throughout construction but the portion within the Project site would be rebuilt and enhanced in phases as part of the Project. New pedestrian connections through the Project site would be constructed, which would provide new connectivity within the West Campus. These pedestrian pathways would provide improved access to connect the northwestern portion of campus (Eleanor Roosevelt College, Thurgood Marshall, and Seventh College) to Geisel Library and University Center. Three large open gathering areas would be located between the Project buildings, providing seating and recreation for residents. These include two large courtyards and Solis Garden.

Academic amenities include 18 classrooms, one 150-seat lecture hall, a glass blowing craft laboratory, and a computer laboratory. Other amenities include new restrooms, conference rooms, offices, a student café/market, and maintenance facilities (trash rooms, storage rooms, maintenance shop, utility rooms, and an information technology room). See Figure 3, *Site Plan*.

1.2.1 Project Buildings

Building A




Building A would be a roughly L-shaped structure located on the northern edge of the Project site south of Voigt Drive and Hopkins Parking Structure. Starting at the northwest corner closest to Building E, the building would rise 18 stories (including a walk-up basement level) stepping down to 14 stories as the building angles south away from Voigt Drive. Building A would be primarily residential, with 1,078 total beds. Residences would be configured in 8- and 10-bedroom suites, with a mixture of single- and double-occupancy bedrooms (one or two beds per room). An outdoor rooftop terrace would be provided, and rooftop equipment would include heating, ventilation, and air conditioning (HVAC), exhaust fans, and an elevator machine room at the tallest portions of the tower.

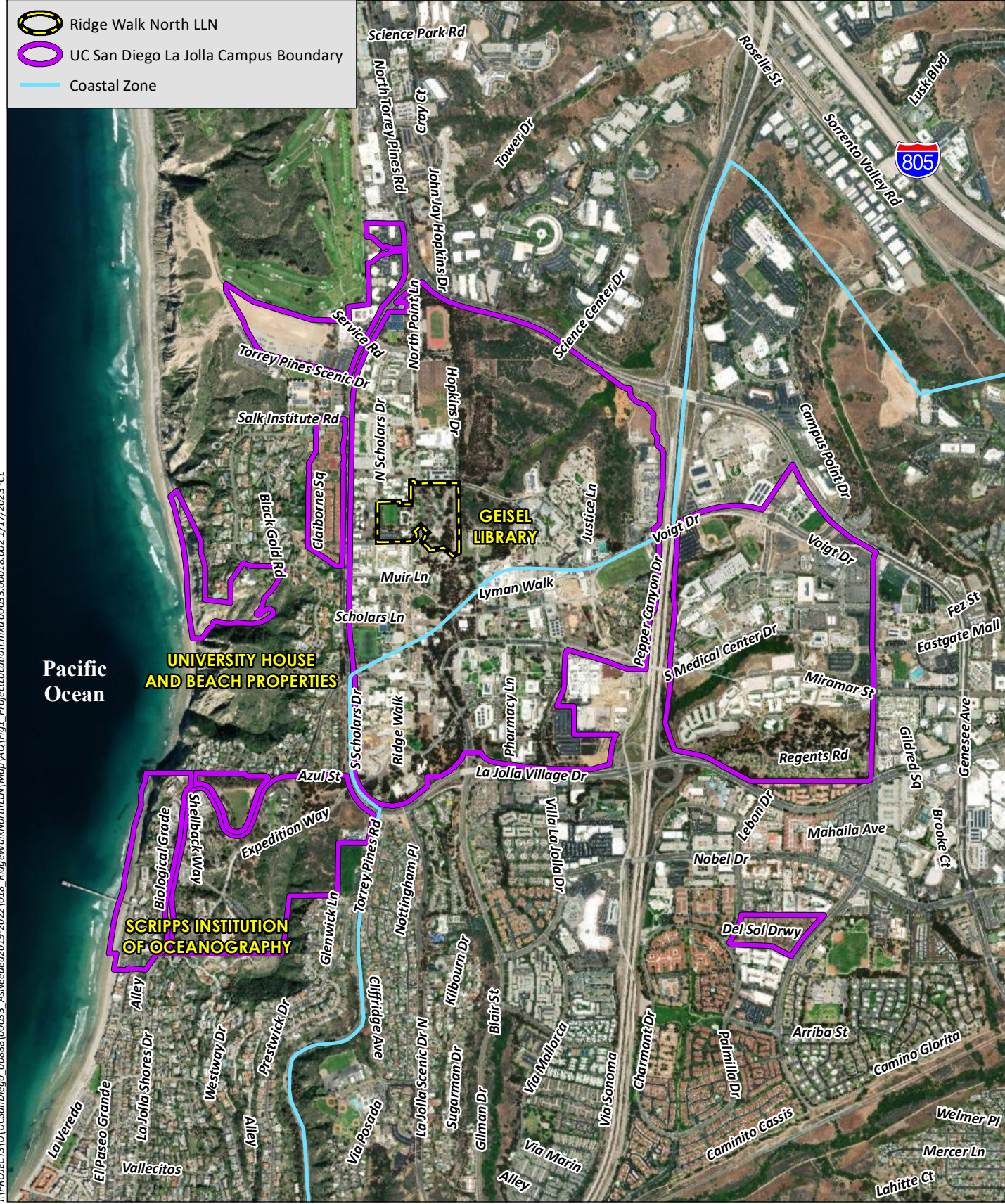
Building B

Building B would be in the center of the Project site, south of Building A, with 930 total beds. Like Building A, Building B would be L-shaped with a varied height, and would primarily house residences. It would rise 16 stories (including a walk-up basement level) at its northwest corner closest to Building E, stepping down to 12 stories in the southern portion. A large opening would be provided at ground level at the center of the building, which would provide a corridor for access between the northern and southern courtyards. An outdoor rooftop terrace would be provided. Rooftop equipment would include HVAC, exhaust fans, and an elevator machine room at the tallest portions of the tower.

Building C

Building C would be a roughly L-shaped structure located on the southern half of the Project site south of Building B and east Ridge Walk. Building C would provide 436 residential beds and academic support space in a 10-story tower (including a walk-up basement level). A large opening would be provided at ground level, providing north-south access through the building. An outdoor rooftop terrace would be provided, and rooftop equipment would include HVAC, exhaust fans, and an elevator machine room at the tallest portions of the tower. Building C would also provide academic and housing support within the building's first three stories. Academic spaces include the Project's 150-seat lecture hall, three 100-seat dividable classrooms, five 40-seat classrooms, and ten 56-seat classrooms.




-  Ridge Walk North LLN
-  UC San Diego La Jolla Campus Boundary
-  Coastal Zone

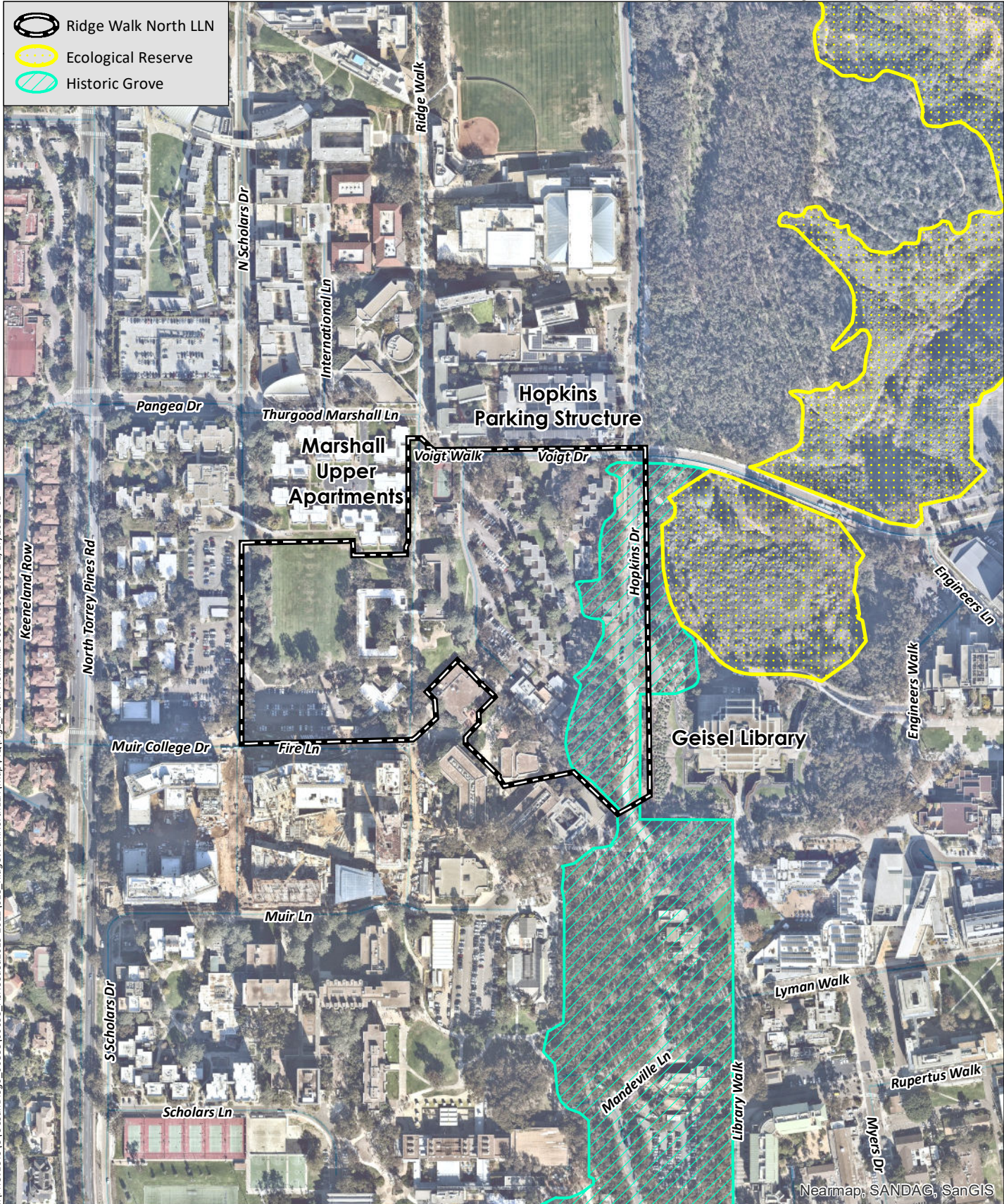


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Source: Aerial (Esri 2022)

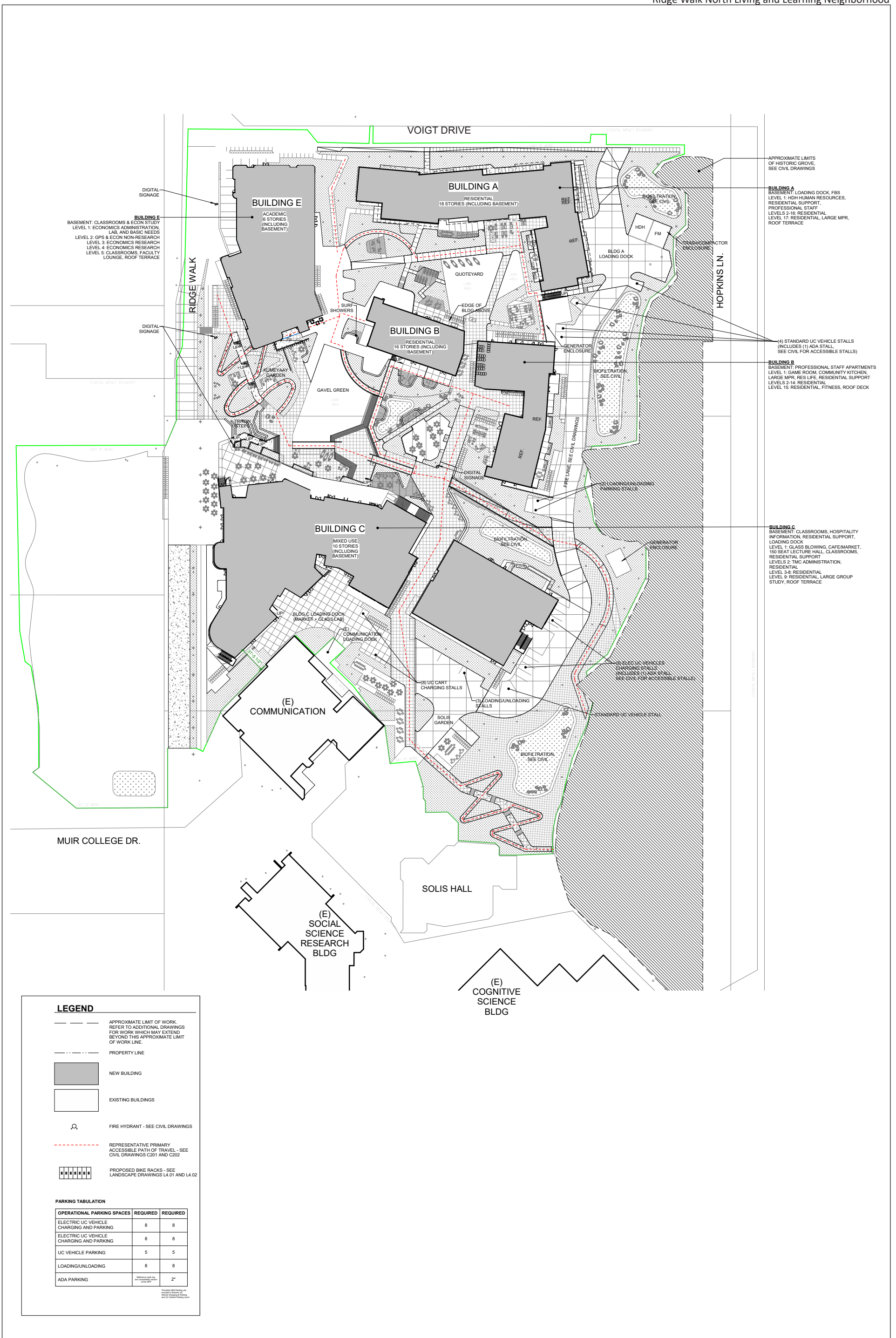
-  Ridge Walk North LLN
-  Ecological Reserve
-  Historic Grove



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Source: Aerial (SanGIS, 2019)



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APPROXIMATE LIMITS OF HISTORIC GROVE. SEE CIVIL DRAWINGS

BUILDING A
BASEMENT: LOADING DOCK, FBS
LEVEL 1: HDH HUMAN RESOURCES, RESIDENTIAL SUPPORT, PROFESSIONAL STAFF
LEVELS 2-16: RESIDENTIAL
LEVEL 17: RESIDENTIAL, LARGE MPR, ROOF TERRACE

BUILDING B
BASEMENT: PROFESSIONAL STAFF APARTMENTS (INCLUDES (1) ADA STALL. SEE CIVIL FOR ACCESSIBLE STALLS)
LEVEL 1: GAME ROOM, COMMUNITY KITCHEN, LARGE MPR, RES LIFE, RESIDENTIAL SUPPORT
LEVELS 2-14: RESIDENTIAL
LEVEL 15: RESIDENTIAL, FITNESS, ROOF DECK

BUILDING C
BASEMENT: CLASSROOMS, HOSPITALITY INFORMATION, RESIDENTIAL SUPPORT, LOADING DOCK
LEVEL 1: GLASS BLOWING, CAFE/MARKET, 150 SEAT LECTURE HALL, CLASSROOMS, RESIDENTIAL SUPPORT
LEVELS 2: TMC ADMINISTRATION, RESIDENTIAL
LEVELS 3-8: RESIDENTIAL, LARGE GROUP STUDY, ROOF TERRACE

Source: HMC Architects 9/2022

Building E

Building E would be the smallest of the proposed structures. The roughly rectangular structure would rise six stories at the northwestern corner of the development site, east of Ridge Walk and south of Voigt Drive. The building would contain academic spaces, including two 40-seat classrooms and two 56-seat classrooms. Building E would also provide space for the Economics Department, replacing offices and academic spaces previously housed at the Economics Building.

1.3 UTILITY AND SERVICE SYSTEM IMPROVEMENTS

1.3.1 Domestic and Fire Water Infrastructure

Existing Conditions

The existing site is currently served by a network of existing water lines that provide both domestic and fire water service. An internally looped system has connections to a 12-inch line along the south edge of the site, along with connections to a 12-inch line along Ridge Walk. All existing structures within the Project area are served by these looped systems.

Proposed Domestic and Fire Water

The proposed Project would require demolition of all existing onsite water infrastructure, except for the service to the existing Communications Building. Five new connections would be required to support the proposed Project. These connections include:

- 4-inch domestic line from Voigt Drive to serve Building A
- 8-inch domestic line from Ridge Walk to serve Buildings B, C, and E
- 8-inch fire lines at Voigt Drive and north of Solis Hall to provide a looped fire system serving Buildings A, B, and C
- 6-inch fire line from Ridge Walk to serve Building E
- The proposed Project would include separate domestic and fire water systems. Based on initial meetings with the UC San Diego Fire Marshal, the following criteria would be met for the fire water system:
 - Fire hydrant spacing at a minimum of 300 feet
 - Two Fire Department Connections (FDC) per building: FDC shall be within 25 feet of proposed fire hydrants and 40 feet away from the building being served; and
 - Two Automatic Fire Hose Connections per building: with 200-foot hose pulls.

1.3.2 Reclaimed Water Infrastructure

Existing Conditions

An existing 12-inch PVC reclaimed water line loop runs through the west side of the existing site. The 12-inch line connects to the reclaimed water system in Voigt Drive and Ridge Walk. The existing reclaimed water line is part of the larger infrastructure system that serves the overall campus.

Proposed Reclaimed Water Infrastructure

The proposed Project would require partial demolition of the existing reclaimed water infrastructure, construction of a new 12-inch main along Ridge Walk, and new connections to the existing system. The proposed reclaimed water line would connect to the existing system at Voigt Drive and Ridge Walk. This reclaimed water line through the site would be temporarily taken offline during construction while the new, rerouted main is constructed along Ridge Walk. The system is back fed from the north and south, and a loss of service to other campus areas is not anticipated. To minimize interruption of service, a detailed phasing plan would be coordinated with UC San Diego during the Construction Phase.

1.3.3 Sanitary Sewer Infrastructure

Existing Conditions

The Project site is currently served by a network of existing sewer lines that ultimately flow to an 8 inch vitrified clay pipe sewer main at the east side of the site. One of the main lines serving the site also serves existing buildings to the west of the Project site.

In addition to the 8-inch sewer that currently serves the site, an existing 8-inch sewer main is located at the north edge of the Project site along Voigt Drive.

Proposed Sanitary Sewer

The Project site would require demolition of the existing sewer infrastructure within the Project limits and would install two new connections to the existing sewer system, including a reroute of the existing main that serves the upstream housing. The proposed new sewer lines would be located throughout the site to serve the proposed buildings and the connection points would be located along the west side of Hopkins Drive.

1.3.4 Other Utilities

During site demolition, portions of the existing electrical conduit, telecom conduit, gas line, street light conduit, transformer, fire water appurtenances, light poles and irrigation lines would be removed. Mechanical and electrical systems for the proposed buildings would be housed within the Project buildings, containing electrical equipment, telecommunications systems, central lighting inverters and controls, fire detection and alarm systems, and security systems, as required.

Electrical power would be supplied to the proposed Project via the existing UC San Diego power grid, which provides 100 percent clean energy via the UC Regents Energy Services Unit Direct Access Program. Based on review of the Master Utility Plan prepared for the 2018 LRDP there is sufficient capacity within the existing utility systems to support the proposed Project buildings. No major utility

upgrades would be required for the proposed Project. Three emergency generators at the Project site would provide backup power for all life safety equipment, security, telecommunication, egress lighting, and all other safety and security monitoring systems.

1.4 PROJECT CONSTRUCTION

The approximately 910,800 SF (20.9-acre) Project site includes approximately 265,970 SF (6.1 acres) of new development, with other areas of the site accommodating construction related staging activities. The Project site is an infill location and the Project would redevelop an existing low-density site within the interior of the campus. Construction activities are anticipated to begin in June 2023, with a phased completion of student beds by August 2025 and remainder of Project to be completed by late 2025. Construction of the Project is anticipated to take up to 30 months. Construction activities would occur Monday through Saturday, between the hours of 7:00 a.m. and 7:00 p.m. Limited nighttime construction may occur to eliminate daytime conflicts or other necessary reasons, with approval from the appropriate campus stakeholders.

As part of the Project, the majority of existing site buildings, landscape, and hardscape would be demolished to accommodate construction of the new Project components. Demolition would involve the removal of 152,170 SF of existing structures. Grading would require a total cut of approximately 70,000 cubic yards (CY) of dirt and fill of approximately 15,000 CY resulting in approximately 55,000 CY of soil exported from the Project site via haul trucks.

2.0 CONSISTENCY WITH 2018 LRDP

2.1 CAMPUS POPULATION

The 2018 LRDP anticipates that the total campus population would grow by 16,750 people over the 2018 LRDP planning period, resulting in a total population of 65,600 by 2035. The Project would not result in new campus populations related to new academic or research programs but would provide housing for student populations, which are anticipated to increase regardless of Project implementation. The Project would provide beds for 2,394 students, 50 resident student advisors, and 11 professional resident staff. In addition, approximately 270 full time equivalent staff and faculty and 152 student employees would be located in the proposed facilities.

While the Project would increase the number of students residing on campus, it would not cause an increase in student enrollment as the Project will serve an existing demand for on-campus housing. Student employees are also students already enrolled in academic programs, and therefore student employment by itself is not population inducing. In addition, the majority of staff and faculty located in the new facilities would be relocated from existing programs. The Project would be associated with an expansion of approximately 80 new employees. This growth is consistent with the population projections evaluated in 2018 LRDP EIR, and the Project would not cause an exceedance of the population growth anticipated by the 2018 LRDP.

2.2 LAND USE

The Land Use Plan of the 2018 LRDP describes functional land use categories that reflect those activities that would be predominant in any given area of campus. Predominant uses are the primary programs,

facilities, and activities in a general geographic area. Other support or ancillary uses are allowable within any given area defined by a predominant use.

The 2018 LRDP designates the Project site as Academic, Housing, and Sports and Recreation, defined, respectively, as land and structures that provide classrooms with associated academic operations facilities, residential areas with supporting facilities, and playing fields or other recreational open space. The Project would construct four buildings, which would provide housing, dining facilities, academic and student support services, and community support services. Marshall Field and Ridge Walk would be maintained while new landscaped open spaces would be created within the Project. Therefore, the Project would be consistent with the land use categories in the 2018 LRDP.

2.3 DEVELOPMENT SPACE

The 2018 LRDP provides capacity for approximately 9 million SF of additional building space for academic, clinical, housing, administrative, and service programs. This projected net increase accounts for the potential removal (demolition) of approximately 1 million SF of buildings that are beyond their useful life and/or are located in strategic redevelopment areas.

The Project would demolish the majority of the structures on the Project site totaling 152,170 SF. These structures include Sequoyah Hall, the Thurgood Marshall Administration Building, Economics Building, Fireside Lounge, Goody's Place, Eucalyptus Hall, four one-story trailers, the Dean's Residence, and all buildings associated with the Thurgood Marshall College Lower Apartments. The Project would construct 933,520 SF of building space. Based on Fall 2022 conditions, the Project would increase the total space within the West Campus from 12,551,800 to approximately 13,333,150 SF. Based on this data, the Project would not exceed the building space projections contemplated in the 2018 LRDP and the Project would be consistent with the plan.

3.0 REGULATORY SETTING

The UC San Diego La Jolla campus and the Project site are located within the San Diego Air Basin (SDAB). Air quality in the SDAB is regulated by the U.S. Environmental Protection Agency (USEPA) at the federal level, by the California Air Resources Board (CARB) at the state level, and by the San Diego Air Pollution Control District (SDAPCD) at the regional level.

3.1 AIR POLLUTANT DESCRIPTORS AND TERMINOLOGY

3.1.1 Criteria Air Pollutants

Criteria pollutants are defined by state and federal law as a risk to the health and welfare of the public. In general, criteria air pollutants include the following compounds:

- Ozone (O₃)
- Carbon monoxide (CO)
- Nitrogen dioxide (NO₂)

- Particulate matter (PM), which is further subdivided:
 - Coarse PM, 10 microns or less in diameter (PM₁₀)
 - Fine PM, 2.5 microns or less in diameter (PM_{2.5})
- Sulfur dioxide (SO₂)
- Lead (Pb)

Criteria pollutants can be emitted directly from sources (primary pollutants; e.g., CO, SO₂, PM₁₀, PM_{2.5}, and lead), or they may be formed through chemical and photochemical reactions of precursor pollutants in the atmosphere (secondary pollutants; e.g., ozone, NO₂, PM₁₀, and PM_{2.5}). PM₁₀ and PM_{2.5} can be both primary and secondary pollutants. The principal precursor pollutants of concern are reactive organic gases ([ROGs] also known as volatile organic compounds [VOCs])¹ and nitrogen oxides (NO_x).

The descriptions of sources and general health effects for each of the criteria air pollutants are shown in Table 1, *Common Sources and Human Health Effects of Criteria Air Pollutants*, based on information provided by the California Air Pollution Control Officers Association ([CAPCOA] 2023). Specific adverse health effects on individuals or population groups induced by criteria pollutant emissions are highly dependent on a multitude of interconnected variables such as cumulative concentrations, local meteorology and atmospheric conditions, and the number and characteristics of exposed individuals (e.g., age, gender). Criteria pollutant precursors (ROG and NO_x) affect air quality on a regional scale, typically after significant delay and distance from the pollutant source emissions. Health effects related to ozone and NO₂ are, therefore, the product of emissions generated by numerous sources throughout a region. Emissions of criteria pollutants from vehicles traveling to or from the Project site (mobile emissions) are distributed nonuniformly in location and time throughout the region, wherever the vehicles may travel. As such, specific health effects from these criteria pollutant emissions cannot be meaningfully correlated to the incremental contribution from the Project.

**Table 1
COMMON SOURCES AND HUMAN HEALTH EFFECTS OF CRITERIA AIR POLLUTANTS**

Pollutant	Major Man-Made Sources	Human Health Effects
Carbon Monoxide (CO)	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, affecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
Nitrogen Dioxide (NO ₂)	A reddish-brown gas formed during fuel combustion for motor vehicles and industrial sources. Sources include motor vehicles, electric utilities, and other sources that burn fuel.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Contributes to climate change and nutrient overloading, which deteriorates water quality. Causes brown discoloration of the atmosphere.

¹ CARB defines and uses the term ROGs while the USEPA defines and uses the term VOCs. The compounds included in the lists of ROGs and VOCs and the methods of calculation are slightly different. However, for the purposes of estimating criteria pollutant precursor emissions, the two terms are often used interchangeably.

Pollutant	Major Man-Made Sources	Human Health Effects
Ozone (O ₃)	Formed by a chemical reaction between reactive organic gases (ROGs) and nitrogen oxides (NO _x) in the presence of sunlight. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, gasoline storage and transport, solvents, paints, and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing, and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield. Damages rubber, some textiles, and dyes.
Particulate Matter (PM ₁₀ and PM _{2.5})	Produced by power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles, and other sources.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
Sulfur Dioxide (SO ₂)	A colorless, nonflammable gas formed when fuel containing sulfur is burned, when gasoline is extracted from oil, or when metal is extracted from ore. Examples are petroleum refineries, cement manufacturing, metal processing facilities, locomotives, and ships.	Respiratory irritant. Aggravates lung and heart problems. In the presence of moisture and oxygen, sulfur dioxide converts to sulfuric acid, which can damage marble, iron, and steel. Damages crops and natural vegetation. Impairs visibility. Precursor to acid rain.
Lead	Metallic element emitted from metal refineries, smelters, battery manufacturers, iron and steel producers, use of leaded fuels by racing and aircraft industries.	Anemia, high blood pressure, brain and kidney damage, neurological disorders, cancer, lowered IQ. Affects animals, plants, and aquatic ecosystems.

Source: CAPCOA 2023

3.1.2 Toxic Air Contaminants

Toxic air contaminants (TACs) are a diverse group of air pollutants that may cause or contribute to an increase in deaths or in serious illness, or that may pose a present or potential hazard to human health. TACs can cause long-term health effects such as cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage, or short-term acute effects such as eye watering, respiratory irritation (a cough), runny nose, throat pain, and headaches. TACs may be carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For carcinogenic TACs, there is no level of exposure that is considered safe, and impacts are evaluated in terms of overall relative risk expressed as excess cancer cases per one million exposed individuals. Noncarcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

Diesel engines emit a complex mixture of air pollutants, including both gaseous and solid material. The solid material in diesel exhaust is referred to as diesel particulate matter (DPM). Almost all DPM is 10 microns or less in diameter, and 90 percent of DPM is less than 2.5 microns in diameter (CARB 2023a). Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung. In 1998, CARB identified DPM as a TAC based on published evidence of a relationship between diesel exhaust exposure and lung cancer and other adverse health effects. DPM has a notable effect on California’s population—it is estimated that about 70 percent of total known cancer risk related to air toxics in California is attributable to DPM (CARB 2023a).

3.2 FEDERAL REGULATIONS

3.2.1 Clean Air Act

Air quality is defined by ambient air concentrations of specific pollutants identified by the USEPA to be of concern with respect to the health and welfare of the public. The USEPA is responsible for enforcing the Federal Clean Air Act (CAA) of 1970 and its 1977 and 1990 Amendments. The CAA required the USEPA to establish National Ambient Air Quality Standards (NAAQS), which identify concentrations of pollutants in the ambient air below which no adverse effects on the public health and welfare are anticipated. In response, the USEPA established both primary and secondary standards for several criteria pollutants, which are introduced above. Table 2, *Ambient Air Quality Standards*, shows the federal and state ambient air quality standards (AAQS) for these pollutants.

**Table 2
AMBIENT AIR QUALITY STANDARDS**

Pollutant	Averaging Time	California Standards	Federal Standards Primary ¹	Federal Standards Secondary ²
O ₃	1 Hour	0.09 ppm (180 µg/m ³)	–	–
	8 Hour	0.070 ppm (137 µg/m ³)	0.070 ppm (137 µg/m ³)	Same as Primary
PM ₁₀	24 Hour	50 µg/m ³	150 µg/m ³	Same as Primary
	AAM	20 µg/m ³	–	Same as Primary
PM _{2.5}	24 Hour	–	35 µg/m ³	Same as Primary
	AAM	12 µg/m ³	12.0 µg/m ³	15.0 µg/m ³
CO	1 Hour	20 ppm (23 mg/m ³)	35 ppm (40 mg/m ³)	–
	8 Hour	9.0 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	–
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)	–	–
NO ₂	1 Hour	0.18 ppm (339 µg/m ³)	0.100 ppm (188 µg/m ³)	–
	AAM	0.030 ppm (57 µg/m ³)	0.053 ppm (100 µg/m ³)	Same as Primary
SO ₂	1 Hour	0.25 ppm (655 µg/m ³)	0.075 ppm (196 µg/m ³)	–
	3 Hour	–	–	0.5 ppm (1,300 µg/m ³)
	24 Hour	0.04 ppm (105 µg/m ³)	–	–
Lead	30-day Avg.	1.5 µg/m ³	–	–
	Calendar Quarter	–	1.5 µg/m ³	Same as Primary
	Rolling 3-month Avg.	–	0.15 µg/m ³	Same as Primary
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per km – visibility ≥ 10 miles (0.07 per km – ≥30 miles for Lake Tahoe)	No Federal Standards	No Federal Standards

Pollutant	Averaging Time	California Standards	Federal Standards Primary ¹	Federal Standards Secondary ²
Sulfates	24 Hour	25 µg/m ³	No Federal Standards	No Federal Standards
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	No Federal Standards	No Federal Standards
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m ³)	No Federal Standards	No Federal Standards

Source: CARB 2016

¹ National Primary Standards: The levels of air quality necessary, within an adequate margin of safety, to protect the public health.

² National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

O₃ = ozone; ppm: parts per million; µg/m³ = micrograms per cubic meter; PM₁₀ = particulate matter 10 microns or less in diameter; AAM = Annual Arithmetic Mean; PM_{2.5} = fine particulate matter 2.5 microns or less in diameter; CO = carbon monoxide; mg/m³ = milligrams per cubic meter; NO₂ = nitrogen dioxide; SO₂ = sulfur dioxide; km = kilometer; – = No Standard

The CAA allows states to adopt ambient air quality standards and other regulations provided they are at least as stringent as federal standards. Areas that do not meet the NAAQS for a particular pollutant are considered to be “nonattainment areas” for that pollutant. The area air quality attainment status of the SDAB, is shown in Table 3, *San Diego Air Basin Attainment Status*. On August 3, 2018, the SDAB was classified as a moderate nonattainment area for the 8-hour NAAQS for ozone (SDAPCD 2023a). The SDAB is an attainment area or unclassified for the NAAQS for all other criteria pollutants including PM₁₀ and PM_{2.5}.

**Table 3
SAN DIEGO AIR BASIN ATTAINMENT STATUS**

Pollutant	State of California Attainment Status	Federal Attainment Status
Ozone (1-hour)	Nonattainment	Attainment
Ozone (8-hour)	Nonattainment	Nonattainment
Coarse Particulate Matter (PM ₁₀)	Nonattainment	Unclassifiable ¹
Fine Particulate Matter (PM _{2.5})	Nonattainment	Attainment
Carbon Monoxide (CO)	Attainment	Attainment
Nitrogen Dioxide (NO ₂)	Attainment	Attainment
Lead	Attainment	Attainment
Sulfur Dioxide (SO ₂)	Attainment	Attainment
Sulfates	Attainment	No Federal Standard
Hydrogen Sulfide	Unclassified	No Federal Standard
Visibility Reducing Particles	Unclassified	No Federal Standard

Source: SDAPCD 2023a

¹ At the time of designation, if the available data does not support a designation of attainment or nonattainment, the area is designated as unclassifiable.

3.3 STATE REGULATIONS

3.3.1 California Clean Air Act

CARB has established the more stringent California Ambient Air Quality Standards (CAAQS) for the seven criteria air pollutants listed above through the California Clean Air Act of 1988 (CCAA), and has also

established CAAQS for additional pollutants, including sulfates, hydrogen sulfide (H₂S), vinyl chloride and visibility-reducing particles (see Table 2). Areas that do not meet the CAAQS for a particular pollutant are considered to be “nonattainment areas” for that pollutant. The SDAB is currently classified as a nonattainment area under the CAAQS for ozone (1-hour and 8-hour), PM₁₀, and PM_{2.5} (SDAPCD 2023a). The current state attainment status for the SDAB is provided in Table 3, above.

CARB is the state regulatory agency with the authority to enforce regulations to both achieve and maintain the NAAQS and CAAQS. The SDAPCD is responsible for developing and implementing the rules and regulations designed to attain the NAAQS and CAAQS, as well as the permitting of new or modified sources, developing of air quality management plans, and adopting and enforcing air pollution regulations for San Diego County.

3.3.2 State Implementation Plan

The CAA requires areas with unhealthy levels of ozone, inhalable particulate matter, carbon monoxide, nitrogen dioxide, and sulfur dioxide to develop plans, known as State Implementation Plans (SIPs). SIPs are comprehensive plans that describe how an area will attain the NAAQS. The 1990 amendments to the CAA set deadlines for attainment based on the severity of an area's air pollution problem.

SIPs are not single documents—they are a compilation of new and previously submitted plans, programs (e.g., monitoring, modeling, permitting), district rules, state regulations and federal controls. Many of California's SIPs rely on a core set of control strategies, including emission standards for cars and heavy trucks, fuel regulations and limits on emissions from consumer products. State law makes CARB the lead agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB forwards the SIP revisions to the USEPA for approval and publication in the Federal Register. The Code of Federal Regulations (CFR) Title 40, Chapter I, Part 52, Subpart F, Section 52.220 lists all of the items that are included in the California SIP (CARB 2023b). At any one time, several California submittals are pending USEPA approval.

3.3.3 Toxic Air Contaminants

The Health and Safety Code (§39655, subd. (a)) defines a TAC as “an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health.” A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the CAA (42 United States Code Sec. 7412[b]) is a TAC. Under State law, the California Environmental Protection Agency (CalEPA), acting through CARB, is authorized to identify a substance as a TAC if it determines the substance is an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or that may pose a present or potential hazard to human health.

3.4 LOCAL REGULATIONS

3.4.1 Attainment Plan

The SDAPCD and San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The regional air quality plan for San Diego County is SDAPCD's *2020 Plan for Attaining the National Ambient Air Quality Standards for Ozone in San Diego County* (Attainment Plan; SDAPCD 2020).

The Attainment Plan, which would be a revision to the SIP, outlines SDAPCD's strategies and control measures designed to attain the NAAQS for ozone. These plans accommodate emissions from all sources, including natural sources, through implementation of control measures, where feasible, on stationary sources to attain the standards. Mobile sources are regulated by the USEPA and CARB, and the emissions and reduction strategies related to mobile sources are considered in the Attainment Plan and SIP.

3.4.2 Regional Air Quality Strategy

To comply with State law, the SDAPCD must prepare an updated State Ozone Attainment Plan to identify possible new actions to further reduce emissions. Initially adopted in 1992, the Regional Air Quality Strategy (RAQS) identifies measures to reduce emissions from sources regulated by the SDAPCD, primarily stationary sources such as industrial operations and manufacturing facilities. The RAQS is periodically updated to reflect updated information on air quality, emission trends, and new feasible control measures, and was last updated in 2016. As of this analysis, the SDAPCD Governing Board is tentatively scheduled to consider the final version of the 2022 RAQS in early 2023 (SDAPCD 2023b). Until approval of the 2022 RAQS, the Attainment Plan, described above, contains the most current strategies and control measures for attaining the ozone NAAQS.

3.5 SAN DIEGO AIR POLLUTION CONTROL DISTRICT RULES AND REGULATIONS

3.5.1 Rule 50 (Visible Emissions)

Particulate matter pollution impacts the environment by decreasing visibility (haze). These particles vary in shape, size, and chemical composition, and come from a variety of natural and manmade sources. Some haze-causing particles are directly emitted to the air such as windblown dust and soot. Others are formed in the air from the chemical transformation of gaseous pollutants (e.g., sulfates, nitrates, organic carbon particles) which are the major constituents of PM_{2.5}. These fine particles, caused largely by combustion of fuel, can travel hundreds of miles causing visibility impairment.

Visibility reduction is probably the most apparent symptom of air pollution. Visibility degradation is caused by the absorption and scattering of light by particles and gases in the atmosphere before it reaches the observer. As the number of fine particles increases, more light is absorbed and scattered, resulting in less clarity, color, and visual range. Light absorption by gases and particles is sometimes the cause of discolorations in the atmosphere but usually does not contribute very significantly to visibility degradation. Scattering by particulates impairs visibility much more readily. SDAPCD Rule 50 (Visible Emissions) sets emission limits based on the apparent density or opacity of the emissions using the Ringelmann scale (SDAPCD 1997).

3.5.2 Rule 51 (Nuisance)

SDAPCD Rule 51 (Nuisance) states that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property. The provisions of the rule do not apply to odors emanating from agricultural operations in the growing of crops or raising of fowls or animals (SDAPCD 1976).

3.5.3 Rule 55 (Fugitive Dust Control)

SDAPCD Rule 55 (Fugitive Dust Control) requires action be taken to limit dust from construction and demolition activities from leaving the property line. Similar to Rule 50 (Visible Emissions), Rule 55 (Fugitive Dust Control) places limits on the amount of visible dust emissions in the atmosphere beyond the property line. It further stipulates that visible dust on roadways as a result of track-out/carry-out shall be minimized through implementation of control measures and removed at the conclusion of each workday using street sweepers (SDAPCD 2009).

3.5.4 Rule 67.0.1 (Architectural Coatings)

Construction of development within the Specific Plan is required to comply with SDAPCD Rule 67.0.1 (Architectural Coatings) which requires standard interior/exterior flat coatings to contain 50 grams per liter or less VOC content and interior/exterior non-flat coatings to contain 50 grams per liter or less VOC content (SDAPCD 2021).

3.6 EXISTING CONDITIONS

The Project site is within the Thurgood Marshall College neighborhood on the western edge of West Campus. Existing uses of the Project site include a low-density, 250-bed student housing complex called Thurgood Marshall College Lower Apartments, student dining and recreational facilities, and educational and administrative buildings. The Project site is bound by Hopkins Drive to the east; Voigt Drive to the north; Scholars Drive to the west; and the Communication Building, Social Sciences Research Building, Cognitive Science Building, and the North Torrey Pines Living and Learning Neighborhood to the south. The site is bisected by Ridge Walk, a north-south pedestrian thoroughfare through West Campus.

The land use designations for the Project site in the 2018 LRDP include Housing, Academic, and Sports and Recreation (UC San Diego 2018a) with surrounding land uses including Housing to the west (Thurgood Marshall Upper Apartments), Academic to the north and south (Social Sciences Building, Communication Building, Solis Hall, Social Sciences Research Building, Cognitive Science Building, and the North Torrey Pines Living and Learning Neighborhood), Open Space Preserve (Historic Grove and Ecological Reserve) to the east, and Recreation (Marshall Field) to the west. The existing UC San Diego Extension buildings located further west of the Project across Scholars Drive are designated as planned Housing land use (UC San Diego 2018a).

3.6.1 Climate/Meteorology

The climate in southern California, including the SDAB, is primarily controlled by the large-scale meteorological condition that dominates the west coast of the United States: a seasonally semi-permanent high-pressure cell centered over the northeastern Pacific Ocean, called the Pacific high. The Pacific high keeps most storms from affecting the California coast. Areas within 30 miles of the coast in the San Diego region, including the Project site, experience moderate temperatures and comfortable humidity.

Temperature inversion layers (inversions; layers of warmer air over colder air) affect air quality conditions significantly because they influence the mixing depth (i.e., the vertical depth in the atmosphere available for diluting air contaminants near the ground). The highest air pollutant concentrations in the SDAB generally occur during inversions. During the summer, air quality problems

in the SDAB are created due to the interaction between the ocean surface and the lower layer of the atmosphere, creating a moist marine layer. An upper layer of warm air mass forms over the cool marine layer, preventing air pollutants from dispersing upward. Additionally, hydrocarbons (VOCs) and NO_x react under the strong, abundant sunlight in the San Diego region, creating ozone and smog. Light, daytime winds, predominantly from the west, further aggravate the condition by driving the air pollutants inland, toward the foothills. During the fall and winter, air quality problems are created due to VOC and NO_x emissions. High NO_x levels usually occur during autumn or winter, on days with summer-like conditions.

The predominant wind direction in the vicinity of the Project site is from the northwest and the average wind speed is approximately 5.6 miles per hour (Iowa Environmental Mesonet [IEM] 2022). The annual average maximum temperature in the Project area is approximately 70 degrees Fahrenheit (°F), and the annual average minimum temperature is approximately 56°F. Total precipitation in the Project area averages approximately 10 inches annually. Precipitation occurs mostly during the winter and relatively infrequently during the summer (Western Regional Climate Center [WRCC] 2016).

3.6.2 Monitored Air Quality

The SDAPCD operates a network of ambient air monitoring stations throughout the San Diego region. The air quality monitoring station closest to the Project site is the Diego-Kearny Villa Road monitoring station, approximately 7 miles southeast of the Project site. At the time of this analysis, PM₁₀ monitoring data in San Diego County was limited and only data for 2019 was available. The monitoring station most representative of the Project site with data for PM₁₀ is the Chula Vista monitoring station, approximately 20 miles southeast of the Project site. The ambient pollutant concentrations collected at the stations during the last three available years (2019 through 2021) are shown in Table 4, *Air Quality Monitoring Data*. The data indicates exceedance of the state 1-hour ozone standards on two days in 2020 and 1 day in 2021, exceedance of the state/federal 8-hour ozone standards on multiple days in 2019 through 2021, exceedance of the state PM₁₀ standard on one day in 2019, and exceedance of the federal PM_{2.5} standard on 2 days in 2020. No other air quality standards were determined to be exceeded from 2019 to 2021 (CARB 2023c).

**Table 4
AIR QUALITY MONITORING DATA**

Pollutant Standard	2019	2020	2021
Ozone (O₃) – Kearny Villa Road Station			
Maximum concentration 1-hour period (ppm)	0.083	0.123	0.095
Maximum concentration 8-hour period (ppm)	0.075	0.102	0.071
Days above 1-hour state standard (>0.09 ppm)	0	2	1
Days above 8-hour state/federal standard (>0.070 ppm)	1	12	1
Coarse Particulate Matter (PM₁₀) – Chula Vista Station			
Maximum 24-hour concentration (µg/m ³)	68.2	*	*
Measured Days above 24-hr state standard (>50 µg/m ³)	1	*	*
Measured Days above 24-hr federal standard (>150 µg/m ³)	0	*	*
Annual average (µg/m ³)	*	*	*
Exceed state annual standard (20 µg/m ³)	*	*	*

Pollutant Standard	2019	2020	2021
Fine Particulate Matter (PM_{2.5}) – Kearny Villa Road Station			
Maximum 24-hour concentration (µg/m ³)	16.2	47.5	20.9
Measured Days above 24-hour federal standard (>35 µg/m ³)	0	2	0
Annual average (µg/m ³)	7.0	8.7	7.6
Exceed federal annual standard (12 µg/m ³)	No	No	No
Nitrogen Dioxide (NO₂) – Kearny Villa Road Station			
Maximum 1-hour concentration (ppm)	0.046	0.052	0.060
Days above state 1-hour standard (0.18 ppm)	0	0	0
Days above federal 1-hour standard (0.100 ppm)	0	0	0
Annual average (ppm)	0.008	0.007	0.007
Exceed annual federal standard (0.053 ppm)	No	No	No
Exceed annual state standard (0.030 ppm)	No	No	No

Source: CARB 2023c

ppb = parts per billion; ppm = parts per million; µg/m³ = micrograms per cubic meter, * = insufficient data available.

4.0 METHODOLOGY AND SIGNIFICANCE CRITERIA

4.1 METHODOLOGY

Criteria pollutant emissions for the Project were estimated using CalEEMod, version 2020.4.0. CalEEMod is a computer model used to estimate air emissions resulting from land development projects throughout the state of California. CalEEMod was developed by CAPCOA in collaboration with the California air quality management and pollution control districts. The calculation methodology, source of emission factors used, and default data is described in the CalEEMod User’s Guide, and Appendices A, D, and E (CAPCOA 2021).

In brief, CalEEMod is a computer model that estimates criteria air pollutant and greenhouse gas emissions from mobile (i.e., vehicular) sources, area sources (fireplaces, woodstoves, and landscape maintenance equipment), energy use (electricity and natural gas used in space heating, ventilation, and cooling; lighting; and plug-in appliances), water use and wastewater generation, and solid waste disposal. Emissions are estimated based on land use information input to the model by the user.

In the first module, the user defines the specific land uses that will occur at the Project site. The user also selects the appropriate land use setting (urban or rural), operational year, location, climate zone, and utility provider. The input land uses, size features, and population are used throughout CalEEMod in determining default parameters and calculations in each of the subsequent modules. The input land use information consists of land use subtypes (such as the residential subtypes of single-family residential and multi-family medium-rise residential) and their unit or square footage quantities.

Subsequent modules include construction (including off-road vehicle emissions), mobile (on-road vehicle emissions), area sources (architectural coatings [painting], consumer products [cleansers, aerosols, solvents]), water and wastewater, and solid waste. Each module comprises multiple components including an associated mitigation module to account for further reductions in the reported baseline calculations. Other inputs include trip generation rates, trip lengths, vehicle fleet mix (percentage autos, trucks, etc.), trip distribution (percent work to home, etc.), duration of construction phases, construction equipment usage, grading areas, season, and ambient temperature, as well as other parameters.

In various places the user can input additional information and/or override the default assumptions to account for Project- or location-specific parameters. For this assessment, the default parameters were not changed unless otherwise noted. The CalEEMod output files are included in Appendix A to this report.

4.1.1 Construction Emissions

4.1.1.1 Construction Activities

Construction emissions calculations were based on CalEEMod defaults, and the estimated overall timeline described in the Project description which assumes construction would commence in June 2023 and finish in late Fall 2025. Architectural coatings (e.g., painting) was assumed to occur concurrent with the last six months of building construction. The quantity, duration, and intensity of construction activity influence the amount of construction emissions and related pollutant concentrations that occur at any one time. As such, the emission forecasts provided herein reflect a specific set of conservative assumptions based on the expected construction scenario wherein a relatively large amount of construction activity is occurring in a relatively intensive manner. Because of this conservative assumption, actual emissions could be less than those forecasted. If construction is delayed or occurs over a longer time period, emissions could be reduced because of: (1) a more modern and cleaner-burning construction equipment fleet mix than assumed in CalEEMod; and/or (2) a less intensive buildout schedule (i.e., fewer daily emissions occurring over a longer time interval).

Construction was assumed to occur between 7:00 a.m. and 7:00 p.m. with equipment operating up to eight hours during that time period. The construction schedule assumed in the modeling is shown in Table 5, *Anticipated Construction Schedule*.

**Table 5
ANTICIPATED CONSTRUCTION SCHEDULE**

Construction Activity	Construction Period Start	Construction Period End	Number of Working Days
Demolition	6/7/2023	8/17/2023	52
Site Preparation	8/18/2023	8/31/2023	10
Grading/Utilities	9/1/2023	12/31/2023	86
Building Construction	1/1/2024	10/31/2025	480
Architectural Coatings	5/1/2025	10/31/2025	132
Paving	11/1/2025	11/28/2025	20

Source: CalEEMod (complete data is provided in Appendix A)

4.1.1.2 Construction Off-Road Equipment

Construction would require the use of heavy off-road equipment. Construction equipment estimates for other activities estimates are based on default values in CalEEMod, with the additional of a water truck for dust suppression. Table 6, *Construction Equipment Assumptions*, presents a summary of the assumed equipment that would be involved in each stage of construction.

**Table 6
CONSTRUCTION EQUIPMENT ASSUMPTIONS**

Equipment	Horsepower	Number	Hours/Day
Demolition			
Concrete/Industrial Saws	81	1	8
Excavators	158	3	8
Rubber Tired Dozers	247	2	8
Water Trucks	402	1	8
Site Preparation			
Rubber Tired Dozers	247	3	8
Tractors/Loaders/Backhoes	97	4	8
Water Trucks	402	1	8
Grading/Utilities			
Excavators	158	2	8
Graders	187	1	8
Rubber Tired Dozers	247	1	8
Scrapers	367	2	8
Tractors/Loaders/Backhoes	97	2	8
Water Trucks	402	1	8
Building Construction			
Cranes	231	1	7
Forklifts	89	3	8
Generator Sets	84	1	8
Tractors/Loaders/Backhoes	97	3	7
Welders	46	1	8
Water Trucks	402	1	2
Architectural Coating			
Air Compressors	78	1	6
Paving			
Pavers	130	2	8
Paving Equipment	132	2	8
Rollers	80	2	8

Source: CalEEMod (complete data is provided in Appendix A)

4.1.1.3 Construction On-Road Trips

Worker commute trips and vendor delivery trips were modeled based on CalEEMod defaults. Worker trips are anticipated to vary between 15 and 1,826 trips per day, depending on construction activity. Vendor delivery trips would be 291 per day during building construction. Demolition would require 346 loads of debris exported from the site. Based on the model default of 16 CY per load, exporting soil would require 3,438 loads. The CalEEMod default worker, vendor and haul trip distances were used in the model.

4.1.2 Health Risk Assessment

A health risk assessment (HRA) was prepared to analyze potential health risks to on-campus residents (students) and on-campus staff (workers) from the emissions of DPM resulting from the operation of the three proposed emergency generators on the Project site. Modeling was completed in accordance with applicable portions of the Office of Environmental Health Hazard Assessment’s (OEHHA’s) *Air Toxics Hot*

Spots Program Guidance Manual for Preparation of Health Risk Assessments (OEHHA 2015), and applicable portions of the SDAPCD's *Supplemental Guidelines for Submission of Air Toxics "Hot Spots" Program Health Risk Assessments* (SDAPCD 2022). HRA modeling inputs and outputs are included in Appendix B to this report.

4.1.2.1 TAC Emissions

Per the Project architecture/engineering team, the Project would use three Caterpillar model C18 PKAM emergency generators with an electrical generation rating of 500 kilowatts and a diesel engine producing 744 horsepower at full electrical load. The generators are anticipated to be operated for testing/maintenance no more than 1 hour in any single day and up to 30 hours per year. Calculations of DPM emissions for the proposed emergency generators were based on the emissions factors provided in the manufacturer's data sheet: 4.3 grams per hour of total PM when operating at 100 percent load, resulting in 0.028 maximum pounds of DPM per hour and 0.85 pounds of DPM per year for all three generators. These emissions are lower than the USEPA Tier 4 Final standards, which are the Toxics Best Available Control Technology (T-BACT) for diesel powered generators. The manufacturer's data sheets are included as Appendix C to this report.

4.1.2.2 Dispersion Modeling

Localized concentrations of DPM were modeled using Lakes AERMOD View version 11.2.0. The Lakes program utilizes the USEPA's AERMOD gaussian air dispersion model version 2111. Plot files from AERMOD using unitized emissions (one gram per second) for each DPM source were imported into CARB's Hotspots Analysis and Reporting Program (HARP), Air Dispersion Modeling and Risk Tool (ADMRT) version 22118. The ADMRT calculated ground-level concentrations of DPM utilizing the imported plot files and the annual and hourly emissions inventory. The modeling input and output are included in Appendix B to this report.

Source Parameters

DPM emissions from the generators were modeled as point sources located as depicted on the Project Site Plan: two generators in an enclosure between the east ends of Building A and Building B, and one generator located in an enclosure east of Building C (see Figure 3). Point source parameters were set according to the manufacturer's data: stack height 2.5 meters (8.2 feet); stack diameter 0.18 m (7 inches); gas exit velocity 45.6 meters per second (150 feet per second); and gas exit temperature 720 degrees Kelvin (836 degrees Fahrenheit).

Meteorological Data

SDAPCD provides pre-processed meteorological data suitable for use with AERMOD. The available data set most representative of the Project site was from the Montgomery Field station, approximately 7 miles southeast of the Project site. A wind rose for the Montgomery Field station shows an average wind speed of 5.6 miles per hour from the southwest (IEM 2022). The wind rose graphics are included in Appendix B to this report. The Montgomery Field station set includes 5 years of data collected between 2009 and 2014. Given the Project site's proximity to the coast, rural dispersion coefficients were selected in the model in accordance with SDAPCD modeling recommendations (SDAPCD 2022).

Terrain Data

United States Geological Survey (USGS) National Elevation Dataset (NED) files with a 10-meter resolution covering an area approximately one kilometer by one kilometer around the Project site were used in the model to cover the analysis area. Terrain data was imported to the model using AERMAP, a terrain preprocessing program for AERMOD.

Buildings

Because the Project building would be tall (up to 194 feet) relative to the generator stack height (8 feet), the dispersion of the exhaust plume could be influenced by downwash where the wake on the lee side of the buildings causes the plume to be pulled toward the ground, increasing ground level concentrations of pollutants. The four Project buildings were included in the dispersion model and building downwash values were calculated within Lakes AERMOD View using BPIP-Prime, a building preprocessing program for AERMOD.

Receptor Modeling

To develop risk isopleths (linear contours showing equal level of risk), receptors were placed in a cartesian grid 500 meters by 500 meters (approximately 1,640 feet by 1,640 feet), centered on the Project site with a grid spacing of 10 meters (32 feet).

4.1.2.3 Risk Determination

Health risks resulting from localized concentration of DPM were estimated using the ADMRT. The latest cancer slope factors and chronic Reference Exposure Limits (RELs), and exposure paths for all TACs designated by CARB are included in ADMRT. On-campus student and worker exposure periods were modeled to be consistent with the methodology used the 2018 LRDP EIR HRA: on-campus residents exposed for 24 hours per day, 365 days per year for four years beginning at age 18; on-campus workers exposed for 8 hours per day, 250 days per year for 25 years beginning at age 18. Because most workers would be present on the Project site during the same hours as generator testing, a worker adjustment factor of 4.2 was used to account for worker exposure to all annual generator emissions.² The model conservatively assumes that residents and workers would be standing and breathing outdoors for the full exposure period. The Risk Management Policy (RMP) using the derived method for the intake rate percentile was selected for residential cancer risks in accordance with the SDAPCD recommendations (SDAPCD 2022). Because DPM only has an inhalation pathway for cancer risks and non-cancer chronic health effects, only the inhalation pathway was analyzed. The risk modeling input and output is included in Appendix B to this report.

4.2 SIGNIFICANCE CRITERIA

This analysis utilizes the same standards of significance and compares potential Project impacts with the impacts and conclusions in the 2018 LRDP EIR. Based on Appendix G of the CEQA Guidelines current at the time of the 2018 LRDP EIR, implementation of the Project would result in a significant adverse impact if it would:

² Worker exposure adjustment = (24 hours/8 hours) * (7 days/5 days)

1. Conflict with or obstruct implementation of the applicable air quality plan; or
2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation; or
3. Result in cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard; or
4. Expose sensitive receptors to substantial carbon monoxide concentrations resulting in a hotspot; or
5. Expose sensitive receptors to substantial concentrations of toxic air contaminants; or
6. Create objectionable odors affecting a substantial number of people.

To determine whether the Project would result in a cumulatively considerable net increase of PM₁₀, PM_{2.5}, or the ozone precursors NO_x and VOCs, emissions were evaluated based on the quantitative emission thresholds established by the SDAPCD. As part of its air quality permitting process, the SDAPCD has established thresholds in Rule 20.2 for the preparation of Air Quality Impact Assessments (AQIAs; 2019). For CEQA purposes, these screening criteria were used as numeric methods to determine if the Project would result in a significant impact to air quality or an adverse effect on human health. The construction period screening thresholds and health risk thresholds are shown in Table 7, *Screening-level Thresholds for Air Quality Impact Analysis*.

**Table 7
SCREENING-LEVEL THRESHOLDS FOR AIR QUALITY IMPACT ANALYSIS**

Pollutant	Total Emissions
Construction Emissions (Pounds/Day)	
Respirable Particulate Matter (PM ₁₀)	100
Fine Particulate Matter (PM _{2.5})	67
Oxides of Nitrogen (NO _x)	250
Oxides of Sulfur (SO _x)	250
Carbon Monoxide (CO)	550
Volatile Organic Compounds (VOCs)	137
Toxic Air Contaminant Emissions	
Excess Cancer Risk	1 in 1 million, or 10 in 1 million with T-BACT
Non-Cancer Hazard Index	1.0

Source: SDAPCD 2019

T-BACT = Toxics-Best Available Control Technology

SDAPCD Rule 51 (Nuisance) prohibits emissions from any source whatsoever in such quantities of air contaminants or other material, which cause injury, detriment, nuisance, or annoyance to the public health or damage to property. It is generally accepted that the considerable number of persons requirement in Rule 51 is normally satisfied when 10 different individuals/households have made separate complaints within 90 days. Odor complaints from a “considerable” number of persons or businesses in the area would be considered to be a significant, adverse odor impact.

5.0 IMPACT ANALYSIS

5.1 ISSUE 1: CONFLICT WITH OR OBSTRUCT IMPLEMENTATION OF THE APPLICABLE AIR QUALITY PLAN

5.1.1 Analysis in the 2018 LRDP EIR

The proposed 2018 LRDP land uses are generally consistent with the current campus land use types and would be consistent with the growth assumption used to develop the RAQS. Since the proposed 2018 LRDP incorporates strategies identified in the SANDAG Regional Transportation Plan and Sustainable Communities Strategy by integrating land use, housing, and transportation planning, the 2018 LRDP would be consistent with the goals developed by SANDAG. In addition, implementation of the 2018 LRDP would result in lower VMT per capita and per employee than the San Diego regional averages.

Because implementation of the 2018 LRDP would be consistent with the Smart Growth vision for the region and would result in less VMT than the regional average, the proposed 2018 LRDP would not conflict with or obstruct implementation of the applicable air quality plan. This impact would be less than significant.

5.1.2 Project Analysis

As described in the 2018 LRDP consistency analysis in Section 2.0, the Project growth would be consistent with the population projections evaluated in 2018 LRDP EIR, the Project would be consistent with the land use categories in the 2018 LRDP, and the Project would not exceed the building space projections in the 2018 LRDP. The Project would result in an increase in the portion of students housed on campus; however, students who live on campus typically drive significantly less than students living off campus who commute to and from classrooms and campus activities, generating less VMT. Since the 2018 LRDP EIR was certified, the 2020 Attainment Plan has superseded the 2016 RAQS as the applicable air quality plan for the SDAB. The strategies and control measures in the Attainment Plan are similar to the RAQS and projects which are consistent with the growth assumption in local plans and would not result in VMT exceeding the assumption in regional transportation plans would not conflict with the Attainment Plan. Therefore, the Project would not conflict with or obstruct implementation of the applicable air quality plan. The impact would be less than significant and the Project would not result in a new or more severe impact than analyzed in the 2018 LRDP EIR.

5.2 ISSUE 2: VIOLATE ANY AIR QUALITY STANDARD OR CONTRIBUTE SUBSTANTIALLY TO AN EXISTING OR PROJECTED AIR QUALITY VIOLATION

5.2.1 Analysis in the 2018 LRDP EIR

Construction

LRDP construction-generated emissions of NO_x, PM₁₀, and PM_{2.5} would exceed applicable daily thresholds established by the City of San Diego (based on SDAPCD Rule 20.2 New Source Review standards). Therefore, unmitigated construction emissions could violate an ambient air quality standard

or contribute substantially to an existing violation. Although development projects under the 2018 LRDP would be subject to SDAPCD Rules and Regulations, including Rule 55, *Fugitive Dust Control*, those rules do not necessarily ensure that the construction emissions of fugitive dust (PM₁₀, and PM_{2.5}) would not exceed the applicable thresholds of significance. Construction impacts would be potentially significant.

Mitigation measure AQ-2A would require measure to control fugitive dust emissions from construction activities. Implementation of AQ-2A would reduce PM₁₀ and PM_{2.5} emissions to less than significant levels. Mitigation measure AQ-2B would require diesel-fueled construction equipment to meet USEPA Tier 4 Interim standards when feasible. If all LRDP construction equipment were to meet Tier 4 Interim standards, construction emissions of NO_x would be reduced to less than significant levels. However, because full compliance with AQ-2B cannot be assured, the proposed 2018 LRDP's potentially significant impact due to exceedance of the thresholds would remain significant and unavoidable.

Operation

2018 LRDP operational period emissions of VOC, NO_x, CO, SO₂, and PM_{2.5} would not exceed the applicable thresholds. However, long-term operation of the 2018 LRDP would result in PM₁₀ emissions exceeding the threshold in the 2035 scenario (primarily due to mobile source emissions) and the impact would be potentially significant. Although implementation of the LRDP would benefit from UC San Diego's extensive Transportation Demand Management system and would include trip reduction from the Mid-Coast trolley service to the campus, no feasible mitigation measures are available to further reduce PM₁₀ emissions. The operation impact would remain significant and unavoidable.

5.2.2 Project Analysis

Construction

Although the Project's land use and buildings would be consistent with the projections in the 2018 LRDP, the intensity of Project construction activity would exceed the assumptions used in the 2018 LRDP EIR construction emissions calculations. The 2018 LRDP EIR assumed 25 percent of the plan could be built in one year, resulting in demolition of 64,373 SF of existing buildings and construction of 513,625 SF of building space in the 2025 analysis. The Project proposes demolition of 152,170 SF of existing buildings and construction of 933,520 SF of building space over a 30-month period.

Project specific construction emissions were quantified using CalEEMod, as described in Section 4.1.1. Additional details of phasing, selection of construction equipment, and other input parameters, including CalEEMod data, are included in Appendix A.

The results of the calculations for Project construction without consideration of mitigation measures required by the 2018 LRDP EIR are shown in Table 8, *Unmitigated Maximum Daily Construction Emissions*. The data are presented as the maximum anticipated daily emissions for comparison with the SDAPCD screening thresholds.

Table 8
UNMITIGATED MAXIMUM DAILY CONSTRUCTION EMISSIONS

Year	Pollutant Emissions (pounds per day)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
2023	4.1	49.0	34.7	0.1	21.2	11.4
2024	6.9	29.5	59.6	0.2	17.7	5.3
2025	49.7	29.8	66.1	0.2	20.7	6.0
Maximum Daily Emissions	49.7	49.0	71.9	0.2	21.2	11.4
<i>SDAPCD Thresholds</i>	<i>137</i>	<i>250</i>	<i>550</i>	<i>250</i>	<i>100</i>	<i>67</i>
Exceed Thresholds?	No	No	No	No	No	No

Source: CalEEMod (output data is provided in Appendices A and B)

VOC = volatile organic compound; NO_x = nitrogen oxides; CO = carbon monoxide; SO_x = sulfur oxides;

PM₁₀ = particulate matter 10 microns or less in diameter; PM_{2.5} = particulate matter 2.5 microns or less in diameter;

SDAPCD = San Diego County Air Pollution Control District

As shown in Table 8, criteria pollutant and precursor emissions would not exceed the applicable SDAPCD maximum daily emissions screening threshold, without consideration of mitigation measures required by the 2018 LRDP EIR. Therefore, construction of the Project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. The impact would be less than significant and the and the Project would not result in a new or more severe impact than analyzed in the 2018 LRDP EIR.

Operation

Project operational sources of criteria pollutants and precursors would include area sources (land equipment use, the use of consumer products, and periodic painting for maintenance), energy sources (primarily the on-site combustion of natural gas), and mobile sources (emissions related vehicle use for Project-generated trips), and stationary sources (emergency generators). As described in the 2018 LRDP consistency analysis in Section 2.0, the Project would be consistent with the land use categories in the 2018 LRDP, and the Project would not exceed the building space projections in the 2018 LRDP. Therefore, the operational area source and energy source emissions would be consistent with the assumption used in the 2018 LRDP emissions calculations. The Project growth would be consistent with the population projections evaluated in 2018 LRDP EIR, but the Project would result in an increase in the portion of students housed on campus. However, students who live on campus typically drive significantly less than students living off campus and commuting to and from classrooms and campus activities, generating less VMT. Therefore, Project operational mobile source emissions would be consistent with, or lower than, the assumptions used in the 2018 LRDP emissions calculations. The 2018 LRDP, including the Project, could contribute substantially to an existing air quality violation for PM₁₀. The impact would be significant and unavoidable, and the Project would not result in a new or more severe impact than analyzed in the 2018 LRDP EIR.

5.3 ISSUE 3: RESULT IN A CUMULATIVELY CONSIDERABLE NET INCREASE OF ANY CRITERIA POLLUTANT FOR WHICH THE PROJECT REGION IS NONATTAINMENT

5.3.1 Analysis in the 2018 LRDP EIR

The 2018 LRDP EIR concluded that, if a Project’s emissions would be less than those threshold levels and the region is in attainment for a particular regional pollutant, the Project would not be expected to result in a considerable incremental contribution to the significant cumulative impact. However, if the region is in nonattainment status for a particular criteria pollutant and a Project’s individual emissions exceed the threshold levels, its incremental contribution could be considered cumulatively considerable. Because construction of the LRDP could result in NO_x levels exceeding the applicable threshold and operation of the LRDP could result in PM₁₀ exceeding the applicable threshold, impacts related to a cumulatively considerable net increase of criteria pollutants would be significant and unavoidable.

5.3.2 Project Analysis

Construction

As discussed in Issue 2, above, the Project’s unmitigated construction emissions would not exceed the SDAPCD’s screening thresholds. However, because Project construction could coincide with other construction projects under the 2018 LRDP, combined emissions could exceed the maximum daily emissions thresholds for NO_x, PM₁₀, and PM_{2.5}, and the impact would be potentially significant.

The Project would be required to implement 2018 LRDP mitigation measure AQ-2A, implement fugitive dust best management practices, and to the extent practicable, AQ-2B, diesel-powered construction equipment to meet USEPA Tier 4 Interim standards. Project construction emissions with implementation of the quantifiable measures of AQ-2A (water exposed areas 2 times daily, resulting in a 55 percent fugitive dust reduction) and with implementation AQ-2B are shown in Table 9, *Mitigated Maximum Daily Construction Emissions*.

**Table 9
MITIGATED MAXIMUM DAILY CONSTRUCTION EMISSIONS**

Year	Pollutant Emissions (pounds per day)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
2023	1.5	33.7	47.2	0.1	9.1	4.7
2024	6.0	27.0	61.3	0.2	17.2	4.8
2025	48.2	28.2	67.9	0.2	20.2	5.6
Maximum Daily Emissions	48.8	33.6	67.9	0.2	20.2	5.6
<i>SDAPCD Thresholds</i>	<i>137</i>	<i>250</i>	<i>550</i>	<i>250</i>	<i>100</i>	<i>67</i>
Exceed Thresholds?	No	No	No	No	No	No

Source: CalEEMod (output data is provided in Appendices A and B)

VOC = volatile organic compound; NO_x = nitrogen oxides; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = particulate matter 10 microns or less in diameter; PM_{2.5} = particulate matter 2.5 microns or less in diameter; SDAPCD = San Diego County Air Pollution Control District

As shown in Table 9, Project mitigated construction period criteria pollutant and precursor emissions would not exceed the maximum daily thresholds. However, because full compliance with AQ-2B cannot be assured, the impact from potential combined Project construction and other construction projects would remain significant and unavoidable. The Project's construction emissions could result in a cumulatively considerable contribution to an existing air quality violation for ozone. The impact would be significant and unavoidable, and the Project would not result in a new or more severe impact than analyzed in the 2018 LRDP EIR.

Operation

As discussed in Issue 2, above, the Project would be consistent with the operational air quality analysis assumptions in the 2018 LRDP EIR, and the impact would be significant and unavoidable. The Project's operational emissions could result in a cumulatively considerable contribution to an existing air quality violation for PM₁₀. The impact would be significant and unavoidable, and the Project would not result in a new or more severe impact than analyzed in the 2018 LRDP EIR.

Mitigation Measures

AQ-2A Implement Measures to Control PM Emissions Generated by Construction Activities.
UC San Diego shall require by contract specification that contractors implement the following measures during all phases of construction of individual projects developed under the proposed 2018 LRDP:

- Water the grading areas a minimum of twice daily to minimize fugitive dust;
- Stabilize graded areas as quickly as possible to minimize fugitive dust;
- Apply chemical stabilizer or pave the last 100 feet of internal travel path within the construction site prior to public road entry;
- Install wheel washers adjacent to a paved apron prior to vehicle entry on public roads;
- Remove any visible track-out into traveled public streets via regular street sweeping;
- Wet wash the construction access point at the end of each workday if any vehicle travel on unpaved surfaces has occurred;
- Provide sufficient perimeter erosion control to prevent washout of silty material onto public roads;
- Cover haul trucks or maintain at least 12 inches of freeboard to reduce blow-off during hauling;
- Suspend all soil disturbance and travel on unpaved surfaces if winds exceed 25 mph;
- Cover/water onsite stockpiles of excavated material;

- Enforce a 15-mph speed limit on unpaved surfaces;
- On dry days, dirt and debris spilled onto paved surfaces shall be swept up immediately to reduce re-suspension of particulate matter caused by vehicle movement. Approach routes to construction sites shall be cleaned daily of construction-related dirt in dry weather;
- Disturbed areas shall be hydroseeded, landscaped, or developed as quickly as possible to reduce dust generation; and
- Limit the daily grading volumes/area to extent feasible.

AQ-2B Minimize Off-Road Construction Equipment Emissions. UC San Diego shall require by contract specification that the construction contractor use off-road construction diesel engines that meet, at a minimum, the Tier 4 interim California Emissions Standards, unless such an engine is not available for a particular item of equipment. Tier 3 engines will be allowed on a project-by-project basis when the contractor has documented that no Tier 4 interim equipment or emissions equivalent retrofit equipment is available or feasible for the project.

5.4 ISSUE 4: EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL POLLUTANT CONCENTRATIONS RESULTING IN A CO HOTSPOT

5.4.1 Analysis in the 2018 LRDP EIR

The 2018 LRDP EIR concluded that the 2018 LRDP future traffic conditions would not result in or contribute to any exceedances of the 1-hour or 8-hour CO standards during the AM peak period, even considering conservative assumptions. Therefore, no localized CO impacts would occur. As a result of improvements in technology and vehicle emission standards, CO emission factors are also projected to decrease in future years. These improvements would also reduce the concentration of CO emissions. Therefore, the CO concentrations resulting from implementation of the 2018 LRDP would not violate the CAAQS for either the 1-hour period (20 ppm) or the 8-hour period (9.0 ppm), and the impact would be less than significant.

5.4.2 Project Analysis

The Project would result in an increase in the portion of students housed on campus. However, students who live on campus typically drive significantly less than students living off campus and commuting to and from classrooms and campus activities, generating fewer trips and less VMT. Therefore, the Project would be consistent with the assumption used in the 2018 LRDP EIR CO hotspot analysis. The impact would be less than significant and the and the Project would not result in a new or more severe impact than analyzed in the 2018 LRDP EIR.

5.5 ISSUE 5: EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL CONCENTRATIONS OF TOXIC AIR CONTAMINANTS

5.5.1 Analysis in the 2018 LRDP EIR

The 2018 LRDP EIR included an HRA to evaluate health risks for: on- and off-campus sensitive groups (defined in the EIR as daycare facilities, schools for children ages 4 through 16, hospitals, and senior care facilities); on- and off-campus residents; and on- and off-campus workers. The 2018 LRDP EIR evaluated: DPM emissions from construction; TACs emissions (including DPM) from on-campus stationary sources (emergency generators, boilers, turbines, and crematory); TACs emissions from laboratory sources and the Environmental Management Facility (EMF); and DPM emissions from high volume roads in the vicinity. The 2018 LRDP EIR concluded that, from combined construction and operational emissions, cancer risks for on-campus residents and on-campus workers would not exceed the incremental increased cancer risk threshold of 10 in 1 million, and the non-cancer chronic and acute Hazard Index (HI) for all receptor groups would not exceed the threshold of 1.0. However, cancer risks for off-campus residents, off-campus workers, and on- and off-campus sensitive groups would exceed the incremental increased cancer risk threshold of 10 in 1 million, resulting in a potentially significant impact. Mitigation measure AQ-2B, required for reduction of construction period NO_x , would also result in lower DPM emissions from construction equipment. With implementation of AQ-2B, cancer risks for cancer risks for off-campus residents, off-campus workers, and on- and off-campus sensitive groups would still exceed the 10 in 1 million incremental increased cancer risk threshold. The impact would remain significant and unavoidable.

5.5.2 Project Analysis

The result from the Project construction modeling shows that unmitigated annual DPM emissions (exhaust PM_{10}) would be 214.6 pounds per year. The results from the 2018 LRDP EIR West Campus 2025 to 2035 construction modeling (from the CalEEMod results included in Appendix G to the EIR) shows that unmitigated annual DPM emissions would be 993.6 pounds per year (UC San Diego 2018b). Therefore, the health risks associated with Project construction would be lower than calculated in the 2018 LRDP EIR.

Because the Project would not result in an increase in regional VMT, compared to the assumptions in the EIR, the Project would not result in an increase in roadways emissions or the associated health risks from high-volume roadway DPM emissions compared to those calculated in the 2018 LRDP EIR. Because the Project land use and building development would be consistent with the projections analyzed in the 2018 LRDP EIR, Project TAC emissions, and the associated health risks, from boilers, turbines, the crematory, laboratories, and the EMF would be consistent with the assumptions in the 2018 LRDP EIR.

For emergency generators, the 2018 LRDP EIR assumed one future generator in the Project area: an 850-horsepower diesel generator operating 26 hours per year and producing 1.09 pounds per year of DPM (UC San Diego 2018b). The Project proposes three 750 horsepower diesel generators operating 30 hours per year. However, because the proposed generators emissions would be lower than USEPA Tier 4 Final emission standards, they would have lower combined DPM emissions than the one generator assumed in the EIR. The Project generators would produce a combined 0.85 pound per year of DPM, less than assumed for the future generator in the 2018 LRDP EIR for the Project area. Therefore, the health risks associated with Project emergency generators would be lower than calculated in the

2018 LRDP EIR. Combined Project construction and operational TAC emissions and health risks would be less than calculated in the 2018 LRDP EIR.

Because the Project emergency generators would be located near the Project buildings, an HRA was completed to analyze potential health risks to on-campus residents and on-campus workers sited near the Project generators, using modeling described in Section 4.1.2.

The incremental excess cancer risk is an estimate of the chance a person exposed to a specific source of a TAC may have of developing cancer from that exposure beyond the individual’s risk of developing cancer from existing background levels of TACs in the ambient air. For context, the average cancer risk from TACs in the ambient air for an individual living in an urban area of California is 830 in 1 million (CARB 2015). Cancer risk estimates do not mean, and should not be interpreted to mean, that a person will develop cancer from estimated exposures to toxic air pollutants.

The maximum estimated incremental excess cancer risks for on-campus residents (students) and on-campus workers due to exposure to the Proposed Project TAC emissions from maintenance and testing operation of the Project emergency generators are presented in Table 10, *Maximum Incremental Cancer Health Risk from Generators*.

Table 10
MAXIMUM INCREMENTAL CANCER HEALTH RISK FROM GENERATORS

	Maximally Exposed Individual Resident Cancer Risk (per million)	Maximally Exposed Individual Worker Cancer Risk (per million)
Results	0.01	0.15
Threshold	10	10
Exceed Threshold?	No	No

Source: Lakes AERMOD View and CARB ADMRT. See Appendix B for the complete HRA report.

As shown in Table 10, the incremental increased cancer risk from Project emergency generator TAC emissions would not exceed the SDAPCD’s threshold of 10 in 1 million. The chronic health risk hazard index for all modeled receptors would be less than 0.001 and would not exceed the SDAPCD’s threshold of 1. The MEIR (on-campus student resident) and MEIW (on-campus worker) would be located on the east side of Building A. Isopleth plots showing the areas of highest health risks are included in Appendix B to this report.

Health risks from combined Project construction and operational TAC sources would be consistent with the assumptions and analysis in the 2018 LRDP EIR. The Project could expose sensitive receptors to substantial concentrations of TACs. The impact would be significant and unavoidable, and the Project would not result in a new or more severe impact than analyzed in the 2018 LRDP EIR.

5.6 ISSUE 5: CREATE OBJECTIONABLE ODORS AFFECTING A SUBSTANTIAL NUMBER OF PEOPLE

5.6.1 Analysis in the 2018 LRDP EIR

The 2018 LRDP EIR concluded that potential sources that may emit odors during construction of the Project would include exhaust from diesel construction equipment. However, because of the temporary nature of these emissions and the highly diffusive properties of diesel exhaust, nearby receptors would

not be anticipated to be affected by diesel exhaust odors associated with construction activities. Implementation of the 2018 LRDP would not add any new operational odor sources, and any odors generated would be similar to existing odors associated with land uses in the area. The land uses associated with the proposed 2018 LRDP would be institutional, residential, academic, and commercial, which are consistent with existing campus uses and not typically large generators of odor emissions. As a result, construction and operational activities associated with implementation of the 2018 LRDP would not create objectionable odors affecting a substantial number of people and there would be no impact.

5.6.2 Project Analysis

The Project construction activities and land uses would be consistent with the assumptions in the 2018 LRDP EIR odor analysis. Therefore, the Project would not create objectionable odors affecting a substantial number of people. There would be no impact, and the Project would not result in a new or more severe impact than analyzed in the 2018 LRDP EIR.

6.0 LIST OF PREPARERS

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Appendix A

CalEEMod Output

The following section contains content that was obtained from a third party and may not achieve the same level of Americans with Disabilities Act (ADA) and Section 508 accessibility as other parts of this document.

UCSD RWNLLN Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**UCSD RWNLLN Construction
San Diego County, Winter**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	158.85	1000sqft	0.00	158,850.00	0
General Light Industry	10.17	1000sqft	0.00	10,170.00	0
High Turnover (Sit Down Restaurant)	7.00	1000sqft	0.00	7,000.00	0
Apartments High Rise	2,455.00	Dwelling Unit	20.90	757,500.00	2455

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2026
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	539.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Construcion Emissions Only

Land Use - Building area per project description.
 Residential assumes 1 bed = 1 dwelling unit.
 Light Industrial = glass blowing lab.
 Restualrant = cafe/market.
 General Ofiice = remaining sudent and community support areas.

Construction Phase - Schedule exteneded to account for demolition, grading cut/fill, and to fit overall anticipated schedule of June 2023 to late Fall 2025.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Off-Highway Truck = watrer truck.

UCSD RWNLLN Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Off-road Equipment - Off-Highway Truck = waterer truck.

Off-road Equipment -

Off-road Equipment - Off-Highway Truck = waterer truck.

Demolition -

Grading -

Architectural Coating - VOC limits per SDAPCD Rule 67.0.1 for general flat and non-flat coatings.

Vehicle Trips - This model is for construction emissions only.

Woodstoves - This model is for construction emissions only.

Consumer Products - This model is for construction emissions only.

Area Coating - This model is for construction emissions only.

Energy Use - This model is for construction emissions only.

Water And Wastewater - This model is for construction emissions only.

Solid Waste - This model is for construction emissions only.

Construction Off-road Equipment Mitigation - Fugitive dust mitigation to meet SDAPCD Rule 55 and UCSD LRDP EIR mitigation measure AQ-2A.
Tier 4 Interim engines per UCSD LRDP EIR mitigation measure AQ-2B.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_Nonresidential_Exterior	88010	0
tblAreaCoating	Area_Nonresidential_Interior	264030	0
tblAreaCoating	Area_Residential_Exterior	511313	0
tblAreaCoating	Area_Residential_Interior	1533938	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00

UCSD RWNLLN Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
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tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	20.00	132.00
tblConstructionPhase	NumDays	370.00	480.00
tblConstructionPhase	NumDays	20.00	52.00
tblConstructionPhase	NumDays	35.00	86.00

UCSD RWNLLN Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConsumerProducts	ROG_EF	2.14E-05	0
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	0
tblEnergyUse	LightingElect	741.44	0.00
tblEnergyUse	LightingElect	2.83	0.00
tblEnergyUse	LightingElect	3.81	0.00
tblEnergyUse	LightingElect	6.78	0.00
tblEnergyUse	NT24E	3,054.10	0.00
tblEnergyUse	NT24E	4.27	0.00
tblEnergyUse	NT24E	4.97	0.00
tblEnergyUse	NT24E	23.69	0.00
tblEnergyUse	NT24NG	4,180.00	0.00
tblEnergyUse	NT24NG	7.25	0.00
tblEnergyUse	NT24NG	4.20	0.00
tblEnergyUse	NT24NG	138.46	0.00
tblEnergyUse	T24E	44.60	0.00
tblEnergyUse	T24E	1.08	0.00
tblEnergyUse	T24E	4.16	0.00
tblEnergyUse	T24E	7.35	0.00
tblEnergyUse	T24NG	3,096.05	0.00
tblEnergyUse	T24NG	4.27	0.00
tblEnergyUse	T24NG	15.83	0.00
tblEnergyUse	T24NG	35.56	0.00
tblFireplaces	NumberGas	1,350.25	0.00
tblFireplaces	NumberWood	859.25	0.00
tblGrading	MaterialExported	0.00	55,000.00
tblLandUse	LandUseSquareFeet	2,455,000.00	757,500.00
tblLandUse	LotAcreage	3.65	0.00
tblLandUse	LotAcreage	0.23	0.00

UCSD RWNLLN Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblLandUse	LotAcreage	0.16	0.00
tblLandUse	LotAcreage	39.60	20.90
tblLandUse	Population	7,021.00	2,455.00
tblSolidWaste	SolidWasteGenerationRate	1,129.30	0.00
tblSolidWaste	SolidWasteGenerationRate	12.61	0.00
tblSolidWaste	SolidWasteGenerationRate	147.73	0.00
tblSolidWaste	SolidWasteGenerationRate	83.30	0.00
tblVehicleTrips	ST_TR	4.53	0.00
tblVehicleTrips	ST_TR	1.99	0.00
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	ST_TR	122.40	0.00
tblVehicleTrips	SU_TR	3.59	0.00
tblVehicleTrips	SU_TR	5.00	0.00
tblVehicleTrips	SU_TR	0.70	0.00
tblVehicleTrips	SU_TR	142.64	0.00
tblVehicleTrips	WD_TR	4.45	0.00
tblVehicleTrips	WD_TR	4.96	0.00
tblVehicleTrips	WD_TR	9.74	0.00
tblVehicleTrips	WD_TR	112.18	0.00
tblWater	IndoorWaterUseRate	159,953,132.90	0.00
tblWater	IndoorWaterUseRate	2,351,812.50	0.00
tblWater	IndoorWaterUseRate	28,233,005.87	0.00
tblWater	IndoorWaterUseRate	2,124,735.99	0.00
tblWater	OutdoorWaterUseRate	100,840,018.57	0.00
tblWater	OutdoorWaterUseRate	17,304,100.37	0.00
tblWater	OutdoorWaterUseRate	135,621.45	0.00
tblWoodstoves	NumberCatalytic	122.75	0.00
tblWoodstoves	NumberNoncatalytic	122.75	0.00

UCSD RWNLLN Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.0 Emissions Summary

UCSD RWNLLN Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	4.0640	49.0067	34.7727	0.1248	19.8213	1.6434	21.2172	10.1460	1.5152	11.4303	0.0000	12,742.34 52	12,742.34 52	2.6288	0.8461	13,060.19 46
2024	6.8896	29.4889	59.6164	0.2067	16.9710	0.7666	17.7376	4.5461	0.7208	5.2669	0.0000	21,131.27 74	21,131.27 74	1.1555	1.2547	21,534.05 55
2025	49.7088	29.8043	66.1342	0.2277	19.9694	0.7433	20.7127	5.3414	0.7017	6.0431	0.0000	23,241.28 36	23,241.28 36	1.2061	1.2793	23,652.65 98
Maximum	49.7088	49.0067	66.1342	0.2277	19.9694	1.6434	21.2172	10.1460	1.5152	11.4303	0.0000	23,241.28 36	23,241.28 36	2.6288	1.2793	23,652.65 98

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	1.4649	33.6695	47.1606	0.1248	9.0100	0.2130	9.0945	4.5897	0.2091	4.6741	0.0000	12,742.34 52	12,742.34 52	2.6288	0.8461	13,060.19 46
2024	5.9515	26.9573	61.3233	0.2067	16.9710	0.2379	17.2089	4.5461	0.2285	4.7746	0.0000	21,131.27 74	21,131.27 74	1.1555	1.2547	21,534.05 55
2025	48.7585	28.1612	67.9466	0.2277	19.9694	0.2528	20.2222	5.3414	0.2425	5.5839	0.0000	23,241.28 36	23,241.28 36	1.2061	1.2793	23,652.65 98
Maximum	48.7585	33.6695	67.9466	0.2277	19.9694	0.2528	20.2222	5.3414	0.2425	5.5839	0.0000	23,241.28 36	23,241.28 36	2.6288	1.2793	23,652.65 98

UCSD RWNLLN Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.0771	2.3310	202.3666	0.0107		1.1228	1.1228		1.1228	1.1228	0.0000	364.7344	364.7344	0.3493	0.0000	373.4679
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	6.0771	2.3310	202.3666	0.0107	0.0000	1.1228	1.1228	0.0000	1.1228	1.1228	0.0000	364.7344	364.7344	0.3493	0.0000	373.4679

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.0771	2.3310	202.3666	0.0107		1.1228	1.1228		1.1228	1.1228	0.0000	364.7344	364.7344	0.3493	0.0000	373.4679
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	6.0771	2.3310	202.3666	0.0107	0.0000	1.1228	1.1228	0.0000	1.1228	1.1228	0.0000	364.7344	364.7344	0.3493	0.0000	373.4679

UCSD RWNLLN Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/7/2023	8/17/2023	5	52	
2	Site Preparation	Site Preparation	8/18/2023	8/31/2023	5	10	
3	Grading	Grading	9/1/2023	12/31/2023	5	86	
4	Building Construction	Building Construction	1/1/2024	10/31/2025	5	480	
5	Paving	Paving	11/1/2025	11/28/2025	5	20	
6	Architectural Coating	Architectural Coating	5/1/2025	10/31/2025	5	132	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 258

Acres of Paving: 0

Residential Indoor: 1,533,938; Residential Outdoor: 511,313; Non-Residential Indoor: 264,030; Non-Residential Outdoor: 88,010; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Off-Highway Trucks	1	8.00	402	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Off-Highway Trucks	1	8.00	402	0.38

UCSD RWNLLN Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Off-Highway Trucks	1	8.00	402	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	7	18.00	0.00	692.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	9	23.00	0.00	6,875.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	1,826.00	291.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	365.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

UCSD RWNLLN Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9152	0.0000	2.9152	0.4415	0.0000	0.4415			0.0000			0.0000
Off-Road	2.7730	25.0523	22.9318	0.0521		1.1265	1.1265		1.0467	1.0467		5,026.8725	5,026.8725	1.4633		5,063.4553
Total	2.7730	25.0523	22.9318	0.0521	2.9152	1.1265	4.0417	0.4415	1.0467	1.4881		5,026.8725	5,026.8725	1.4633		5,063.4553

UCSD RWNLLN Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0283	1.8111	0.4842	7.9700e-003	0.2328	0.0148	0.2476	0.0638	0.0142	0.0780		880.8627	880.8627	0.0442	0.1401	923.7142
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0533	0.0344	0.4105	1.2300e-003	0.1479	7.9000e-004	0.1487	0.0392	7.3000e-004	0.0400		124.8010	124.8010	3.8100e-003	3.5600e-003	125.9573
Total	0.0817	1.8454	0.8947	9.2000e-003	0.3806	0.0156	0.3962	0.1030	0.0149	0.1179		1,005.6637	1,005.6637	0.0481	0.1437	1,049.6715

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.3118	0.0000	1.3118	0.1987	0.0000	0.1987			0.0000			0.0000
Off-Road	0.7997	17.0331	31.6789	0.0521		0.0832	0.0832		0.0832	0.0832	0.0000	5,026.8725	5,026.8725	1.4633		5,063.4553
Total	0.7997	17.0331	31.6789	0.0521	1.3118	0.0832	1.3950	0.1987	0.0832	0.2819	0.0000	5,026.8725	5,026.8725	1.4633		5,063.4553

UCSD RWNLLN Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0283	1.8111	0.4842	7.9700e-003	0.2328	0.0148	0.2476	0.0638	0.0142	0.0780		880.8627	880.8627	0.0442	0.1401	923.7142
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0533	0.0344	0.4105	1.2300e-003	0.1479	7.9000e-004	0.1487	0.0392	7.3000e-004	0.0400		124.8010	124.8010	3.8100e-003	3.5600e-003	125.9573
Total	0.0817	1.8454	0.8947	9.2000e-003	0.3806	0.0156	0.3962	0.1030	0.0149	0.1179		1,005.6637	1,005.6637	0.0481	0.1437	1,049.6715

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	3.1633	31.0921	21.5328	0.0513		1.3950	1.3950		1.2834	1.2834		4,967.1966	4,967.1966	1.6065		5,007.3589
Total	3.1633	31.0921	21.5328	0.0513	19.6570	1.3950	21.0520	10.1025	1.2834	11.3859		4,967.1966	4,967.1966	1.6065		5,007.3589

UCSD RWNLLN Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0593	0.0382	0.4561	1.3700e-003	0.1643	8.8000e-004	0.1652	0.0436	8.1000e-004	0.0444		138.6678	138.6678	4.2400e-003	3.9600e-003	139.9526
Total	0.0593	0.0382	0.4561	1.3700e-003	0.1643	8.8000e-004	0.1652	0.0436	8.1000e-004	0.0444		138.6678	138.6678	4.2400e-003	3.9600e-003	139.9526

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.8457	0.0000	8.8457	4.5461	0.0000	4.5461			0.0000			0.0000
Off-Road	0.9123	15.6376	29.9650	0.0513		0.0836	0.0836		0.0836	0.0836	0.0000	4,967.1966	4,967.1966	1.6065		5,007.3589
Total	0.9123	15.6376	29.9650	0.0513	8.8457	0.0836	8.9293	4.5461	0.0836	4.6297	0.0000	4,967.1966	4,967.1966	1.6065		5,007.3589

UCSD RWNLLN Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0593	0.0382	0.4561	1.3700e-003	0.1643	8.8000e-004	0.1652	0.0436	8.1000e-004	0.0444		138.6678	138.6678	4.2400e-003	3.9600e-003	139.9526
Total	0.0593	0.0382	0.4561	1.3700e-003	0.1643	8.8000e-004	0.1652	0.0436	8.1000e-004	0.0444		138.6678	138.6678	4.2400e-003	3.9600e-003	139.9526

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2935	0.0000	9.2935	3.6674	0.0000	3.6674			0.0000			0.0000
Off-Road	3.8256	38.0835	31.3397	0.0753		1.5535	1.5535		1.4292	1.4292		7,291.3662	7,291.3662	2.3582		7,350.3206
Total	3.8256	38.0835	31.3397	0.0753	9.2935	1.5535	10.8470	3.6674	1.4292	5.0966		7,291.3662	7,291.3662	2.3582		7,350.3206

UCSD RWNLLN Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1702	10.8793	2.9085	0.0479	1.3982	0.0889	1.4871	0.3833	0.0851	0.4683		5,291.5110	5,291.5110	0.2658	0.8415	5,548.9286
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0682	0.0439	0.5245	1.5800e-003	0.1889	1.0100e-003	0.1900	0.0501	9.3000e-004	0.0511		159.4680	159.4680	4.8700e-003	4.5500e-003	160.9455
Total	0.2384	10.9232	3.4330	0.0495	1.5871	0.0899	1.6771	0.4334	0.0860	0.5194		5,450.9790	5,450.9790	0.2707	0.8461	5,709.8740

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.1821	0.0000	4.1821	1.6503	0.0000	1.6503			0.0000			0.0000
Off-Road	1.2266	22.7463	43.7276	0.0753		0.1231	0.1231		0.1231	0.1231	0.0000	7,291.3662	7,291.3662	2.3582		7,350.3206
Total	1.2266	22.7463	43.7276	0.0753	4.1821	0.1231	4.3051	1.6503	0.1231	1.7734	0.0000	7,291.3662	7,291.3662	2.3582		7,350.3206

UCSD RWNLLN Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1702	10.8793	2.9085	0.0479	1.3982	0.0889	1.4871	0.3833	0.0851	0.4683		5,291.5110	5,291.5110	0.2658	0.8415	5,548.9286
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0682	0.0439	0.5245	1.5800e-003	0.1889	1.0100e-003	0.1900	0.0501	9.3000e-004	0.0511		159.4680	159.4680	4.8700e-003	4.5500e-003	160.9455
Total	0.2384	10.9232	3.4330	0.0495	1.5871	0.0899	1.6771	0.4334	0.0860	0.5194		5,450.9790	5,450.9790	0.2707	0.8461	5,709.8740

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077

UCSD RWNLLN Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3244	12.9119	4.5255	0.0586	1.9709	0.0767	2.0476	0.5674	0.0734	0.6408		6,329.5610	6,329.5610	0.1984	0.9172	6,607.8486
Worker	5.0936	3.1332	38.9240	0.1212	15.0002	0.0765	15.0767	3.9787	0.0705	4.0492		12,246.0175	12,246.0175	0.3527	0.3375	12,355.3993
Total	5.4180	16.0452	43.4495	0.1797	16.9710	0.1533	17.1243	4.5461	0.1438	4.6900		18,575.5785	18,575.5785	0.5511	1.2547	18,963.2479

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5335	10.9122	17.8738	0.0270		0.0846	0.0846		0.0846	0.0846	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	0.5335	10.9122	17.8738	0.0270		0.0846	0.0846		0.0846	0.0846	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077

UCSD RWNLLN Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3244	12.9119	4.5255	0.0586	1.9709	0.0767	2.0476	0.5674	0.0734	0.6408		6,329.5610	6,329.5610	0.1984	0.9172	6,607.8486
Worker	5.0936	3.1332	38.9240	0.1212	15.0002	0.0765	15.0767	3.9787	0.0705	4.0492		12,246.0175	12,246.0175	0.3527	0.3375	12,355.3993
Total	5.4180	16.0452	43.4495	0.1797	16.9710	0.1533	17.1243	4.5461	0.1438	4.6900		18,575.5785	18,575.5785	0.5511	1.2547	18,963.2479

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981

UCSD RWNLLN Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3137	12.7865	4.4509	0.0574	1.9709	0.0765	2.0473	0.5674	0.0731	0.6405		6,209.0324	6,209.0324	0.2035	0.8992	6,482.0948
Worker	4.8072	2.8358	36.4946	0.1170	15.0002	0.0731	15.0733	3.9787	0.0673	4.0461		11,829.6870	11,829.6870	0.3219	0.3167	11,932.1183
Total	5.1209	15.6223	40.9455	0.1744	16.9710	0.1496	17.1206	4.5461	0.1405	4.6866		18,038.7195	18,038.7195	0.5254	1.2160	18,414.2131

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5335	10.9122	17.8738	0.0270		0.0846	0.0846		0.0846	0.0846	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	0.5335	10.9122	17.8738	0.0270		0.0846	0.0846		0.0846	0.0846	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981

UCSD RWNLLN Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3137	12.7865	4.4509	0.0574	1.9709	0.0765	2.0473	0.5674	0.0731	0.6405		6,209.0324	6,209.0324	0.2035	0.8992	6,482.0948
Worker	4.8072	2.8358	36.4946	0.1170	15.0002	0.0731	15.0733	3.9787	0.0673	4.0461		11,829.6870	11,829.6870	0.3219	0.3167	11,932.1183
Total	5.1209	15.6223	40.9455	0.1744	16.9710	0.1496	17.1206	4.5461	0.1405	4.6866		18,038.7195	18,038.7195	0.5254	1.2160	18,414.2131

3.6 Paving - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878

UCSD RWNLLN Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0395	0.0233	0.2998	9.6000e-004	0.1232	6.0000e-004	0.1238	0.0327	5.5000e-004	0.0332		97.1771	97.1771	2.6400e-003	2.6000e-003	98.0185
Total	0.0395	0.0233	0.2998	9.6000e-004	0.1232	6.0000e-004	0.1238	0.0327	5.5000e-004	0.0332		97.1771	97.1771	2.6400e-003	2.6000e-003	98.0185

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3341	10.0395	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.3341	10.0395	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878

UCSD RWNLLN Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0395	0.0233	0.2998	9.6000e-004	0.1232	6.0000e-004	0.1238	0.0327	5.5000e-004	0.0332		97.1771	97.1771	2.6400e-003	2.6000e-003	98.0185
Total	0.0395	0.0233	0.2998	9.6000e-004	0.1232	6.0000e-004	0.1238	0.0327	5.5000e-004	0.0332		97.1771	97.1771	2.6400e-003	2.6000e-003	98.0185

3.7 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	42.0888					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	42.2597	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319

UCSD RWNLLN Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.9609	0.5669	7.2949	0.0234	2.9984	0.0146	3.0130	0.7953	0.0135	0.8088		2,364.641 7	2,364.641 7	0.0643	0.0633	2,385.116 7
Total	0.9609	0.5669	7.2949	0.0234	2.9984	0.0146	3.0130	0.7953	0.0135	0.8088		2,364.641 7	2,364.641 7	0.0643	0.0633	2,385.116 7

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	42.0888					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0545	1.0598	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0154		281.8319
Total	42.1433	1.0598	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0154		281.8319

UCSD RWNLLN Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.9609	0.5669	7.2949	0.0234	2.9984	0.0146	3.0130	0.7953	0.0135	0.8088		2,364.641 7	2,364.641 7	0.0643	0.0633	2,385.116 7
Total	0.9609	0.5669	7.2949	0.0234	2.9984	0.0146	3.0130	0.7953	0.0135	0.8088		2,364.641 7	2,364.641 7	0.0643	0.0633	2,385.116 7

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

UCSD RWNLLN Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	0.00	0.00	0.00		
General Light Industry	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43

4.4 Fleet Mix

UCSD RWNLLN Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.565387	0.062253	0.175474	0.116234	0.023574	0.006359	0.009156	0.006316	0.000699	0.000586	0.028465	0.000937	0.004559
General Light Industry	0.565387	0.062253	0.175474	0.116234	0.023574	0.006359	0.009156	0.006316	0.000699	0.000586	0.028465	0.000937	0.004559
General Office Building	0.565387	0.062253	0.175474	0.116234	0.023574	0.006359	0.009156	0.006316	0.000699	0.000586	0.028465	0.000937	0.004559
High Turnover (Sit Down Restaurant)	0.565387	0.062253	0.175474	0.116234	0.023574	0.006359	0.009156	0.006316	0.000699	0.000586	0.028465	0.000937	0.004559

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

UCSD RWNLLN Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

UCSD RWNLLN Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

UCSD RWNLLN Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.0771	2.3310	202.3666	0.0107		1.1228	1.1228		1.1228	1.1228	0.0000	364.7344	364.7344	0.3493	0.0000	373.4679
Unmitigated	6.0771	2.3310	202.3666	0.0107		1.1228	1.1228		1.1228	1.1228	0.0000	364.7344	364.7344	0.3493	0.0000	373.4679

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.0771	2.3310	202.3666	0.0107		1.1228	1.1228		1.1228	1.1228		364.7344	364.7344	0.3493		373.4679
Total	6.0771	2.3310	202.3666	0.0107		1.1228	1.1228		1.1228	1.1228	0.0000	364.7344	364.7344	0.3493	0.0000	373.4679

UCSD RWNLLN Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.0771	2.3310	202.3666	0.0107		1.1228	1.1228		1.1228	1.1228		364.7344	364.7344	0.3493		373.4679
Total	6.0771	2.3310	202.3666	0.0107		1.1228	1.1228		1.1228	1.1228	0.0000	364.7344	364.7344	0.3493	0.0000	373.4679

7.0 Water Detail

7.1 Mitigation Measures Water

UCSD RWNLLN Construction - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	------------	-------------	-------------	-----------

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

UCSD RWNLLN Construction - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**UCSD RWNLLN Construction
San Diego County, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	158.85	1000sqft	0.00	158,850.00	0
General Light Industry	10.17	1000sqft	0.00	10,170.00	0
High Turnover (Sit Down Restaurant)	7.00	1000sqft	0.00	7,000.00	0
Apartments High Rise	2,455.00	Dwelling Unit	20.90	757,500.00	2455

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2026
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	539.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Construcion Emissions Only

Land Use - Building area per project description.
 Residential assumes 1 bed = 1 dwelling unit.
 Light Industrial = glass blowing lab.
 Restualrant = cafe/market.
 General Ofiice = remaining sudent and community support areas.

Construction Phase - Schedule exteneded to account for demolition, grading cut/fill, and to fit overall anticipated schedule of June 2023 to late Fall 2025.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Off-Highway Truck = watrer truck.

UCSD RWNLLN Construction - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Off-road Equipment - Off-Highway Truck = waterer truck.

Off-road Equipment -

Off-road Equipment - Off-Highway Truck = waterer truck.

Demolition -

Grading -

Architectural Coating - VOC limits per SDAPCD Rule 67.0.1 for general flat and non-flat coatings.

Vehicle Trips - This model is for construction emissions only.

Woodstoves - This model is for construction emissions only.

Consumer Products - This model is for construction emissions only.

Area Coating - This model is for construction emissions only.

Energy Use - This model is for construction emissions only.

Water And Wastewater - This model is for construction emissions only.

Solid Waste - This model is for construction emissions only.

Construction Off-road Equipment Mitigation - Fugitive dust mitigation to meet SDAPCD Rule 55 and UCSD LRDP EIR mitigation measure AQ-2A.
Tier 4 Interim engines per UCSD LRDP EIR mitigation measure AQ-2B.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_Nonresidential_Exterior	88010	0
tblAreaCoating	Area_Nonresidential_Interior	264030	0
tblAreaCoating	Area_Residential_Exterior	511313	0
tblAreaCoating	Area_Residential_Interior	1533938	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00

UCSD RWNLLN Construction - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	20.00	132.00
tblConstructionPhase	NumDays	370.00	480.00
tblConstructionPhase	NumDays	20.00	52.00
tblConstructionPhase	NumDays	35.00	86.00

UCSD RWNLLN Construction - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConsumerProducts	ROG_EF	2.14E-05	0
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	0
tblEnergyUse	LightingElect	741.44	0.00
tblEnergyUse	LightingElect	2.83	0.00
tblEnergyUse	LightingElect	3.81	0.00
tblEnergyUse	LightingElect	6.78	0.00
tblEnergyUse	NT24E	3,054.10	0.00
tblEnergyUse	NT24E	4.27	0.00
tblEnergyUse	NT24E	4.97	0.00
tblEnergyUse	NT24E	23.69	0.00
tblEnergyUse	NT24NG	4,180.00	0.00
tblEnergyUse	NT24NG	7.25	0.00
tblEnergyUse	NT24NG	4.20	0.00
tblEnergyUse	NT24NG	138.46	0.00
tblEnergyUse	T24E	44.60	0.00
tblEnergyUse	T24E	1.08	0.00
tblEnergyUse	T24E	4.16	0.00
tblEnergyUse	T24E	7.35	0.00
tblEnergyUse	T24NG	3,096.05	0.00
tblEnergyUse	T24NG	4.27	0.00
tblEnergyUse	T24NG	15.83	0.00
tblEnergyUse	T24NG	35.56	0.00
tblFireplaces	NumberGas	1,350.25	0.00
tblFireplaces	NumberWood	859.25	0.00
tblGrading	MaterialExported	0.00	55,000.00
tblLandUse	LandUseSquareFeet	2,455,000.00	757,500.00
tblLandUse	LotAcreage	3.65	0.00
tblLandUse	LotAcreage	0.23	0.00

UCSD RWNLLN Construction - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblLandUse	LotAcreage	0.16	0.00
tblLandUse	LotAcreage	39.60	20.90
tblLandUse	Population	7,021.00	2,455.00
tblSolidWaste	SolidWasteGenerationRate	1,129.30	0.00
tblSolidWaste	SolidWasteGenerationRate	12.61	0.00
tblSolidWaste	SolidWasteGenerationRate	147.73	0.00
tblSolidWaste	SolidWasteGenerationRate	83.30	0.00
tblVehicleTrips	ST_TR	4.53	0.00
tblVehicleTrips	ST_TR	1.99	0.00
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	ST_TR	122.40	0.00
tblVehicleTrips	SU_TR	3.59	0.00
tblVehicleTrips	SU_TR	5.00	0.00
tblVehicleTrips	SU_TR	0.70	0.00
tblVehicleTrips	SU_TR	142.64	0.00
tblVehicleTrips	WD_TR	4.45	0.00
tblVehicleTrips	WD_TR	4.96	0.00
tblVehicleTrips	WD_TR	9.74	0.00
tblVehicleTrips	WD_TR	112.18	0.00
tblWater	IndoorWaterUseRate	159,953,132.90	0.00
tblWater	IndoorWaterUseRate	2,351,812.50	0.00
tblWater	IndoorWaterUseRate	28,233,005.87	0.00
tblWater	IndoorWaterUseRate	2,124,735.99	0.00
tblWater	OutdoorWaterUseRate	100,840,018.57	0.00
tblWater	OutdoorWaterUseRate	17,304,100.37	0.00
tblWater	OutdoorWaterUseRate	135,621.45	0.00
tblWoodstoves	NumberCatalytic	122.75	0.00
tblWoodstoves	NumberNoncatalytic	122.75	0.00

UCSD RWNLLN Construction - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.0 Emissions Summary

UCSD RWNLLN Construction - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	4.0695	48.5801	34.7643	0.1248	19.8213	1.6433	21.2172	10.1460	1.5151	11.4303	0.0000	12,746.48 30	12,746.48 30	2.6292	0.8449	13,063.98 52
2024	6.4918	28.6195	61.4395	0.2136	16.9710	0.7662	17.7373	4.5461	0.7204	5.2665	0.0000	21,832.55 90	21,832.55 90	1.1342	1.2272	22,226.61 16
2025	49.2458	28.9087	68.1325	0.2358	19.9694	0.7430	20.7124	5.3414	0.7014	6.0428	0.0000	24,053.84 73	24,053.84 73	1.1820	1.2487	24,455.50 94
Maximum	49.2458	48.5801	68.1325	0.2358	19.9694	1.6433	21.2172	10.1460	1.5151	11.4303	0.0000	24,053.84 73	24,053.84 73	2.6292	1.2487	24,455.50 94

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	1.4705	33.2428	47.1523	0.1248	9.0100	0.2129	9.0945	4.5897	0.2089	4.6741	0.0000	12,746.48 30	12,746.48 30	2.6292	0.8449	13,063.98 52
2024	5.5537	26.0879	63.1464	0.2136	16.9710	0.2375	17.2085	4.5461	0.2281	4.7742	0.0000	21,832.55 90	21,832.55 90	1.1342	1.2272	22,226.61 16
2025	48.2955	27.2655	69.9448	0.2358	19.9694	0.2525	20.2219	5.3414	0.2422	5.5836	0.0000	24,053.84 73	24,053.84 73	1.1820	1.2487	24,455.50 94
Maximum	48.2955	33.2428	69.9448	0.2358	19.9694	0.2525	20.2219	5.3414	0.2422	5.5836	0.0000	24,053.84 73	24,053.84 73	2.6292	1.2487	24,455.50 94

UCSD RWNLLN Construction - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.0771	2.3310	202.3666	0.0107		1.1228	1.1228		1.1228	1.1228	0.0000	364.7344	364.7344	0.3493	0.0000	373.4679
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	6.0771	2.3310	202.3666	0.0107	0.0000	1.1228	1.1228	0.0000	1.1228	1.1228	0.0000	364.7344	364.7344	0.3493	0.0000	373.4679

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.0771	2.3310	202.3666	0.0107		1.1228	1.1228		1.1228	1.1228	0.0000	364.7344	364.7344	0.3493	0.0000	373.4679
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	6.0771	2.3310	202.3666	0.0107	0.0000	1.1228	1.1228	0.0000	1.1228	1.1228	0.0000	364.7344	364.7344	0.3493	0.0000	373.4679

UCSD RWNLLN Construction - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/7/2023	8/17/2023	5	52	
2	Site Preparation	Site Preparation	8/18/2023	8/31/2023	5	10	
3	Grading	Grading	9/1/2023	12/31/2023	5	86	
4	Building Construction	Building Construction	1/1/2024	10/31/2025	5	480	
5	Paving	Paving	11/1/2025	11/28/2025	5	20	
6	Architectural Coating	Architectural Coating	5/1/2025	10/31/2025	5	132	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 258

Acres of Paving: 0

Residential Indoor: 1,533,938; Residential Outdoor: 511,313; Non-Residential Indoor: 264,030; Non-Residential Outdoor: 88,010; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Off-Highway Trucks	1	8.00	402	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Off-Highway Trucks	1	8.00	402	0.38

UCSD RWLLN Construction - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Off-Highway Trucks	1	8.00	402	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	7	18.00	0.00	692.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	9	23.00	0.00	6,875.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	1,826.00	291.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	365.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

UCSD RWNLLN Construction - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9152	0.0000	2.9152	0.4415	0.0000	0.4415			0.0000			0.0000
Off-Road	2.7730	25.0523	22.9318	0.0521		1.1265	1.1265		1.0467	1.0467		5,026.8725	5,026.8725	1.4633		5,063.4553
Total	2.7730	25.0523	22.9318	0.0521	2.9152	1.1265	4.0417	0.4415	1.0467	1.4881		5,026.8725	5,026.8725	1.4633		5,063.4553

UCSD RWNLLN Construction - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0301	1.7408	0.4782	7.9600e-003	0.2328	0.0148	0.2475	0.0638	0.0141	0.0779		880.0075	880.0075	0.0444	0.1399	922.8195
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0492	0.0306	0.4320	1.3100e-003	0.1479	7.9000e-004	0.1487	0.0392	7.3000e-004	0.0400		132.0595	132.0595	3.5800e-003	3.2900e-003	133.1300
Total	0.0793	1.7714	0.9102	9.2700e-003	0.3806	0.0156	0.3962	0.1030	0.0149	0.1179		1,012.0671	1,012.0671	0.0479	0.1432	1,055.9496

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.3118	0.0000	1.3118	0.1987	0.0000	0.1987			0.0000			0.0000
Off-Road	0.7997	17.0331	31.6789	0.0521		0.0832	0.0832		0.0832	0.0832	0.0000	5,026.8725	5,026.8725	1.4633		5,063.4553
Total	0.7997	17.0331	31.6789	0.0521	1.3118	0.0832	1.3950	0.1987	0.0832	0.2819	0.0000	5,026.8725	5,026.8725	1.4633		5,063.4553

UCSD RWNLLN Construction - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0301	1.7408	0.4782	7.9600e-003	0.2328	0.0148	0.2475	0.0638	0.0141	0.0779		880.0075	880.0075	0.0444	0.1399	922.8195
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0492	0.0306	0.4320	1.3100e-003	0.1479	7.9000e-004	0.1487	0.0392	7.3000e-004	0.0400		132.0595	132.0595	3.5800e-003	3.2900e-003	133.1300
Total	0.0793	1.7714	0.9102	9.2700e-003	0.3806	0.0156	0.3962	0.1030	0.0149	0.1179		1,012.0671	1,012.0671	0.0479	0.1432	1,055.9496

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	3.1633	31.0921	21.5328	0.0513		1.3950	1.3950		1.2834	1.2834		4,967.1966	4,967.1966	1.6065		5,007.3589
Total	3.1633	31.0921	21.5328	0.0513	19.6570	1.3950	21.0520	10.1025	1.2834	11.3859		4,967.1966	4,967.1966	1.6065		5,007.3589

UCSD RWNLLN Construction - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0547	0.0339	0.4800	1.4500e-003	0.1643	8.8000e-004	0.1652	0.0436	8.1000e-004	0.0444		146.7328	146.7328	3.9800e-003	3.6600e-003	147.9223
Total	0.0547	0.0339	0.4800	1.4500e-003	0.1643	8.8000e-004	0.1652	0.0436	8.1000e-004	0.0444		146.7328	146.7328	3.9800e-003	3.6600e-003	147.9223

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.8457	0.0000	8.8457	4.5461	0.0000	4.5461			0.0000			0.0000
Off-Road	0.9123	15.6376	29.9650	0.0513		0.0836	0.0836		0.0836	0.0836	0.0000	4,967.1966	4,967.1966	1.6065		5,007.3589
Total	0.9123	15.6376	29.9650	0.0513	8.8457	0.0836	8.9293	4.5461	0.0836	4.6297	0.0000	4,967.1966	4,967.1966	1.6065		5,007.3589

UCSD RWNLLN Construction - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0547	0.0339	0.4800	1.4500e-003	0.1643	8.8000e-004	0.1652	0.0436	8.1000e-004	0.0444		146.7328	146.7328	3.9800e-003	3.6600e-003	147.9223
Total	0.0547	0.0339	0.4800	1.4500e-003	0.1643	8.8000e-004	0.1652	0.0436	8.1000e-004	0.0444		146.7328	146.7328	3.9800e-003	3.6600e-003	147.9223

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2935	0.0000	9.2935	3.6674	0.0000	3.6674			0.0000			0.0000
Off-Road	3.8256	38.0835	31.3397	0.0753		1.5535	1.5535		1.4292	1.4292		7,291.3662	7,291.3662	2.3582		7,350.3206
Total	3.8256	38.0835	31.3397	0.0753	9.2935	1.5535	10.8470	3.6674	1.4292	5.0966		7,291.3662	7,291.3662	2.3582		7,350.3206

UCSD RWNLLN Construction - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1810	10.4575	2.8727	0.0478	1.3982	0.0888	1.4870	0.3833	0.0849	0.4682		5,286.374 1	5,286.374 1	0.2664	0.8407	5,543.554 0
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0629	0.0390	0.5520	1.6700e-003	0.1889	1.0100e-003	0.1900	0.0501	9.3000e-004	0.0511		168.7427	168.7427	4.5700e-003	4.2100e-003	170.1106
Total	0.2439	10.4966	3.4247	0.0495	1.5871	0.0898	1.6769	0.4334	0.0858	0.5192		5,455.116 8	5,455.116 8	0.2710	0.8449	5,713.664 6

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.1821	0.0000	4.1821	1.6503	0.0000	1.6503			0.0000			0.0000
Off-Road	1.2266	22.7463	43.7276	0.0753		0.1231	0.1231		0.1231	0.1231	0.0000	7,291.366 2	7,291.366 2	2.3582		7,350.320 6
Total	1.2266	22.7463	43.7276	0.0753	4.1821	0.1231	4.3051	1.6503	0.1231	1.7734	0.0000	7,291.366 2	7,291.366 2	2.3582		7,350.320 6

UCSD RWNLLN Construction - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1810	10.4575	2.8727	0.0478	1.3982	0.0888	1.4870	0.3833	0.0849	0.4682		5,286.374 1	5,286.374 1	0.2664	0.8407	5,543.554 0
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0629	0.0390	0.5520	1.6700e-003	0.1889	1.0100e-003	0.1900	0.0501	9.3000e-004	0.0511		168.7427	168.7427	4.5700e-003	4.2100e-003	170.1106
Total	0.2439	10.4966	3.4247	0.0495	1.5871	0.0898	1.6769	0.4334	0.0858	0.5192		5,455.116 8	5,455.116 8	0.2710	0.8449	5,713.664 6

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.698 9	2,555.698 9	0.6044		2,570.807 7
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.698 9	2,555.698 9	0.6044		2,570.807 7

UCSD RWNLLN Construction - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3347	12.3894	4.3903	0.0585	1.9709	0.0764	2.0472	0.5674	0.0731	0.6404		6,320.318 2	6,320.318 2	0.1994	0.9151	6,597.997 3
Worker	4.6855	2.7863	40.8824	0.1282	15.0002	0.0765	15.0767	3.9787	0.0705	4.0492		12,956.54 19	12,956.54 19	0.3305	0.3121	13,057.80 66
Total	5.0202	15.1757	45.2727	0.1866	16.9710	0.1529	17.1239	4.5461	0.1435	4.6896		19,276.86 01	19,276.86 01	0.5299	1.2272	19,655.80 40

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5335	10.9122	17.8738	0.0270		0.0846	0.0846		0.0846	0.0846	0.0000	2,555.698 9	2,555.698 9	0.6044		2,570.807 7
Total	0.5335	10.9122	17.8738	0.0270		0.0846	0.0846		0.0846	0.0846	0.0000	2,555.698 9	2,555.698 9	0.6044		2,570.807 7

UCSD RWNLLN Construction - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3347	12.3894	4.3903	0.0585	1.9709	0.0764	2.0472	0.5674	0.0731	0.6404		6,320.318 2	6,320.318 2	0.1994	0.9151	6,597.997 3
Worker	4.6855	2.7863	40.8824	0.1282	15.0002	0.0765	15.0767	3.9787	0.0705	4.0492		12,956.54 19	12,956.54 19	0.3305	0.3121	13,057.80 66
Total	5.0202	15.1757	45.2727	0.1866	16.9710	0.1529	17.1239	4.5461	0.1435	4.6896		19,276.86 01	19,276.86 01	0.5299	1.2272	19,655.80 40

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1

UCSD RWNLLN Construction - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3245	12.2675	4.3167	0.0573	1.9709	0.0762	2.0470	0.5674	0.0728	0.6402		6,199.749 9	6,199.749 9	0.2045	0.8972	6,472.218 3
Worker	4.4123	2.5218	38.2718	0.1238	15.0002	0.0731	15.0733	3.9787	0.0673	4.0461		12,514.62 14	12,514.62 14	0.3011	0.2930	12,609.45 19
Total	4.7368	14.7894	42.5885	0.1811	16.9710	0.1493	17.1203	4.5461	0.1401	4.6863		18,714.37 13	18,714.37 13	0.5056	1.1901	19,081.67 02

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5335	10.9122	17.8738	0.0270		0.0846	0.0846		0.0846	0.0846	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	0.5335	10.9122	17.8738	0.0270		0.0846	0.0846		0.0846	0.0846	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1

UCSD RWNLLN Construction - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3245	12.2675	4.3167	0.0573	1.9709	0.0762	2.0470	0.5674	0.0728	0.6402		6,199.749 9	6,199.749 9	0.2045	0.8972	6,472.218 3
Worker	4.4123	2.5218	38.2718	0.1238	15.0002	0.0731	15.0733	3.9787	0.0673	4.0461		12,514.62 14	12,514.62 14	0.3011	0.2930	12,609.45 19
Total	4.7368	14.7894	42.5885	0.1811	16.9710	0.1493	17.1203	4.5461	0.1401	4.6863		18,714.37 13	18,714.37 13	0.5056	1.1901	19,081.67 02

3.6 Paving - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.745 2	2,206.745 2	0.7137		2,224.587 8
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.745 2	2,206.745 2	0.7137		2,224.587 8

UCSD RWNLLN Construction - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0363	0.0207	0.3144	1.0200e-003	0.1232	6.0000e-004	0.1238	0.0327	5.5000e-004	0.0332		102.8036	102.8036	2.4700e-003	2.4100e-003	103.5826
Total	0.0363	0.0207	0.3144	1.0200e-003	0.1232	6.0000e-004	0.1238	0.0327	5.5000e-004	0.0332		102.8036	102.8036	2.4700e-003	2.4100e-003	103.5826

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3341	10.0395	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.3341	10.0395	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878

UCSD RWNLLN Construction - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0363	0.0207	0.3144	1.0200e-003	0.1232	6.0000e-004	0.1238	0.0327	5.5000e-004	0.0332		102.8036	102.8036	2.4700e-003	2.4100e-003	103.5826
Total	0.0363	0.0207	0.3144	1.0200e-003	0.1232	6.0000e-004	0.1238	0.0327	5.5000e-004	0.0332		102.8036	102.8036	2.4700e-003	2.4100e-003	103.5826

3.7 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	42.0888					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	42.2597	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319

UCSD RWNLLN Construction - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.8820	0.5041	7.6502	0.0248	2.9984	0.0146	3.0130	0.7953	0.0135	0.8088		2,501.553 6	2,501.553 6	0.0602	0.0586	2,520.509 3
Total	0.8820	0.5041	7.6502	0.0248	2.9984	0.0146	3.0130	0.7953	0.0135	0.8088		2,501.553 6	2,501.553 6	0.0602	0.0586	2,520.509 3

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	42.0888					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0545	1.0598	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0154		281.8319
Total	42.1433	1.0598	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0154		281.8319

UCSD RWNLLN Construction - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.8820	0.5041	7.6502	0.0248	2.9984	0.0146	3.0130	0.7953	0.0135	0.8088		2,501.553 6	2,501.553 6	0.0602	0.0586	2,520.509 3
Total	0.8820	0.5041	7.6502	0.0248	2.9984	0.0146	3.0130	0.7953	0.0135	0.8088		2,501.553 6	2,501.553 6	0.0602	0.0586	2,520.509 3

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

UCSD RWNLLN Construction - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	0.00	0.00	0.00		
General Light Industry	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43

4.4 Fleet Mix

UCSD RWNLLN Construction - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.565387	0.062253	0.175474	0.116234	0.023574	0.006359	0.009156	0.006316	0.000699	0.000586	0.028465	0.000937	0.004559
General Light Industry	0.565387	0.062253	0.175474	0.116234	0.023574	0.006359	0.009156	0.006316	0.000699	0.000586	0.028465	0.000937	0.004559
General Office Building	0.565387	0.062253	0.175474	0.116234	0.023574	0.006359	0.009156	0.006316	0.000699	0.000586	0.028465	0.000937	0.004559
High Turnover (Sit Down Restaurant)	0.565387	0.062253	0.175474	0.116234	0.023574	0.006359	0.009156	0.006316	0.000699	0.000586	0.028465	0.000937	0.004559

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

UCSD RWNLLN Construction - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

UCSD RWNLLN Construction - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

UCSD RWNLLN Construction - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.0771	2.3310	202.3666	0.0107		1.1228	1.1228		1.1228	1.1228	0.0000	364.7344	364.7344	0.3493	0.0000	373.4679
Unmitigated	6.0771	2.3310	202.3666	0.0107		1.1228	1.1228		1.1228	1.1228	0.0000	364.7344	364.7344	0.3493	0.0000	373.4679

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.0771	2.3310	202.3666	0.0107		1.1228	1.1228		1.1228	1.1228		364.7344	364.7344	0.3493		373.4679
Total	6.0771	2.3310	202.3666	0.0107		1.1228	1.1228		1.1228	1.1228	0.0000	364.7344	364.7344	0.3493	0.0000	373.4679

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.0771	2.3310	202.3666	0.0107		1.1228	1.1228		1.1228	1.1228		364.7344	364.7344	0.3493		373.4679
Total	6.0771	2.3310	202.3666	0.0107		1.1228	1.1228		1.1228	1.1228	0.0000	364.7344	364.7344	0.3493	0.0000	373.4679

7.0 Water Detail

7.1 Mitigation Measures Water

UCSD RWNLLN Construction - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	------------	-------------	-------------	-----------

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**UCSD RWNLLN Construction
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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	158.85	1000sqft	0.00	158,850.00	0
General Light Industry	10.17	1000sqft	0.00	10,170.00	0
High Turnover (Sit Down Restaurant)	7.00	1000sqft	0.00	7,000.00	0
Apartments High Rise	2,455.00	Dwelling Unit	20.90	757,500.00	2455

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2026
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	539.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Construcion Emissions Only

Land Use - Building area per project description.
 Residential assumes 1 bed = 1 dwelling unit.
 Light Industrial = glass blowing lab.
 Restualrant = cafe/market.
 General Ofiice = remaining sudent and community support areas.

Construction Phase - Schedule exteneded to account for demolition, grading cut/fill, and to fit overall anticipated schedule of June 2023 to late Fall 2025.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Off-Highway Truck = watrer truck.

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Off-road Equipment - Off-Highway Truck = waterer truck.

Off-road Equipment -

Off-road Equipment - Off-Highway Truck = waterer truck.

Demolition -

Grading -

Architectural Coating - VOC limits per SDAPCD Rule 67.0.1 for general flat and non-flat coatings.

Vehicle Trips - This model is for construction emissions only.

Woodstoves - This model is for construction emissions only.

Consumer Products - This model is for construction emissions only.

Area Coating - This model is for construction emissions only.

Energy Use - This model is for construction emissions only.

Water And Wastewater - This model is for construction emissions only.

Solid Waste - This model is for construction emissions only.

Construction Off-road Equipment Mitigation - Fugitive dust mitigation to meet SDAPCD Rule 55 and UCSD LRDP EIR mitigation measure AQ-2A.
Tier 4 Interim engines per UCSD LRDP EIR mitigation measure AQ-2B.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_Nonresidential_Exterior	88010	0
tblAreaCoating	Area_Nonresidential_Interior	264030	0
tblAreaCoating	Area_Residential_Exterior	511313	0
tblAreaCoating	Area_Residential_Interior	1533938	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	20.00	132.00
tblConstructionPhase	NumDays	370.00	480.00
tblConstructionPhase	NumDays	20.00	52.00
tblConstructionPhase	NumDays	35.00	86.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConsumerProducts	ROG_EF	2.14E-05	0
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	0
tblEnergyUse	LightingElect	741.44	0.00
tblEnergyUse	LightingElect	2.83	0.00
tblEnergyUse	LightingElect	3.81	0.00
tblEnergyUse	LightingElect	6.78	0.00
tblEnergyUse	NT24E	3,054.10	0.00
tblEnergyUse	NT24E	4.27	0.00
tblEnergyUse	NT24E	4.97	0.00
tblEnergyUse	NT24E	23.69	0.00
tblEnergyUse	NT24NG	4,180.00	0.00
tblEnergyUse	NT24NG	7.25	0.00
tblEnergyUse	NT24NG	4.20	0.00
tblEnergyUse	NT24NG	138.46	0.00
tblEnergyUse	T24E	44.60	0.00
tblEnergyUse	T24E	1.08	0.00
tblEnergyUse	T24E	4.16	0.00
tblEnergyUse	T24E	7.35	0.00
tblEnergyUse	T24NG	3,096.05	0.00
tblEnergyUse	T24NG	4.27	0.00
tblEnergyUse	T24NG	15.83	0.00
tblEnergyUse	T24NG	35.56	0.00
tblFireplaces	NumberGas	1,350.25	0.00
tblFireplaces	NumberWood	859.25	0.00
tblGrading	MaterialExported	0.00	55,000.00
tblLandUse	LandUseSquareFeet	2,455,000.00	757,500.00
tblLandUse	LotAcreage	3.65	0.00
tblLandUse	LotAcreage	0.23	0.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblLandUse	LotAcreage	0.16	0.00
tblLandUse	LotAcreage	39.60	20.90
tblLandUse	Population	7,021.00	2,455.00
tblSolidWaste	SolidWasteGenerationRate	1,129.30	0.00
tblSolidWaste	SolidWasteGenerationRate	12.61	0.00
tblSolidWaste	SolidWasteGenerationRate	147.73	0.00
tblSolidWaste	SolidWasteGenerationRate	83.30	0.00
tblVehicleTrips	ST_TR	4.53	0.00
tblVehicleTrips	ST_TR	1.99	0.00
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	ST_TR	122.40	0.00
tblVehicleTrips	SU_TR	3.59	0.00
tblVehicleTrips	SU_TR	5.00	0.00
tblVehicleTrips	SU_TR	0.70	0.00
tblVehicleTrips	SU_TR	142.64	0.00
tblVehicleTrips	WD_TR	4.45	0.00
tblVehicleTrips	WD_TR	4.96	0.00
tblVehicleTrips	WD_TR	9.74	0.00
tblVehicleTrips	WD_TR	112.18	0.00
tblWater	IndoorWaterUseRate	159,953,132.90	0.00
tblWater	IndoorWaterUseRate	2,351,812.50	0.00
tblWater	IndoorWaterUseRate	28,233,005.87	0.00
tblWater	IndoorWaterUseRate	2,124,735.99	0.00
tblWater	OutdoorWaterUseRate	100,840,018.57	0.00
tblWater	OutdoorWaterUseRate	17,304,100.37	0.00
tblWater	OutdoorWaterUseRate	135,621.45	0.00
tblWoodstoves	NumberCatalytic	122.75	0.00
tblWoodstoves	NumberNoncatalytic	122.75	0.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.0 Emissions Summary

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.2650	2.9608	2.2236	7.2200e-003	0.6510	0.1073	0.7583	0.2408	0.0992	0.3400	0.0000	662.4722	662.4722	0.1455	0.0364	676.9531
2024	0.8436	3.8444	7.7939	0.0272	2.1714	0.1004	2.2718	0.5828	0.0944	0.6772	0.0000	2,523.4938	2,523.4938	0.1365	0.1485	2,571.1463
2025	3.5165	3.2453	6.9509	0.0240	2.0011	0.0823	2.0835	0.5366	0.0775	0.6141	0.0000	2,226.8946	2,226.8946	0.1219	0.1235	2,266.7424
Maximum	3.5165	3.8444	7.7939	0.0272	2.1714	0.1073	2.2718	0.5828	0.0992	0.6772	0.0000	2,523.4938	2,523.4938	0.1455	0.1485	2,571.1463

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0907	2.0155	3.0258	7.2200e-003	0.3355	0.0122	0.3476	0.1200	0.0120	0.1319	0.0000	662.4717	662.4717	0.1455	0.0364	676.9526
2024	0.7207	3.5128	8.0175	0.0272	2.1714	0.0311	2.2025	0.5828	0.0299	0.6127	0.0000	2,523.4935	2,523.4935	0.1365	0.1485	2,571.1460
2025	3.4121	3.0845	7.1746	0.0240	2.0011	0.0271	2.0282	0.5366	0.0260	0.5626	0.0000	2,226.8943	2,226.8943	0.1219	0.1235	2,266.7421
Maximum	3.4121	3.5128	8.0175	0.0272	2.1714	0.0311	2.2025	0.5828	0.0299	0.6127	0.0000	2,523.4935	2,523.4935	0.1455	0.1485	2,571.1460

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	8.68	14.31	-7.36	0.00	6.54	75.73	10.47	8.88	74.95	19.86	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	6-7-2023	9-6-2023	1.0476	0.6637
2	9-7-2023	12-6-2023	1.7212	1.1383
3	12-7-2023	3-6-2024	1.3313	1.0894
4	3-7-2024	6-6-2024	1.1650	1.0510
5	6-7-2024	9-6-2024	1.1537	1.0397
6	9-7-2024	12-6-2024	1.1714	1.0587
7	12-7-2024	3-6-2025	1.1276	1.0411
8	3-7-2025	6-6-2025	1.6990	1.6177
9	6-7-2025	9-6-2025	2.5679	2.4827
10	9-7-2025	9-30-2025	0.6699	0.6477
		Highest	2.5679	2.4827

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.5469	0.2098	18.2130	9.6000e-004		0.1011	0.1011		0.1011	0.1011	0.0000	29.7793	29.7793	0.0285	0.0000	30.4924
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.5469	0.2098	18.2130	9.6000e-004	0.0000	0.1011	0.1011	0.0000	0.1011	0.1011	0.0000	29.7793	29.7793	0.0285	0.0000	30.4924

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.5469	0.2098	18.2130	9.6000e-004		0.1011	0.1011		0.1011	0.1011	0.0000	29.7793	29.7793	0.0285	0.0000	30.4924
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.5469	0.2098	18.2130	9.6000e-004	0.0000	0.1011	0.1011	0.0000	0.1011	0.1011	0.0000	29.7793	29.7793	0.0285	0.0000	30.4924

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/7/2023	8/17/2023	5	52	
2	Site Preparation	Site Preparation	8/18/2023	8/31/2023	5	10	
3	Grading	Grading	9/1/2023	12/31/2023	5	86	

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4	Building Construction	Building Construction	1/1/2024	10/31/2025	5	480
5	Paving	Paving	11/1/2025	11/28/2025	5	20
6	Architectural Coating	Architectural Coating	5/1/2025	10/31/2025	5	132

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 258

Acres of Paving: 0

Residential Indoor: 1,533,938; Residential Outdoor: 511,313; Non-Residential Indoor: 264,030; Non-Residential Outdoor: 88,010; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Off-Highway Trucks	1	8.00	402	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Off-Highway Trucks	1	8.00	402	0.38
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Off-Highway Trucks	1	8.00	402	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37

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Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	7	18.00	0.00	692.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	9	23.00	0.00	6,875.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	1,826.00	291.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	365.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

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3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0758	0.0000	0.0758	0.0115	0.0000	0.0115	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0721	0.6514	0.5962	1.3500e-003		0.0293	0.0293		0.0272	0.0272	0.0000	118.5679	118.5679	0.0345	0.0000	119.4307
Total	0.0721	0.6514	0.5962	1.3500e-003	0.0758	0.0293	0.1051	0.0115	0.0272	0.0387	0.0000	118.5679	118.5679	0.0345	0.0000	119.4307

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.6000e-004	0.0470	0.0125	2.1000e-004	5.9300e-003	3.8000e-004	6.3100e-003	1.6300e-003	3.7000e-004	2.0000e-003	0.0000	20.7650	20.7650	1.0500e-003	3.3000e-003	21.7752
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2700e-003	8.8000e-004	0.0107	3.0000e-005	3.7500e-003	2.0000e-005	3.7700e-003	1.0000e-003	2.0000e-005	1.0200e-003	0.0000	2.9697	2.9697	9.0000e-005	8.0000e-005	2.9966
Total	2.0300e-003	0.0478	0.0232	2.4000e-004	9.6800e-003	4.0000e-004	0.0101	2.6300e-003	3.9000e-004	3.0200e-003	0.0000	23.7348	23.7348	1.1400e-003	3.3800e-003	24.7719

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3.2 Demolition - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0341	0.0000	0.0341	5.1700e-003	0.0000	5.1700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0208	0.4429	0.8237	1.3500e-003		2.1600e-003	2.1600e-003		2.1600e-003	2.1600e-003	0.0000	118.5677	118.5677	0.0345	0.0000	119.4306
Total	0.0208	0.4429	0.8237	1.3500e-003	0.0341	2.1600e-003	0.0363	5.1700e-003	2.1600e-003	7.3300e-003	0.0000	118.5677	118.5677	0.0345	0.0000	119.4306

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.6000e-004	0.0470	0.0125	2.1000e-004	5.9300e-003	3.8000e-004	6.3100e-003	1.6300e-003	3.7000e-004	2.0000e-003	0.0000	20.7650	20.7650	1.0500e-003	3.3000e-003	21.7752
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2700e-003	8.8000e-004	0.0107	3.0000e-005	3.7500e-003	2.0000e-005	3.7700e-003	1.0000e-003	2.0000e-005	1.0200e-003	0.0000	2.9697	2.9697	9.0000e-005	8.0000e-005	2.9966
Total	2.0300e-003	0.0478	0.0232	2.4000e-004	9.6800e-003	4.0000e-004	0.0101	2.6300e-003	3.9000e-004	3.0200e-003	0.0000	23.7348	23.7348	1.1400e-003	3.3800e-003	24.7719

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3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0158	0.1555	0.1077	2.6000e-004		6.9800e-003	6.9800e-003		6.4200e-003	6.4200e-003	0.0000	22.5308	22.5308	7.2900e-003	0.0000	22.7130
Total	0.0158	0.1555	0.1077	2.6000e-004	0.0983	6.9800e-003	0.1053	0.0505	6.4200e-003	0.0569	0.0000	22.5308	22.5308	7.2900e-003	0.0000	22.7130

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	1.9000e-004	2.2800e-003	1.0000e-005	8.0000e-004	0.0000	8.1000e-004	2.1000e-004	0.0000	2.2000e-004	0.0000	0.6346	0.6346	2.0000e-005	2.0000e-005	0.6403
Total	2.7000e-004	1.9000e-004	2.2800e-003	1.0000e-005	8.0000e-004	0.0000	8.1000e-004	2.1000e-004	0.0000	2.2000e-004	0.0000	0.6346	0.6346	2.0000e-005	2.0000e-005	0.6403

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3.3 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0442	0.0000	0.0442	0.0227	0.0000	0.0227	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.5600e-003	0.0782	0.1498	2.6000e-004		4.2000e-004	4.2000e-004		4.2000e-004	4.2000e-004	0.0000	22.5308	22.5308	7.2900e-003	0.0000	22.7130
Total	4.5600e-003	0.0782	0.1498	2.6000e-004	0.0442	4.2000e-004	0.0447	0.0227	4.2000e-004	0.0232	0.0000	22.5308	22.5308	7.2900e-003	0.0000	22.7130

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	1.9000e-004	2.2800e-003	1.0000e-005	8.0000e-004	0.0000	8.1000e-004	2.1000e-004	0.0000	2.2000e-004	0.0000	0.6346	0.6346	2.0000e-005	2.0000e-005	0.6403
Total	2.7000e-004	1.9000e-004	2.2800e-003	1.0000e-005	8.0000e-004	0.0000	8.1000e-004	2.1000e-004	0.0000	2.2000e-004	0.0000	0.6346	0.6346	2.0000e-005	2.0000e-005	0.6403

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3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3996	0.0000	0.3996	0.1577	0.0000	0.1577	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1645	1.6376	1.3476	3.2400e-003		0.0668	0.0668		0.0615	0.0615	0.0000	284.4285	284.4285	0.0920	0.0000	286.7282
Total	0.1645	1.6376	1.3476	3.2400e-003	0.3996	0.0668	0.4664	0.1577	0.0615	0.2192	0.0000	284.4285	284.4285	0.0920	0.0000	286.7282

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.5900e-003	0.4665	0.1241	2.0600e-003	0.0589	3.8200e-003	0.0627	0.0162	3.6500e-003	0.0198	0.0000	206.2999	206.2999	0.0104	0.0328	216.3364
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6700e-003	1.8500e-003	0.0225	7.0000e-005	7.9300e-003	4.0000e-005	7.9700e-003	2.1100e-003	4.0000e-005	2.1500e-003	0.0000	6.2758	6.2758	1.9000e-004	1.8000e-004	6.3326
Total	0.0103	0.4684	0.1467	2.1300e-003	0.0668	3.8600e-003	0.0707	0.0183	3.6900e-003	0.0220	0.0000	212.5757	212.5757	0.0106	0.0330	222.6690

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3.4 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1798	0.0000	0.1798	0.0710	0.0000	0.0710	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0527	0.9781	1.8803	3.2400e-003		5.2900e-003	5.2900e-003		5.2900e-003	5.2900e-003	0.0000	284.4282	284.4282	0.0920	0.0000	286.7279
Total	0.0527	0.9781	1.8803	3.2400e-003	0.1798	5.2900e-003	0.1851	0.0710	5.2900e-003	0.0763	0.0000	284.4282	284.4282	0.0920	0.0000	286.7279

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.5900e-003	0.4665	0.1241	2.0600e-003	0.0589	3.8200e-003	0.0627	0.0162	3.6500e-003	0.0198	0.0000	206.2999	206.2999	0.0104	0.0328	216.3364
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6700e-003	1.8500e-003	0.0225	7.0000e-005	7.9300e-003	4.0000e-005	7.9700e-003	2.1100e-003	4.0000e-005	2.1500e-003	0.0000	6.2758	6.2758	1.9000e-004	1.8000e-004	6.3326
Total	0.0103	0.4684	0.1467	2.1300e-003	0.0668	3.8600e-003	0.0707	0.0183	3.6900e-003	0.0220	0.0000	212.5757	212.5757	0.0106	0.0330	222.6690

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3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7223	303.7223	0.0718	0.0000	305.5179
Total	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7223	303.7223	0.0718	0.0000	305.5179

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0431	1.6809	0.5831	7.6600e-003	0.2531	0.0100	0.2632	0.0731	9.5900e-003	0.0827	0.0000	751.5764	751.5764	0.0237	0.1089	784.6168
Worker	0.6078	0.4024	5.0930	0.0160	1.9182	0.0100	1.9283	0.5097	9.2300e-003	0.5190	0.0000	1,468.1951	1,468.1951	0.0410	0.0396	1,481.0116
Total	0.6508	2.0833	5.6761	0.0237	2.1714	0.0201	2.1914	0.5828	0.0188	0.6016	0.0000	2,219.7715	2,219.7715	0.0647	0.1485	2,265.6285

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3.5 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0699	1.4295	2.3415	3.5300e-003		0.0111	0.0111		0.0111	0.0111	0.0000	303.7220	303.7220	0.0718	0.0000	305.5175
Total	0.0699	1.4295	2.3415	3.5300e-003		0.0111	0.0111		0.0111	0.0111	0.0000	303.7220	303.7220	0.0718	0.0000	305.5175

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0431	1.6809	0.5831	7.6600e-003	0.2531	0.0100	0.2632	0.0731	9.5900e-003	0.0827	0.0000	751.5764	751.5764	0.0237	0.1089	784.6168
Worker	0.6078	0.4024	5.0930	0.0160	1.9182	0.0100	1.9283	0.5097	9.2300e-003	0.5190	0.0000	1,468.1951	1,468.1951	0.0410	0.0396	1,481.0116
Total	0.6508	2.0833	5.6761	0.0237	2.1714	0.0201	2.1914	0.5828	0.0188	0.6016	0.0000	2,219.7715	2,219.7715	0.0647	0.1485	2,265.6285

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3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1491	1.3592	1.7532	2.9400e-003		0.0575	0.0575		0.0541	0.0541	0.0000	252.7922	252.7922	0.0594	0.0000	254.2778
Total	0.1491	1.3592	1.7532	2.9400e-003		0.0575	0.0575		0.0541	0.0541	0.0000	252.7922	252.7922	0.0594	0.0000	254.2778

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0347	1.3848	0.4771	6.2500e-003	0.2106	8.3100e-003	0.2190	0.0608	7.9500e-003	0.0688	0.0000	613.4370	613.4370	0.0202	0.0888	640.4120
Worker	0.4765	0.3030	3.9716	0.0129	1.5961	7.9700e-003	1.6041	0.4241	7.3400e-003	0.4315	0.0000	1,180.0754	1,180.0754	0.0312	0.0309	1,190.0615
Total	0.5112	1.6878	4.4488	0.0191	1.8067	0.0163	1.8230	0.4850	0.0153	0.5002	0.0000	1,793.5124	1,793.5124	0.0513	0.1197	1,830.4736

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3.5 Building Construction - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0582	1.1894	1.9482	2.9400e-003		9.2200e-003	9.2200e-003		9.2200e-003	9.2200e-003	0.0000	252.7919	252.7919	0.0594	0.0000	254.2775
Total	0.0582	1.1894	1.9482	2.9400e-003		9.2200e-003	9.2200e-003		9.2200e-003	9.2200e-003	0.0000	252.7919	252.7919	0.0594	0.0000	254.2775

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0347	1.3848	0.4771	6.2500e-003	0.2106	8.3100e-003	0.2190	0.0608	7.9500e-003	0.0688	0.0000	613.4370	613.4370	0.0202	0.0888	640.4120
Worker	0.4765	0.3030	3.9716	0.0129	1.5961	7.9700e-003	1.6041	0.4241	7.3400e-003	0.4315	0.0000	1,180.0754	1,180.0754	0.0312	0.0309	1,190.0615
Total	0.5112	1.6878	4.4488	0.0191	1.8067	0.0163	1.8230	0.4850	0.0153	0.5002	0.0000	1,793.5124	1,793.5124	0.0513	0.1197	1,830.4736

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3.6 Paving - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.1500e-003	0.0858	0.1458	2.3000e-004		4.1900e-003	4.1900e-003		3.8500e-003	3.8500e-003	0.0000	20.0193	20.0193	6.4700e-003	0.0000	20.1811
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	9.1500e-003	0.0858	0.1458	2.3000e-004		4.1900e-003	4.1900e-003		3.8500e-003	3.8500e-003	0.0000	20.0193	20.0193	6.4700e-003	0.0000	20.1811

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-004	2.3000e-004	2.9900e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.8894	0.8894	2.0000e-005	2.0000e-005	0.8969
Total	3.6000e-004	2.3000e-004	2.9900e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.8894	0.8894	2.0000e-005	2.0000e-005	0.8969

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3.6 Paving - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.3400e-003	0.1004	0.1730	2.3000e-004		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	20.0192	20.0192	6.4700e-003	0.0000	20.1811
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.3400e-003	0.1004	0.1730	2.3000e-004		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	20.0192	20.0192	6.4700e-003	0.0000	20.1811

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-004	2.3000e-004	2.9900e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.8894	0.8894	2.0000e-005	2.0000e-005	0.8969
Total	3.6000e-004	2.3000e-004	2.9900e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.8894	0.8894	2.0000e-005	2.0000e-005	0.8969

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3.7 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.7779					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0113	0.0756	0.1194	2.0000e-004		3.4000e-003	3.4000e-003		3.4000e-003	3.4000e-003	0.0000	16.8515	16.8515	9.2000e-004	0.0000	16.8745
Total	2.7891	0.0756	0.1194	2.0000e-004		3.4000e-003	3.4000e-003		3.4000e-003	3.4000e-003	0.0000	16.8515	16.8515	9.2000e-004	0.0000	16.8745

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0577	0.0367	0.4807	1.5600e-003	0.1932	9.6000e-004	0.1942	0.0513	8.9000e-004	0.0522	0.0000	142.8300	142.8300	3.7700e-003	3.7400e-003	144.0386
Total	0.0577	0.0367	0.4807	1.5600e-003	0.1932	9.6000e-004	0.1942	0.0513	8.9000e-004	0.0522	0.0000	142.8300	142.8300	3.7700e-003	3.7400e-003	144.0386

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3.7 Architectural Coating - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.7779					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6000e-003	0.0700	0.1209	2.0000e-004		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	16.8515	16.8515	9.2000e-004	0.0000	16.8744
Total	2.7815	0.0700	0.1209	2.0000e-004		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	16.8515	16.8515	9.2000e-004	0.0000	16.8744

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0577	0.0367	0.4807	1.5600e-003	0.1932	9.6000e-004	0.1942	0.0513	8.9000e-004	0.0522	0.0000	142.8300	142.8300	3.7700e-003	3.7400e-003	144.0386
Total	0.0577	0.0367	0.4807	1.5600e-003	0.1932	9.6000e-004	0.1942	0.0513	8.9000e-004	0.0522	0.0000	142.8300	142.8300	3.7700e-003	3.7400e-003	144.0386

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4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr										MT/yr						
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	0.00	0.00	0.00		
General Light Industry	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4

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Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
High Turnover (Sit Down	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.565387	0.062253	0.175474	0.116234	0.023574	0.006359	0.009156	0.006316	0.000699	0.000586	0.028465	0.000937	0.004559
General Light Industry	0.565387	0.062253	0.175474	0.116234	0.023574	0.006359	0.009156	0.006316	0.000699	0.000586	0.028465	0.000937	0.004559
General Office Building	0.565387	0.062253	0.175474	0.116234	0.023574	0.006359	0.009156	0.006316	0.000699	0.000586	0.028465	0.000937	0.004559
High Turnover (Sit Down Restaurant)	0.565387	0.062253	0.175474	0.116234	0.023574	0.006359	0.009156	0.006316	0.000699	0.000586	0.028465	0.000937	0.004559

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	0	0.0000	0.0000	0.0000	0.0000
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
General Office Building	0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	0	0.0000	0.0000	0.0000	0.0000
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
General Office Building	0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5469	0.2098	18.2130	9.6000e-004		0.1011	0.1011		0.1011	0.1011	0.0000	29.7793	29.7793	0.0285	0.0000	30.4924
Unmitigated	0.5469	0.2098	18.2130	9.6000e-004		0.1011	0.1011		0.1011	0.1011	0.0000	29.7793	29.7793	0.0285	0.0000	30.4924

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.5469	0.2098	18.2130	9.6000e-004		0.1011	0.1011		0.1011	0.1011	0.0000	29.7793	29.7793	0.0285	0.0000	30.4924
Total	0.5469	0.2098	18.2130	9.6000e-004		0.1011	0.1011		0.1011	0.1011	0.0000	29.7793	29.7793	0.0285	0.0000	30.4924

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6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.5469	0.2098	18.2130	9.6000e-004		0.1011	0.1011		0.1011	0.1011	0.0000	29.7793	29.7793	0.0285	0.0000	30.4924
Total	0.5469	0.2098	18.2130	9.6000e-004		0.1011	0.1011		0.1011	0.1011	0.0000	29.7793	29.7793	0.0285	0.0000	30.4924

7.0 Water Detail

7.1 Mitigation Measures Water

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	0 / 0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

UCSD RWNLLN Construction - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	0 / 0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

UCSD RWNLLN Construction - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	0	0.0000	0.0000	0.0000	0.0000
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
General Office Building	0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

UCSD RWNLLN Construction - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	0	0.0000	0.0000	0.0000	0.0000
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
General Office Building	0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	------------	-------------	-------------	-----------

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

UCSD RWNLLN Construction - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Equipment Type	Number
----------------	--------

11.0 Vegetation

Appendix B

HRA Output

The following section contains content that was obtained from a third party and may not achieve the same level of Americans with Disabilities Act (ADA) and Section 508 accessibility as other parts of this document.

**UC San Diego Ridge Walk North Living & Learning Neighborhood Project
Generator DPM Emissions**

Generator Model	Quantity	Hours/Year	Rating (ekW)	Engine bHP @ 100% Load	PM EF ¹ (g/hr)	DPM/Hour (lb)	DPM/Year (lb)
Caterpillar C18 PKAM	3	30	500	744	4.3	0.0284	0.8534

Notes:

1. Emissions factor from Caterpillar Data for C18 Generator sets, Standby Power, 625 kW, 500 ekW, USEPA Tier 4 Final Offroad Emissions.

UC San Diego Long Range Development Plan

Future Generator in the RWLLN Area

Generator Model	Quantity	Hours/Year	Engine bHP	Engine bkW	PM EF ¹ (g/bkW)	DPM/Hour (lb)	DPM/Year (lb)
F_GEN59-95	1	26	850	633.8	0.03	0.0419	1.0890

**On-Campus Residential (Sudent) Cancer Risk
Highest 20 Modeled Receptors**

*HARP - HRACalc v22118 1/16/2023 3:25:41 PM - Cancer Risk

REC	GRP	NETID	X	Y	RISK_SUM	SCENARIO
1870	ALL		477625	3638360	8.71E-09	4YrCancerRMP_Inh
1869	ALL		477615	3638360	8.65E-09	4YrCancerRMP_Inh
1871	ALL		477635	3638360	8.41E-09	4YrCancerRMP_Inh
1868	ALL		477605	3638360	8.33E-09	4YrCancerRMP_Inh
1819	ALL		477625	3638350	8.30E-09	4YrCancerRMP_Inh
1920	ALL		477615	3638370	8.24E-09	4YrCancerRMP_Inh
1820	ALL		477635	3638350	8.20E-09	4YrCancerRMP_Inh
1921	ALL		477625	3638370	8.19E-09	4YrCancerRMP_Inh
1818	ALL		477615	3638350	8.13E-09	4YrCancerRMP_Inh
1919	ALL		477605	3638370	8.06E-09	4YrCancerRMP_Inh
1922	ALL		477635	3638370	7.75E-09	4YrCancerRMP_Inh
1867	ALL		477595	3638360	7.72E-09	4YrCancerRMP_Inh
1817	ALL		477605	3638350	7.71E-09	4YrCancerRMP_Inh
1872	ALL		477645	3638360	7.68E-09	4YrCancerRMP_Inh
1821	ALL		477645	3638350	7.64E-09	4YrCancerRMP_Inh
1918	ALL		477595	3638370	7.60E-09	4YrCancerRMP_Inh
1769	ALL		477635	3638340	7.26E-09	4YrCancerRMP_Inh
1768	ALL		477625	3638340	7.16E-09	4YrCancerRMP_Inh
1971	ALL		477615	3638380	7.15E-09	4YrCancerRMP_Inh
1970	ALL		477605	3638380	7.05E-09	4YrCancerRMP_Inh

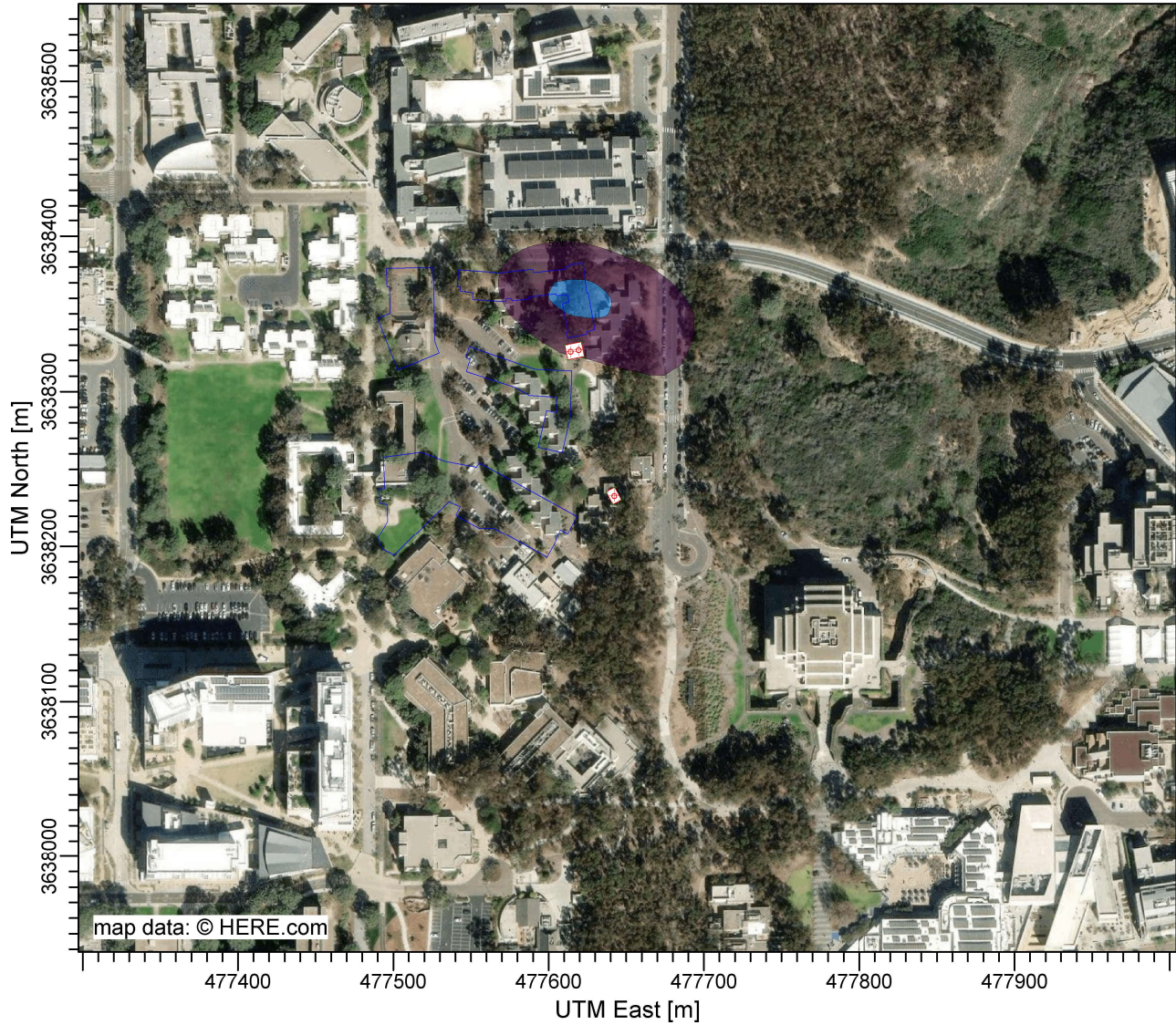
**On-Campus Residential (Sudent) Non-Cancer Chronic Effects
Highest 20 Modeled Receptors**

*HARP - HRACalc v22118 1/16/2023 3:26:43 PM - Chronic Risk

REC	GRP	NETID	X	Y	MAXHI	SCENARIO
1870	ALL		477625	3638360	1.11E-04	NonCancerChronicDerived_Inh
1869	ALL		477615	3638360	1.10E-04	NonCancerChronicDerived_Inh
1871	ALL		477635	3638360	1.07E-04	NonCancerChronicDerived_Inh
1868	ALL		477605	3638360	1.06E-04	NonCancerChronicDerived_Inh
1819	ALL		477625	3638350	1.06E-04	NonCancerChronicDerived_Inh
1920	ALL		477615	3638370	1.05E-04	NonCancerChronicDerived_Inh
1820	ALL		477635	3638350	1.04E-04	NonCancerChronicDerived_Inh
1921	ALL		477625	3638370	1.04E-04	NonCancerChronicDerived_Inh
1818	ALL		477615	3638350	1.03E-04	NonCancerChronicDerived_Inh
1919	ALL		477605	3638370	1.02E-04	NonCancerChronicDerived_Inh
1922	ALL		477635	3638370	9.86E-05	NonCancerChronicDerived_Inh
1867	ALL		477595	3638360	9.82E-05	NonCancerChronicDerived_Inh
1817	ALL		477605	3638350	9.80E-05	NonCancerChronicDerived_Inh
1872	ALL		477645	3638360	9.76E-05	NonCancerChronicDerived_Inh
1821	ALL		477645	3638350	9.71E-05	NonCancerChronicDerived_Inh
1918	ALL		477595	3638370	9.66E-05	NonCancerChronicDerived_Inh
1769	ALL		477635	3638340	9.23E-05	NonCancerChronicDerived_Inh
1768	ALL		477625	3638340	9.10E-05	NonCancerChronicDerived_Inh
1971	ALL		477615	3638380	9.09E-05	NonCancerChronicDerived_Inh
1970	ALL		477605	3638380	8.97E-05	NonCancerChronicDerived_Inh

PROJECT TITLE:

RWN LLN On-Campus Resident Cancer Risk



PLOT FILE OF PERIOD VALUES FOR SOURCE GROUP: ALL



5.0E-03

8.0E-03

COMMENTS:

Risk in chances per million

SOURCES:

3

COMPANY NAME:

HELIX Environmental Planning

RECEPTORS:

2609

OUTPUT TYPE:

SCALE:

1:4,443



MAX:

DATE:

1/17/2023

PROJECT NO.:

**On-Campus Worker Cancer Risk
Highest 20 Modeled Receptors**

*HARP - HRACalc v22118 1/16/2023 3:29:02 PM - Cancer Risk

REC	GRP	NETID	X	Y	RISK_SUM	SCENARIO
1870	ALL		477625	3638360	1.46E-07	25YrCancerRMP_Inh
1869	ALL		477615	3638360	1.45E-07	25YrCancerRMP_Inh
1871	ALL		477635	3638360	1.41E-07	25YrCancerRMP_Inh
1868	ALL		477605	3638360	1.39E-07	25YrCancerRMP_Inh
1819	ALL		477625	3638350	1.39E-07	25YrCancerRMP_Inh
1920	ALL		477615	3638370	1.38E-07	25YrCancerRMP_Inh
1820	ALL		477635	3638350	1.37E-07	25YrCancerRMP_Inh
1921	ALL		477625	3638370	1.37E-07	25YrCancerRMP_Inh
1818	ALL		477615	3638350	1.36E-07	25YrCancerRMP_Inh
1919	ALL		477605	3638370	1.35E-07	25YrCancerRMP_Inh
1922	ALL		477635	3638370	1.30E-07	25YrCancerRMP_Inh
1867	ALL		477595	3638360	1.29E-07	25YrCancerRMP_Inh
1817	ALL		477605	3638350	1.29E-07	25YrCancerRMP_Inh
1872	ALL		477645	3638360	1.29E-07	25YrCancerRMP_Inh
1821	ALL		477645	3638350	1.28E-07	25YrCancerRMP_Inh
1918	ALL		477595	3638370	1.27E-07	25YrCancerRMP_Inh
1769	ALL		477635	3638340	1.21E-07	25YrCancerRMP_Inh
1768	ALL		477625	3638340	1.20E-07	25YrCancerRMP_Inh
1971	ALL		477615	3638380	1.20E-07	25YrCancerRMP_Inh
1970	ALL		477605	3638380	1.18E-07	25YrCancerRMP_Inh

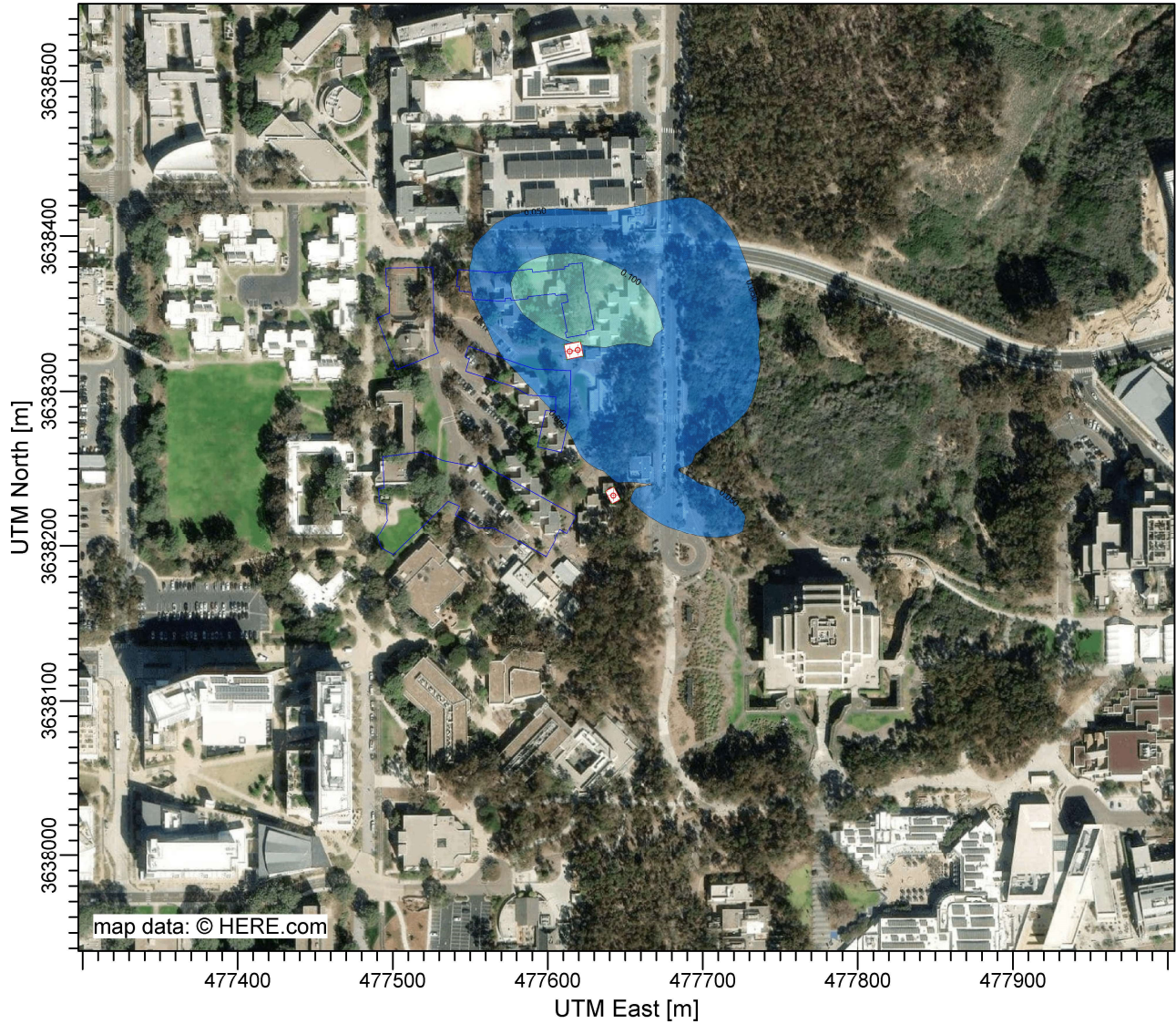
**On-Campus Worker Non-Cancer Chronic Effects
Highest 20 Modeled Receptors**

*HARP - HRACalc v22118 1/16/2023 3:30:19 PM - Chronic Risk

REC	GRP	NETID	X	Y	MAXHI	SCENARIO
1870	ALL		477625	3638360	1.11E-04	NonCancerChronicDerived_Inh
1869	ALL		477615	3638360	1.10E-04	NonCancerChronicDerived_Inh
1871	ALL		477635	3638360	1.07E-04	NonCancerChronicDerived_Inh
1868	ALL		477605	3638360	1.06E-04	NonCancerChronicDerived_Inh
1819	ALL		477625	3638350	1.06E-04	NonCancerChronicDerived_Inh
1920	ALL		477615	3638370	1.05E-04	NonCancerChronicDerived_Inh
1820	ALL		477635	3638350	1.04E-04	NonCancerChronicDerived_Inh
1921	ALL		477625	3638370	1.04E-04	NonCancerChronicDerived_Inh
1818	ALL		477615	3638350	1.03E-04	NonCancerChronicDerived_Inh
1919	ALL		477605	3638370	1.02E-04	NonCancerChronicDerived_Inh
1922	ALL		477635	3638370	9.86E-05	NonCancerChronicDerived_Inh
1867	ALL		477595	3638360	9.82E-05	NonCancerChronicDerived_Inh
1817	ALL		477605	3638350	9.80E-05	NonCancerChronicDerived_Inh
1872	ALL		477645	3638360	9.76E-05	NonCancerChronicDerived_Inh
1821	ALL		477645	3638350	9.71E-05	NonCancerChronicDerived_Inh
1918	ALL		477595	3638370	9.66E-05	NonCancerChronicDerived_Inh
1769	ALL		477635	3638340	9.23E-05	NonCancerChronicDerived_Inh
1768	ALL		477625	3638340	9.10E-05	NonCancerChronicDerived_Inh
1971	ALL		477615	3638380	9.09E-05	NonCancerChronicDerived_Inh
1970	ALL		477605	3638380	8.97E-05	NonCancerChronicDerived_Inh

PROJECT TITLE:

RWN LLN On-Campus Worker Cancer Risk



PLOT FILE OF PERIOD VALUES FOR SOURCE GROUP: ALL



0.050

0.100

COMMENTS:

Risk in chances per million

SOURCES:

3

COMPANY NAME:

HELIX Environmental Planning

RECEPTORS:

2609

OUTPUT TYPE:

SCALE:

1:4,444

0 0.1 km

MAX:

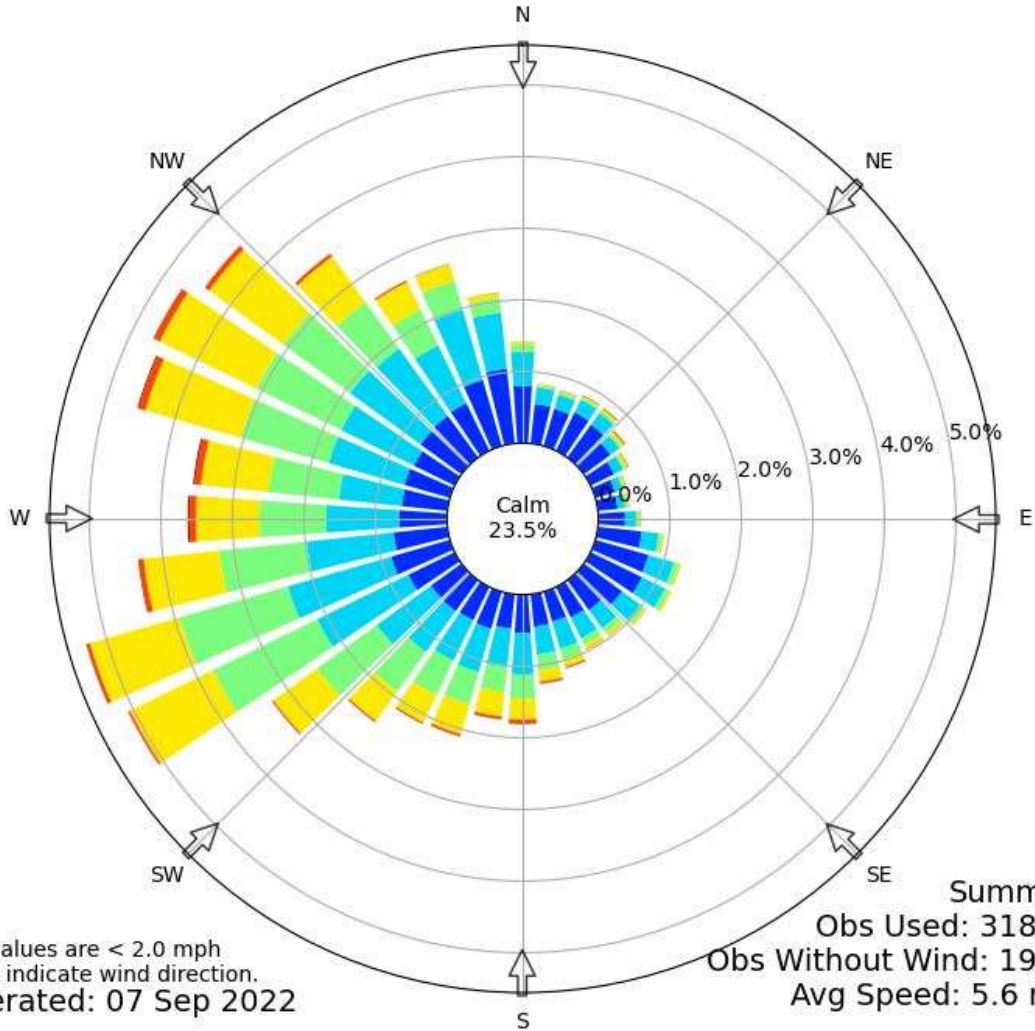
DATE:

1/17/2023

PROJECT NO.:

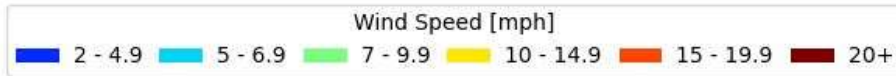


Windrose Plot for [MYF] SAN DIEGO/MONTG
Obs Between: 01 Jan 1973 04:00 AM - 07 Sep 2022 12:53 AM America/Los_Angeles



Calm values are < 2.0 mph
Arrows indicate wind direction.
Generated: 07 Sep 2022

Summary
Obs Used: 318098
Obs Without Wind: 19699
Avg Speed: 5.6 mph



Control Pathway

AERMOD

Dispersion Options

Titles C:\Users\martinr\Desktop\RWNLLN HRA\RWNLLN Dispersion\RWNLLN Dispers	
Dispersion Options <input checked="" type="checkbox"/> Regulatory Default <input type="checkbox"/> Non-Default Options	Dispersion Coefficient Rural
	Output Type <input checked="" type="checkbox"/> Concentration <input type="checkbox"/> Total Deposition (Dry & Wet) <input type="checkbox"/> Dry Deposition <input type="checkbox"/> Wet Deposition
	Plume Depletion <input type="checkbox"/> Dry Removal <input type="checkbox"/> Wet Removal
	Output Warnings <input type="checkbox"/> No Output Warnings <input type="checkbox"/> Non-fatal Warnings for Non-sequential Met Data

Pollutant / Averaging Time / Terrain Options

Pollutant Type PM10	Exponential Decay Option not available
Averaging Time Options Hours <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 6 <input type="checkbox"/> 8 <input type="checkbox"/> 12 <input type="checkbox"/> 24 <input type="checkbox"/> Month <input checked="" type="checkbox"/> Period <input type="checkbox"/> Annual	Terrain Height Options <input type="checkbox"/> Flat <input checked="" type="checkbox"/> Elevated SO: Meters RE: Meters TG: Meters
Flagpole Receptors <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Default Height = 1.20 m	

Optional Files



Re-Start File



Init File



Multi-Year Analyses



Event Input File



Error Listing File

Detailed Error Listing File

Filename: RWNLLN Dispersion.err

Source Pathway - Source Inputs

AERMOD

Point Sources

Source Type	Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation (Optional)	Release Height [m]	Emission Rate [g/s]	Gas Exit Temp. [K]	Gas Exit Velocity [m/s]	Stack Inside Diameter [m]
POINT	GEN1	477614.15	3638325.68	123.26	2.50	1.00000	720.00	45.59	0.18
POINT	GEN2	477619.36	3638326.67	122.84	2.50	1.00000	720.00	45.59	0.18
POINT	GEN3	477642.25	3638233.00	121.20	2.50	1.00000	720.00	45.59	0.18

Source Pathway

AERMOD

Building Downwash Information

Source ID: <u>GEN1</u>						
Heights [m] (10 to 360 deg)						
10-60 deg	59.13	59.13	59.13	59.13	59.13	59.13
70-120 deg	59.13	59.13	59.13	59.13	59.13	59.13
130-180 deg	59.13	59.13	59.13	59.13	59.13	59.13
190-240 deg	59.13	59.13	59.13	59.13	59.13	59.13
250-300 deg	59.13	59.13	59.13	59.13	59.13	59.13
310-360 deg	59.13	59.13	59.13	59.13	59.13	59.13
Widths [m] (10 to 360 deg)						
10-60 deg	93.00	95.51	95.13	91.85	85.78	77.26
70-120 deg	67.26	55.21	48.00	49.03	48.56	55.85
130-180 deg	64.84	72.40	77.76	81.26	82.37	88.45
190-240 deg	93.00	95.51	95.13	91.85	85.78	77.26
250-300 deg	67.26	55.21	48.00	49.03	48.56	55.85
310-360 deg	64.84	72.40	77.76	81.26	82.37	88.45
Lengths [m] (10 to 360 deg)						
10-60 deg	49.03	48.56	55.85	64.84	72.40	77.76
70-120 deg	81.26	82.37	88.45	93.00	95.51	95.13
130-180 deg	91.85	85.78	77.26	67.26	55.21	48.00
190-240 deg	49.03	48.56	55.85	64.84	72.40	77.76
250-300 deg	81.26	82.37	88.45	93.00	95.51	95.13
310-360 deg	91.85	85.78	77.26	67.26	55.21	48.00
Along Flow [m] (10 to 360 deg)						
10-60 deg	8.45	7.71	-2.49	-16.01	-29.59	-42.28
70-120 deg	-54.17	-64.49	-72.86	-80.11	-85.72	-88.72
130-180 deg	-89.03	-86.63	-81.61	-74.10	-64.34	-56.93
190-240 deg	-57.47	-56.27	-53.36	-48.82	-42.81	-35.49
250-300 deg	-27.09	-17.87	-15.59	-12.89	-9.79	-6.40
310-360 deg	-2.82	0.86	4.35	6.84	9.12	8.93
Across Flow [m] (10 to 360 deg)						
10-60 deg	33.61	37.96	41.16	43.11	43.75	42.98
70-120 deg	40.47	36.73	32.93	32.96	31.99	25.43
130-180 deg	16.41	6.61	-3.39	-13.54	-23.31	-28.64
190-240 deg	-33.61	-37.96	-41.16	-43.11	-43.75	-42.98
250-300 deg	-40.47	-36.73	-32.93	-32.96	-31.99	-25.43
310-360 deg	-16.41	-6.61	3.39	13.54	23.31	28.64

Source ID: <u>GEN2</u>						
Heights [m] (10 to 360 deg)						
10-60 deg	59.13	59.13	59.13	59.13	59.13	59.13

Source Pathway

AERMOD

70-120 deg	59.13	59.13	59.13	59.13	59.13	59.13
130-180 deg	59.13	59.13	59.13	59.13	59.13	59.13
190-240 deg	59.13	59.13	59.13	59.13	59.13	59.13
250-300 deg	59.13	59.13	59.13	59.13	59.13	59.13
310-360 deg	59.13	59.13	59.13	59.13	59.13	59.13
Widths [m] (10 to 360 deg)						
10-60 deg	93.00	95.51	95.13	91.85	85.78	77.26
70-120 deg	67.26	55.21	48.00	49.03	48.56	55.85
130-180 deg	64.84	72.40	77.76	81.26	82.37	88.45
190-240 deg	93.00	95.51	95.13	91.85	85.78	77.26
250-300 deg	67.26	55.21	48.00	49.03	48.56	55.85
310-360 deg	64.84	72.40	77.76	81.26	82.37	88.45
Lengths [m] (10 to 360 deg)						
10-60 deg	49.03	48.56	55.85	64.84	72.40	77.76
70-120 deg	81.26	82.37	88.45	93.00	95.51	95.13
130-180 deg	91.85	85.78	77.26	67.26	55.21	48.00
190-240 deg	49.03	48.56	55.85	64.84	72.40	77.76
250-300 deg	81.26	82.37	88.45	93.00	95.51	95.13
310-360 deg	91.85	85.78	77.26	67.26	55.21	48.00
Along Flow [m] (10 to 360 deg)						
10-60 deg	6.57	5.00	-5.96	-20.12	-34.22	-47.28
70-120 deg	-59.40	-69.80	-78.07	-85.07	-90.28	-92.74
130-180 deg	-92.39	-89.23	-83.35	-74.95	-64.27	-55.94
190-240 deg	-55.59	-53.56	-49.90	-44.72	-38.18	-30.48
250-300 deg	-21.86	-12.57	-10.38	-7.93	-5.24	-2.38
310-360 deg	0.54	3.45	6.10	7.69	9.05	7.94
Across Flow [m] (10 to 360 deg)						
10-60 deg	38.57	42.52	45.18	46.46	46.34	44.72
70-120 deg	41.32	36.66	31.94	31.08	29.28	21.97
130-180 deg	12.30	1.98	-8.40	-18.77	-28.61	-33.85
190-240 deg	-38.57	-42.52	-45.18	-46.46	-46.34	-44.72
250-300 deg	-41.32	-36.66	-31.94	-31.08	-29.28	-21.97
310-360 deg	-12.30	-1.98	8.40	18.77	28.61	33.85

Source ID: GEN3

Heights [m] (10 to 360 deg)

10-60 deg	0.00	35.97	35.97	35.97	35.97	35.97
70-120 deg	35.97	35.97	35.97	51.82	51.82	51.82
130-180 deg	51.82	59.13	59.13	59.13	59.13	59.13
190-240 deg	0.00	35.97	35.97	35.97	35.97	35.97
250-300 deg	35.97	35.97	35.97	51.82	51.82	51.82
310-360 deg	51.82	59.13	59.13	59.13	59.13	59.13

Source Pathway

AERMOD

Widths [m] (10 to 360 deg)						
10-60 deg	0.00	130.24	127.37	122.53	117.34	108.74
70-120 deg	96.83	81.99	67.96	56.69	53.48	53.29
130-180 deg	109.25	72.40	77.76	81.26	82.37	88.45
190-240 deg	0.00	130.24	127.37	122.53	117.34	108.74
250-300 deg	96.83	81.99	67.96	56.69	53.48	53.29
310-360 deg	109.25	72.40	77.76	81.26	82.37	88.45
Lengths [m] (10 to 360 deg)						
10-60 deg	0.00	74.97	81.14	96.95	109.82	119.35
70-120 deg	125.30	128.74	128.26	73.04	79.62	85.97
130-180 deg	126.59	85.78	77.26	67.26	55.21	48.00
190-240 deg	0.00	74.97	81.14	96.96	109.82	119.35
250-300 deg	125.30	128.74	128.26	73.04	79.62	85.97
310-360 deg	126.59	85.78	77.26	67.26	55.21	48.00
Along Flow [m] (10 to 360 deg)						
10-60 deg	0.00	-84.78	-104.59	-122.48	-136.66	-146.68
70-120 deg	-152.30	-154.58	-152.16	-109.70	-120.59	-128.88
130-180 deg	-170.13	-175.69	-175.92	-170.80	-160.49	-149.61
190-240 deg	0.00	9.82	23.44	25.53	26.84	27.33
250-300 deg	27.00	25.84	23.90	36.66	40.98	42.91
310-360 deg	43.54	89.92	98.66	103.54	105.28	101.61
Across Flow [m] (10 to 360 deg)						
10-60 deg	0.00	83.04	77.44	68.54	55.87	41.43
70-120 deg	25.73	9.24	-5.87	49.96	39.40	29.27
130-180 deg	47.14	44.65	18.61	-8.24	-34.89	-56.74
190-240 deg	0.00	-83.04	-77.44	-68.54	-55.87	-41.43
250-300 deg	-25.73	-9.24	5.87	-49.96	-39.40	-29.27
310-360 deg	-47.14	-44.65	-18.61	8.24	34.89	56.74

Emission Rate Units for Output

For Concentration	
Unit Factor:	1E6
Emission Unit Label:	GRAMS/SEC
Concentration Unit Label:	MICROGRAMS/M**3

Receptor Pathway

AERMOD

Receptor Networks

Note: Terrain Elevations and Flagpole Heights for Network Grids are in Page RE2 - 1 (If applicable)
Generated Discrete Receptors for Multi-Tier (Risk) Grid and Receptor Locations for Fenceline Grid are in Page RE3 - 1 (If applicable)

Uniform Cartesian Grid

Receptor Network ID	Grid Origin X Coordinate [m]	Grid Origin Y Coordinate [m]	No. of X-Axis Receptors	No. of Y-Axis Receptors	Spacing for X-Axis [m]	Spacing for Y-Axis [m]
UCART1	477275.00	3638000.00	51	51	10.00	10.00

Discrete Receptors

Plant Boundary Receptors

Cartesian Plant Boundary

Primary

Record Number	X-Coordinate [m]	Y-Coordinate [m]	Group Name (Optional)	Terrain Elevations	Flagpole Heights [m] (Optional)
1	477641.35	3638227.57	FENCEPRI	121.34	
2	477646.84	3638230.42	FENCEPRI	120.77	
3	477642.53	3638238.63	FENCEPRI	121.13	
4	477637.06	3638235.78	FENCEPRI	121.61	
5	477622.89	3638322.72	FENCEPRI	122.55	
6	477621.06	3638332.03	FENCEPRI	122.82	
7	477610.45	3638329.93	FENCEPRI	123.77	
8	477612.29	3638320.54	FENCEPRI	123.46	

Receptor Groups

Record Number	Group ID	Group Description
1	FENCEPRI	Cartesian plant boundary Primary Receptors
2	UCART1	Receptors generated from Uniform Cartesian Grid

Meteorology Pathway

AERMOD

Met Input Data

Surface Met Data

Filename: 722903.SFC
Format Type: Default AERMET format

Profile Met Data

Filename: 722903.PFL
Format Type: Default AERMET format

Wind Speed



Wind Speeds are Vector Mean (Not Scalar Means)

Wind Direction

Rotation Adjustment [deg]:

Potential Temperature Profile

Base Elevation above MSL (for Primary Met Tower): 130.00 [m]

Meteorological Station Data

Stations	Station No.	Year	X Coordinate [m]	Y Coordinate [m]	Station Name
Surface		2009			
Upper Air		2009			

Data Period

Data Period to Process

Start Date: 1/1/2009 Start Hour: 1 End Date: 1/2/2014 End Hour: 24











Wind Speed Categories

Stability Category	Wind Speed [m/s]	Stability Category	Wind Speed [m/s]
A	1.54	D	8.23
B	3.09	E	10.8
C	5.14	F	No Upper Bound

Output Pathway

AERMOD

Tabular Printed Outputs

Short Term Averaging Period	RECTABLE Highest Values Table										MAXTABLE Maximum Values Table	DAYTABLE Daily Values Table
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th		
1												No

Contour Plot Files (PLOTFILE)

Path for PLOTFILES: RWNLLN Dispersion.AD

Averaging Period	Source Group ID	High Value	File Name
1	ALL	1st	01H1GALL.PLT
Period	ALL	N/A	PE00GALL.PLT

HARP Proje AM

PROJECT INFORMATION

HARP Version: 22118
Project Name: RWLLN RISK
Project Out sktop\RWN HRA\RWLLN RISK
HARP Database: NA

EMISSION INVENTORY

No. of Pollutants:3
No. of Background Pollutants:0

Emissions

ScrID	PolID	PolAbbrev	Multi	Annual Em: (lbs/yr)	MaxHr Em: (lbs/hr)	MWAF
GEN1	9901	DieselExhP	1	0.284459	0.009482	1
GEN2	9901	DieselExhP	1	0.284459	0.009482	1
GEN3	9901	DieselExhP	1	0.284459	0.009482	1

Background

PolID	MWAF

Ground level concentration files (\glc\)

9901MAXHR.txt
9901PER.txt

POLLUTANT HEALTH INFORMATION

Health Dat: mdb
Health Table Version: HEALTH22243
Official: True

PolID	OralCance r	AcuteR	InhChronic REL	OralC EL	InhChrc RREL
9901	DieselExhPM	1.1	5		

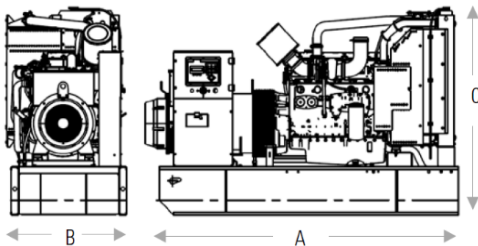
Appendix C

Generator Data Sheets

The following section contains content that was obtained from a third party and may not achieve the same level of Americans with Disabilities Act (ADA) and Section 508 accessibility as other parts of this document.

Emissions (Nominal) ²		
NOx	100.5 mg/Nm ³ , 0.2 g/hp-hr	122.8 mg/Nm ³ , 0.26 g/hp-hr
CO	NA	NA
HC	4.9 mg/Nm ³ , 0.01 g/hp-hr	3.9 mg/Nm ³ , 0.01 g/hp-hr
PM	2.2 mg/Nm ³ , 0.01 g/hp-hr	1.6 mg/Nm ³ , 0.00 g/hp-hr
Alternator ³		
Voltages	480V	480V
Motor starting capability @30% Voltage Dip	1729 skVA	1729 skVA
Current	752 amps	684 amps
Frame Size	LC6124G	LC6124G
Excitation	AR	AR
Temperature Rise	105 °C, 221 °F	105 °C, 221 °F

WEIGHTS & DIMENSIONS – OPEN



Standby Rating	Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Generator Set Weight kg (lb)
500 kW	5310	2286	2179	5160

Note: Weights & Dimensions are for open set on skid base

DEFINITIONS AND CONDITIONS:

¹ For ambient and altitude capabilities consult your Cat dealer. Air flow restriction (system) is added to existing restriction from factory.

² Emissions data measurement procedures are consistent with those described in EPA CFR 40 Part 89, Subpart D & E and ISO8178-1 for measuring HC, CO, PM, NOx. Data shown is based on steady state operating conditions of 77° F, 28.42 in HG and number 2 diesel fuel with 35° API and LHV of 18,390 BTU/lb. The nominal emissions data shown is subject to instrumentation, measurement, facility and engine to engine variations. Emissions data is based on 100% load and thus cannot be used to compare to EPA regulations which use values based on a weighted cycle.

³ UL 2200 Listed packages may have oversized generators with a different temperature rise and motor starting characteristics. Generator temperature rise is based on a 40° C ambient per NEMA MG1-32.

APPLICABLE CODES AND STANDARDS:

AS1359, CSA C22.2 No100-04, UL142, UL489, UL869, UL2200, NFPA37, NFPA70, NFPA99, NFPA110, IBC, IEC60034-1, ISO3046, ISO8528, NEMA MG1-22, NEMA MG1-33, 2006/95/EC, 2006/42/EC, 2004/108/EC.

Note: Codes may not be available in all model configurations. Please consult your local Cat Dealer representative for availability.

STANDBY: Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

RATINGS: Ratings are based on SAE J1349 standard conditions. These ratings also apply at ISO3046 standard conditions.

Fuel Rates are based on fuel oil of 35° API [16° C (60° F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29° C (85° F) and weighing 838.9 g/litre (7.001 lbs/U.S. gal.). Additional ratings may be available for specific customer requirements, contact your Caterpillar representative for details. For information regarding Low Sulfur fuel and Biodiesel capability, please consult your Cat dealer.

LET'S DO THE WORK.™

LEHE1710-02 (08-19)

www.Cat.com/electricpower

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Caterpillar is leading the power generation marketplace with Power Solutions engineered to deliver unmatched flexibility, expandability, reliability, and cost-effectiveness.

Specifications

Generator Set Specifications	
Minimum Rating	455 ekW (569 kVA)
Maximum Rating	500 ekW (625 kVA)
Voltage	480 Volts
Frequency	60 Hz
Speed	1800 RPM

Generator Set Configurations	
Emissions/Fuel Strategy	U.S. EPA Tier 4 Final Nonroad Genset Emission Standards

Engine Specifications	
Engine Model	C18 ATAAC, I-6, 4-Stroke Water-Cooled Diesel
Bore	145 mm (5.71 in)
Displacement	18.13 L (1106.36 in3)
Stroke	183 mm (7.2 in)
Compression Ratio	14.5:1
Aspiration	Air to Air Aftercooled
Governor Type	Adem™ A4
Fuel System	Electronic unit injection

Benefits And Features

Cat® Generator Set Packages

Cat® generator set packages have been fully prototype tested, and certified torsional vibration analysis reports are available. The packages are designed to meet the NFPA 110 requirement for loading, and conform to the ISO 8528-5 steady state and transient response requirements.

Cat Diesel Engines

The four cycle Cat diesel engine combines consistent performance with excellent fuel economy and transient response that meets or exceeds ISO 8528-5. The engines have been designed and built for a wide range of applications and can be optimized for low fuel consumption or low emissions. The engines feature a reliable, rugged, and durable design that has been field proven in thousands of applications worldwide from emergency standby installations to continuously operating power plants.

Cooling System

The cooling system has been designed to operate in standard ambient temperatures up to 50°C (122°F) with an air flow restriction of 0.5 in water. The factory installed cooling system has been designed and tested to ensure proper generator set cooling, and includes the radiator, fan, belts, and all guarding installed as standard. Contact your Cat Dealer for specific ambient and altitude capabilities.

Generators

The generators used on Cat packages have been designed and tested to work with the Cat engine. The generators are built with robust Class H insulation and provide industry leading motor starting capability. They provide high efficiency in a majority of applications and optional coastal protection for the windings is available for harsh environments.

Cat EMCP Control Panel

The EMCP controller features the reliability and durability you have come to expect from your Cat equipment. EMCP 4 is a scalable control platform designed to ensure reliable generator set operation, providing extensive information about power output and engine operation. EMCP 4 systems can be further customized to meet your needs through programming and expansion modules.

Cat Integrated Voltage Regulation

The Cat IVR has three phase sensing with adjustable volts-per-hertz regulation. It Provides precise control, excellent block loading, and constant voltage in the normal operating range.

Cat Clean Emissions Module (CEM)

Aftertreatment module consists of Cat Regeneration System (CRS), Diesel Oxidation Catalyst (DOC), Diesel Particulate Filter (DPF), and Selective Catalytic Reduction (SCR).

Diesel Exhaust Fluid (DEF) System

The DEF system consists of a 25 gallon tank with an on-tank fill, integrated pump, a level sensor and heating elements. This incorporates electrically heated DEF lines from the DEF tank to the CEM. The system is equipped with low and critically low level alarms and a critically low shutdown

World Wide Product Support

Cat dealers provide extensive post-sale support including maintenance and repair agreements. Cat dealers have over 1,800 dealer branch stores operating in 200 countries. The Caterpillar S•O•SSM program cost effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-products

Optional Equipment

Engine Options

- Air Cleaner: Disposable air cleaner Single element air cleaner Heavy duty air cleaner
- Batteries: Standard
- Starting Motors: Standard
- Battery Charger: 10 Amp UL Listed
- Starting Aids: Jacket Water Heater UL Listed

Control System

- Controller: EMCP 4.2 EMCP 4.4
- Local annunciator module: NFPA 110
- Remote annunciator Module: NFPA 110
- Additional Options: Expansion I/O module Remote monitoring software

Generator

- Excitation: Internally Excited (IE)
- Anti-condensation heater
- Oversize and premium generators
- Coastal protection

Power Termination

- Circuit breakers, UL listed

General

- Certifications: UL 2200 package
- Skid Base: Wide
- Fuel Tanks: Dual wall sub-base 5 Gallon spill containment with pipe extending to within 6" from bottom
 5 Gallon spill containment with Overfill prevention valve
- Enclosures: Sound attenuated
- Automatic transfer switches (ATS)

Extended Service Contract (ESC)

- Extended Service Contract (ESC): 2 Year 3 Year 4 Year 5 Year

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C18 ACERT
500 kW/ 625 kVA/ 60 Hz/ 1800 rpm/ 480 V/ 0.8 Power Factor

**Emissions: U.S. EPA Tier 4 Final Nonroad Genset
Emission Standards**

Rating Type: STANDBY

Heat Rejection		
Heat Rejection to Jacket Water	283 kW	16110 Btu/min
Heat Rejection to Exhaust (Total)	514 kW	29204 Btu/min
Heat Rejection to Aftercooler	113 kW	6454 Btu/min
Heat Rejection to Atmosphere from Engine	28 kW	1603 Btu/min
Heat Rejection to Atmosphere from Generator	29 kW	1621 Btu/min

Alternator²	
Motor Starting Capability @ 30% Voltage Dip	1729 skVA
Current	752 amps
Frame Size	LC6124G
Excitation	AR
Temperature Rise	105 ° C

Emissions (Nominal)³		
NOx	100.5 mg/Nm ³	0.2 g/hp-hr
CO	N/A	N/A
HC	4.9 mg/Nm ³	0.0 g/hp-hr
PM	2.2 mg/Nm ³	0.0 g/hp-hr

DEFINITIONS AND CONDITIONS

1. For ambient and altitude capabilities consult your Cat dealer. Air flow restriction (system) is added to existing restriction from factory.
2. UL 2200 Listed packages may have oversized generators with a different temperature rise and motor starting characteristics. Generator temperature rise is based on a 40° C ambient per NEMA MG1-32.
3. Emissions data measurement procedures are consistent with those described in EPA CFR 40 Part 89, Subpart D & E and ISO8178-1 for measuring HC, CO, PM, NOx. Data shown is based on steady state operating conditions of 77° F, 28.42 in HG and number 2 diesel fuel with 35° API and LHV of 18,390 btu/lb. The nominal emissions data shown is subject to instrumentation, measurement, facility and engine to engine variations. Emissions data is based on 100% load and thus cannot be used to compare to EPA regulations which use values based on a weighted cycle.



C18 ACERT
500 ekW/ 625 kVA/ 60 Hz/ 1800 rpm/ 480 V/ 0.8 Power Factor

**Emissions: U.S. EPA Tier 4 Final Nonroad Genset
Emission Standards**

Rating Type: STANDBY

Applicable Codes and Standards:

AS1359, CSA C22.2 No100-04, UL142,UL489, UL869, UL2200,
NFPA37, NFPA70, NFPA99, NFPA110, IBC, IEC60034-1, ISO3046, ISO8528,
NEMA MG1-22,NEMA MG1-33, 2006/95/EC, 2006/42/EC, 2004/108/EC

Note: Codes may not be available in all model configurations. Please consult your local Cat dealer representative for availability.

STANDBY:Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

Ratings are based on SAE J1349 standard conditions. These ratings also apply at ISO3046 standard conditions

Fuel Rates are based on fuel oil of 35° API [16° C (60° F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29° C (85° F) and weighing 838.9 g/liter (7.001 lbs/U.S. gal.). Additional ratings may be available for specific customer requirements, contact your Cat representative for details. For information regarding Low Sulfur fuel and Biodiesel capability, please consult your Cat dealer.

www.Cat-ElectricPower.com

Performance No.: EM1017-02

Feature Code: C18DE9D

Generator Arrangement: 4183885

Date: 03/09/2017

Source Country: U.S.

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Cat[®] C18 DIESEL GENERATOR SETS



Standby & Prime: 60 Hz, 480V



Engine Model	Cat [®] C18 ATTAC™ In-line 6, 4-cycle diesel
Bore x Stroke	145mm x 183mm (5.7in x 7.2in)
Displacement	18.13 L (1106.3 in ³)
Compression Ratio	16.1:1
Aspiration	Turbocharged Air-to-Air Aftercooled
Fuel Injection System	Electronic Unit Injection
Governor	Electronic ADEM™ A4

Model	Standby	Prime	Emission Strategy
C18	625 kVA, 500 ekW	569 kVA, 455 ekW	US EPA TIER IV Final, Non-Road

PACKAGE PERFORMANCE

Performance	Standby	Prime
Frequency	60 Hz	60 Hz
Genset power rating	625 kVA	569 kVA
Genset power rating with fan @ 0.8 power factor	500 ekW	455 ekW
Fuelling strategy	US EPA TIER IV Final, Non-Road	US EPA TIER IV Final, Non-Road
Performance number	EM1017	EM1112
Fuel Consumption		
100% load with fan	140.1 L/hr, 37 gal/hr	126.6 L/hr, 33.4 gal/hr
75% load with fan	106.7 L/hr, 28.2 gal/hr	96.7 L/hr, 25.6 gal/hr
50% load with fan	75.9 L/hr, 20.1 gal/hr	69.2 L/hr, 18.3 gal/hr
25% load with fan	47 L/hr, 12.4 gal/hr	43.2 L/hr, 11.4 gal/hr
Cooling System¹		
Radiator air flow restriction (system)	0.12 kPa, 0.48 in. Water	0.12 kPa, 0.48 in. Water
Radiator air flow	804 m ³ /min, 28393 cfm	804 m ³ /min, 28393 cfm
Engine coolant capacity	26.9 L, 7.1 gal	26.9 L, 7.1 gal
Radiator coolant capacity	61 L, 16.11 gal	61 L, 16.11 gal
Total coolant capacity	87.9 L, 23.2 gal	87.9 L, 23.2 gal
Inlet Air		
Combustion air inlet flow rate	37.9 m ³ /min, 1340 cfm	36.3 m ³ /min, 1208 cfm
Max. allowable combustion air inlet temp	50 °C, 122 °F	50 °C, 122 °F
Exhaust System		
Exhaust stack gas temperature	447 °C, 836.8 °F	426.3 °C, 799.3 °F
Exhaust gas flow rate	69.8 m ³ /min, 2465.3 cfm	66.5 m ³ /min, 2349.7 cfm
Exhaust system backpressure (maximum allowable)	10.0 kPa, 40.0 in. water	10.0 kPa, 40.0 in. water
Heat Rejection		
Heat rejection to jacket water	283 kW, 16110 Btu/min	256 kW, 14548 Btu/min
Heat rejection to exhaust (total)	514 kW, 29204 Btu/min	462 kW, 26276 Btu/min
Heat rejection to aftercooler	113 kW, 6454 Btu/min	101 kW, 5721 Btu/min
Heat rejection to atmosphere from engine	28 kW, 1603 Btu/min	26.1 kW, 1483 Btu/min
Heat rejection to atmosphere from Generator	29 kW, 1621 Btu/min	25.5 kW, 1450 Btu/min

Performance Number: EM1017

Change Level: 03

SALES MODEL: C18
 BRAND: CAT
 ENGINE POWER (BHP): 779
 GEN POWER WITH FAN (EKW): 500.0
 COMPRESSION RATIO: 16.1
 RATING LEVEL: STANDBY
 PUMP QUANTITY: 1
 FUEL TYPE: DIESEL
 MANIFOLD TYPE: DRY
 GOVERNOR TYPE: ELEC
 ELECTRONICS TYPE: ADEM4
 CAMSHAFT TYPE: STANDARD
 IGNITION TYPE: CI
 INJECTOR TYPE: EUI
 REF EXH STACK DIAMETER (IN): 6
 MAX OPERATING ALTITUDE (FT): 3,002

COMBUSTION: DIRECT INJECTION
 ENGINE SPEED (RPM): 1,800
 HERTZ: 60
 FAN POWER (HP): 32.2
 ADDITIONAL PARASITICS (HP): 2.7
 ASPIRATION: TA
 AFTERCOOLER TYPE: ATAAC
 AFTERCOOLER CIRCUIT TYPE: JW+OC, ATAAC
 INLET MANIFOLD AIR TEMP (F): 127
 JACKET WATER TEMP (F): 192.2
 TURBO CONFIGURATION: SINGLE
 TURBO QUANTITY: 1
 TURBOCHARGER MODEL: S430S 0.88 A/R VOF
 CERTIFICATION YEAR: 2015
 PISTON SPD @ RATED ENG SPD (FT/MIN): 2,161.4

INDUSTRY	SUBINDUSTRY	APPLICATION
ELECTRIC POWER	STANDARD	PACKAGED GENSET

General Performance Data

INLET MANIFOLD AIR TEMPERATURE ("INLET MFLD TEMP") FOR THIS CONFIGURATION IS MEASURED AT THE OUTLET OF THE AFTERCOOLER.

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	BRAKE MEAN EFF PRES (BMEP)	BRAKE SPEC FUEL CONSUMPTN (BSFC)	VOL FUEL CONSUMPTN (VFC)
EKW	%	BHP	PSI	LB/BHP-HR	GAL/HR
500.0	100	744	296	0.348	36.5
450.0	90	673	267	0.349	33.0
400.0	80	601	239	0.348	29.5
375.0	75	566	225	0.349	27.8
350.0	70	530	211	0.350	26.2
300.0	60	460	183	0.354	22.9
250.0	50	390	155	0.360	19.8
200.0	40	321	128	0.370	16.7
150.0	30	252	100	0.386	13.8
125.0	25	218	87	0.400	12.3
100.0	20	182	73	0.419	10.8
50.0	10	110	44	0.506	7.8

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	INLET MFLD PRES	INLET MFLD TEMP	EXH MFLD TEMP	EXH MFLD PRES	ENGINE OUTLET TEMP	COMPRESSOR OUTLET PRES	COMPRESSOR OUTLET TEMP
EKW	%	BHP	IN-HG	DEG F	DEG F	IN-HG	DEG F	IN-HG	DEG F
500.0	100	744	69.3	122.2	1,261.4	86.5	836.8	76	401.6
450.0	90	673	63.8	122.1	1,208.5	79.6	799.7	70	382.0
400.0	80	601	57.8	122.1	1,152.4	72.0	761.9	64	360.3
375.0	75	566	54.7	122.1	1,125.7	68.2	744.2	60	349.3
350.0	70	530	51.5	122.1	1,100.2	64.4	727.6	57	338.1
300.0	60	460	45.2	122.0	1,048.6	56.7	694.6	50	315.1
250.0	50	390	38.6	122.0	993.0	49.1	659.8	43	290.8
200.0	40	321	31.6	121.7	930.1	41.7	620.8	36	261.7
150.0	30	252	24.9	121.2	856.8	34.2	576.1	29	232.7
125.0	25	218	21.8	120.9	815.8	30.5	551.4	25	218.8
100.0	20	182	18.9	120.0	769.5	27.2	523.9	22	205.9
50.0	10	110	14.1	114.9	654.1	23.6	456.8	18	183.4

General Performance Data (Continued)

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	WET INLET AIR VOL FLOW RATE	ENGINE OUTLET WET EXH GAS VOL FLOW RATE	WET INLET AIR MASS FLOW RATE	WET EXH GAS MASS FLOW RATE	WET EXH VOL FLOW RATE (32 DEG F AND 29.98 IN HG)	DRY EXH VOL FLOW RATE (32 DEG F AND 29.98 IN HG)
EKW	%	BHP	CFM	CFM	LB/HR	LB/HR	FT3/MIN	FT3/MIN
500.0	100	744	1,340.0	2,465.3	5,817.5	6,076.5	934.9	843.1

PERFORMANCE DATA[EM1017]

June 9, 2021

450.0	90	673	1,282.0	2,350.9	5,554.9	5,788.7	917.8	831.6
400.0	80	601	1,211.3	2,221.8	5,237.0	5,446.2	894.3	813.8
375.0	75	566	1,173.9	2,156.0	5,069.8	5,267.1	880.5	802.8
350.0	70	530	1,135.6	2,089.2	4,899.2	5,084.7	865.2	790.2
300.0	60	460	1,056.3	1,949.9	4,547.3	4,709.8	830.6	761.4
250.0	50	390	972.6	1,801.9	4,177.8	4,318.1	791.4	728.3
200.0	40	321	871.7	1,621.2	3,735.6	3,854.2	737.7	682.0
150.0	30	252	780.5	1,440.5	3,336.9	3,434.4	683.8	635.7
125.0	25	218	742.6	1,354.0	3,171.5	3,258.4	658.4	614.1
100.0	20	182	714.2	1,274.2	3,047.2	3,123.6	637.0	596.4
50.0	10	110	688.2	1,136.5	2,933.1	2,988.7	609.7	577.6

Heat Rejection Data

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	REJECTION TO JACKET WATER	REJECTION TO ATMOSPHERE	REJECTION TO EXH	EXHAUST RECOVERY TO 350F	FROM OIL COOLER	FROM AFTERCOOLER	WORK ENERGY	LOW HEAT VALUE ENERGY	HIGH HEAT VALUE ENERGY
EKW	%	BHP	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN
500.0	100	744	16,038	5,739	24,758	12,589	4,231	6,509	31,568	79,429	84,612
450.0	90	673	14,560	5,356	22,331	11,023	3,827	5,781	28,519	71,857	76,546
400.0	80	601	13,203	4,843	19,835	9,453	3,419	4,995	25,499	64,187	68,376
375.0	75	566	12,567	4,609	18,654	8,732	3,222	4,613	23,998	60,493	64,440
350.0	70	530	11,954	4,397	17,522	8,056	3,030	4,239	22,495	56,894	60,607
300.0	60	460	10,771	3,992	15,335	6,779	2,656	3,515	19,509	49,869	53,123
250.0	50	390	9,626	3,651	13,207	5,563	2,292	2,825	16,539	43,040	45,848
200.0	40	321	8,495	3,583	10,986	4,318	1,939	2,095	13,629	36,413	38,788
150.0	30	252	7,376	3,338	8,946	3,194	1,593	1,490	10,707	29,906	31,858
125.0	25	218	6,818	3,097	8,025	2,691	1,421	1,243	9,230	26,674	28,414
100.0	20	182	6,239	2,779	7,179	2,218	1,249	1,048	7,733	23,449	24,979
50.0	10	110	4,839	2,191	5,647	1,288	907	804	4,660	17,030	18,141

Emissions Data

DIESEL

RATED SPEED NOMINAL DATA: 1800 RPM

GENSET POWER WITH FAN	EKW	500.0	375.0	250.0	125.0	50.0
PERCENT LOAD	%	100	75	50	25	10
ENGINE POWER	BHP	744	566	390	218	110
TOTAL NOX (AS NO2)	G/HR	161	156	48	15	37
TOTAL CO	G/HR	0	0	0	0	0
TOTAL HC	G/HR	9	4	0	0	0
TOTAL CO2	KG/HR	375	285	203	125	80
PART MATTER	G/HR	4.3	2.0	1.3	0.8	0.6
TOTAL NOX (AS NO2) (CORR 5% O2)	MG/NM3	100.5	127.4	55.8	31.4	130.7
TOTAL CO (CORR 5% O2)	MG/NM3	0.0	0.0	0.0	0.0	0.0
TOTAL HC (CORR 5% O2)	MG/NM3	4.9	2.5	0.0	0.0	0.0
PART MATTER (CORR 5% O2)	MG/NM3	2.2	1.4	1.3	1.4	1.5
TOTAL NOX (AS NO2) (CORR 5% O2)	PPM	49	62	27	15	64
TOTAL CO (CORR 5% O2)	PPM	0	0	0	0	0
TOTAL HC (CORR 5% O2)	PPM	9	5	0	0	0
FORMALDEHYDE (CORR 15% O2)	PPM	0.00	0.00	0.00	0.03	0.01
ACROLEIN (CORR 15% O2)	PPM	0.10	0.15	0.57	0.35	0.62
ACETALDEHYDE (CORR 15% O2)	PPM	0.16	0.32	0.42	0.10	0.71
METHANOL (CORR 15% O2)	PPM	0.00	0.07	0.03	0.00	0.00
NON-METHANE HC (CORR 15% O2)	PPM	2.42	1.28	0.00	0.00	0.00
NON-ETHANE HC (CORR 15% O2)	PPM	2.42	1.28	0.00	0.00	0.00
TOTAL NOX (AS NO2)	G/HP-HR	0.22	0.28	0.13	0.07	0.34
TOTAL CO	G/HP-HR	0.00	0.00	0.00	0.00	0.00
TOTAL HC	G/HP-HR	0.01	0.01	0.00	0.00	0.00
PART MATTER	G/HP-HR	0.01	0.00	0.00	0.00	0.01
TOTAL NOX (AS NO2)	LB/HR	0.36	0.34	0.11	0.03	0.08
TOTAL CO	LB/HR	0.00	0.00	0.00	0.00	0.00
TOTAL HC	LB/HR	0.02	0.01	0.00	0.00	0.00

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TOTAL CO2	LB/HR	826	628	447	275	176
PART MATTER	LB/HR	0.01	0.00	0.00	0.00	0.00
OXYGEN IN EXH	%	7.6	9.5	11.1	13.2	15.7

RATED SPEED POTENTIAL SITE VARIATION: 1800 RPM

GENSET POWER WITH FAN	EKW	500.0	375.0	250.0	125.0	50.0
PERCENT LOAD	%	100	75	50	25	10
ENGINE POWER	BHP	744	566	390	218	110
TOTAL NOX (AS NO2)	G/HR	232	225	70	22	53
TOTAL CO	G/HR	0	0	0	0	0
TOTAL HC	G/HR	20	8	0	0	0
PART MATTER	G/HR	16.6	7.8	5.0	3.2	2.1
TOTAL NOX (AS NO2) (CORR 5% O2)	MG/NM3	144.8	183.4	80.3	45.3	188.2
TOTAL CO (CORR 5% O2)	MG/NM3	0.0	0.0	0.0	0.0	0.1
TOTAL HC (CORR 5% O2)	MG/NM3	10.5	5.4	0.0	0.0	0.0
PART MATTER (CORR 5% O2)	MG/NM3	8.3	5.3	4.9	5.3	5.8
TOTAL NOX (AS NO2) (CORR 5% O2)	PPM	71	89	39	22	92
TOTAL CO (CORR 5% O2)	PPM	0	0	0	0	0
TOTAL HC (CORR 5% O2)	PPM	20	10	0	0	0
TOTAL NOX (AS NO2)	G/HP-HR	0.31	0.40	0.18	0.10	0.49
TOTAL CO	G/HP-HR	0.00	0.00	0.00	0.00	0.00
TOTAL HC	G/HP-HR	0.03	0.01	0.00	0.00	0.00
PART MATTER	G/HP-HR	0.02	0.01	0.01	0.01	0.02
TOTAL NOX (AS NO2)	LB/HR	0.51	0.50	0.15	0.05	0.12
TOTAL CO	LB/HR	0.00	0.00	0.00	0.00	0.00
TOTAL HC	LB/HR	0.04	0.02	0.00	0.00	0.00
PART MATTER	LB/HR	0.04	0.02	0.01	0.01	0.00

Regulatory Information

EPA TIER 4 FINAL		2015 - ----			
GASEOUS EMISSIONS DATA MEASUREMENTS PROVIDED TO THE EPA ARE CONSISTENT WITH THOSE DESCRIBED IN EPA 40 CFR PART 1039 SUBPART F AND ISO 8178 FOR MEASURING HC, CO, PM, AND NOX. THE "MAX LIMITS" SHOWN BELOW ARE WEIGHTED CYCLE AVERAGES AND ARE IN COMPLIANCE WITH THE NON-ROAD REGULATIONS.					
Locality	Agency	Regulation	Tier/Stage	Max Limits - G/BKW - HR	
U.S. (INCL CALIF)	EPA	NON-ROAD GENSET	TIER 4 FINAL	CO: 3.5 NOx: 0.67 HC: 0.19 PM: 0.03	

Altitude Derate Data

STANDARD

ALTITUDE CORRECTED POWER CAPABILITY (BHP)

AMBIENT OPERATING TEMP (F)	50	60	70	80	90	100	110	120	130	140	NORMAL
ALTITUDE (FT)											
0	779	779	779	779	777	774	771	768	576	516	779
1,000	779	779	779	777	774	771	768	699	557	511	778
2,000	779	778	776	774	771	751	719	593	529	501	776
3,000	777	775	773	770	751	651	571	543	516	489	773
4,000	773	771	769	754	674	582	552	526	501	476	770
5,000	769	761	736	669	602	557	533	509	485	462	765
6,000	725	679	653	604	560	536	514	492	470	449	704
7,000	648	592	577	560	537	515	495	474	454	435	648
8,000	585	567	553	538	516	495	475	456	437	418	595
9,000	557	544	531	516	496	476	456	436	418	400	573
10,000	533	522	508	494	474	454	431	404	380	362	555
11,000	514	503	495	487	462	431	398	373	358	357	534
12,000	495	485	483	471	445	417	384	372	371	369	514
13,000	473	463	461	444	412	381	379	378	376	374	495
14,000	449	434	420	392	381	379	378	376	374	372	470

15,000	397	379	367	381	379	377	376	374	372	370	442
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Cross Reference

Test Spec	Setting	Engine Arrangement	Engineering Model	Engineering Model Version	Start Effective Serial Number	End Effective Serial Number
4150867	PP7129	4190902	PS072	LS	CM800001	
4150867	PP7129	4190904	GS759	LS	CM800001	
4150867	PP7129	5194410	PS072	LS	CM800001	
5526359	PP7990	5424853	EE545	-	TC400001	

Performance Parameter Reference

Parameters Reference:DM9600-12 PERFORMANCE DEFINITIONS
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PERFORMANCE DEFINITIONS DM9600

APPLICATION:

Engine performance tolerance values below are representative of a typical production engine tested in a calibrated dynamometer test cell at SAE J1995 standard reference conditions. Caterpillar maintains ISO9001:2000 certified quality management systems for engine test Facilities to assure accurate calibration of test equipment. Engine test data is corrected in accordance with SAE J1995. Additional reference material SAE J1228, J1349, ISO 8665, 3046-1:2002E, 3046-3:1989, 1585, 2534, 2288, and 9249 may apply in part or are similar to SAE J1995. Special engine rating request (SERR) test data shall be noted.

PERFORMANCE PARAMETER TOLERANCE FACTORS:

- Power +/- 3%
- Torque +/- 3%
- Exhaust stack temperature +/- 8%
- Inlet airflow +/- 5%
- Intake manifold pressure-gage +/- 10%
- Exhaust flow +/- 6%
- Specific fuel consumption +/- 3%
- Fuel rate +/- 5%
- Specific DEF consumption +/- 3%
- DEF rate +/- 5%
- Heat rejection +/- 5%
- Heat rejection exhaust only +/- 10%
- Heat rejection CEM only +/- 10%

Heat Rejection values based on using treated water.

Torque is included for truck and industrial applications, do not use for Gen Set or steady state applications.

On C7 - C18 engines, at speeds of 1100 RPM and under these values are provided for reference only, and may not meet the tolerance listed.

These values do not apply to C280/3600. For these models, see the tolerances listed below.

C280/3600 HEAT REJECTION TOLERANCE FACTORS:

- Heat rejection +/- 10%
- Heat rejection to Atmosphere +/- 50%
- Heat rejection to Lube Oil +/- 20%
- Heat rejection to Aftercooler +/- 5%

TEST CELL TRANSDUCER TOLERANCE FACTORS:

- Torque +/- 0.5%
- Speed +/- 0.2%
- Fuel flow +/- 1.0%
- Temperature +/- 2.0 C degrees
- Intake manifold pressure +/- 0.1 kPa

OBSERVED ENGINE PERFORMANCE IS CORRECTED TO SAE J1995 REFERENCE AIR AND FUEL CONDITIONS.

REFERENCE ATMOSPHERIC INLET AIR FOR 3500 ENGINES AND SMALLER

SAE J1228 AUG2002 for marine engines, and J1995 JAN2014 for other engines, reference atmospheric pressure is 100 KPA (29.61 in hg), and standard temperature is 25deg C (77 deg F) at 30% relative humidity at the stated aftercooler water temp, or inlet manifold temp.

FOR 3600 ENGINES

Engine rating obtained and presented in accordance with ISO 3046/1 and SAE J1995 JANJAN2014 reference atmospheric pressure is 100 KPA (29.61 in hg), and standard temperature is 25deg C (77 deg F) at 30% relative humidity and 150M altitude at the stated aftercooler water temperature.

MEASUREMENT LOCATION FOR INLET AIR TEMPERATURE

Location for air temperature measurement air cleaner inlet at

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stabilized operating conditions.

REFERENCE EXHAUST STACK DIAMETER

The Reference Exhaust Stack Diameter published with this dataset is only used for the calculation of Smoke Opacity values displayed in this dataset. This value does not necessarily represent the actual stack diameter of the engine due to the variety of exhaust stack adapter options available. Consult the price list, engine order or general dimension drawings for the actual stack diameter size ordered or options available.

REFERENCE FUEL

DIESEL

Reference fuel is #2 distillate diesel with a 35API gravity;

A lower heating value is 42,780 KJ/KG (18,390 BTU/LB) when used at 15 deg C (59 deg F), where the density is 850 G/Liter (7.0936 Lbs/Gal).

GAS

Reference natural gas fuel has a lower heating value of 33.74 KJ/L (905 BTU/CU Ft). Low BTU ratings are based on 18.64 KJ/L (500 BTU/CU FT) lower heating value gas. Propane ratings are based on 87.56 KJ/L (2350 BTU/CU Ft) lower heating value gas.

ENGINE POWER (NET) IS THE CORRECTED FLYWHEEL POWER (GROSS) LESS EXTERNAL AUXILIARY LOAD

Engine corrected gross output includes the power required to drive standard equipment; lube oil, scavenge lube oil, fuel transfer, common rail fuel, separate circuit aftercooler and jacket water pumps. Engine net power available for the external (flywheel) load is calculated by subtracting the sum of auxiliary load from the corrected gross flywheel out put power. Typical auxiliary loads are radiator cooling fans, hydraulic pumps, air compressors and battery charging alternators. For Tier 4 ratings additional Parasitic losses would also include Intake, and Exhaust Restrictions.

ALTITUDE CAPABILITY

Altitude capability is the maximum altitude above sea level at standard temperature and standard pressure at which the engine could develop full rated output power on the current performance data set.

Standard temperature values versus altitude could be seen on TM2001.

When viewing the altitude capability chart the ambient temperature is the inlet air temp at the compressor inlet.

Engines with ADEM MEUI and HEUI fuel systems operating at conditions above the defined altitude capability derate for atmospheric pressure and temperature conditions outside the values defined, see TM2001.

Mechanical governor controlled unit injector engines require a setting change for operation at conditions above the altitude defined on the engine performance sheet. See your Caterpillar technical representative for non standard ratings.

REGULATIONS AND PRODUCT COMPLIANCE

TMI Emissions information is presented at 'nominal' and 'Potential Site Variation' values for standard ratings. No tolerances are applied to the emissions data. These values are subject to change at any time. The controlling federal and local emission requirements need to be verified by your Caterpillar technical representative.

Customer's may have special emission site requirements that need to be verified by the Caterpillar Product Group engineer.

EMISSION CYCLE LIMITS:

Cycle emissions Max Limits apply to cycle-weighted averages only. Emissions at individual load points may exceed the cycle-weighted limit.

EMISSIONS DEFINITIONS:

Emissions : DM1176

EMISSION CYCLE DEFINITIONS

1. For constant-speed marine engines for ship main propulsion, including,diesel-electric drive, test cycle E2 shall be applied, for controllable-pitch propeller sets test cycle E2 shall be applied.
2. For propeller-law-operated main and propeller-law-operated auxiliary engines the test cycle E3 shall be applied.
3. For constant-speed auxiliary engines test cycle D2 shall be applied.
4. For variable-speed, variable-load auxiliary engines, not included above, test cycle C1 shall be applied.

HEAT REJECTION DEFINITIONS:

Diesel Circuit Type and HHV Balance : DM9500

HIGH DISPLACEMENT (HD) DEFINITIONS:

3500: EM1500

RATING DEFINITIONS:

Agriculture : TM6008

Fire Pump : TM6009

Generator Set : TM6035

Generator (Gas) : TM6041

Industrial Diesel : TM6010

Industrial (Gas) : TM6040

Irrigation : TM5749

Locomotive : TM6037

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Marine Auxiliary : TM6036
Marine Prop (Except 3600) : TM5747
Marine Prop (3600 only) : TM5748
MSHA : TM6042
Oil Field (Petroleum) : TM6011
Off-Highway Truck : TM6039
On-Highway Truck : TM6038
SOUND DEFINITIONS:
Sound Power : DM8702
Sound Pressure : TM7080
Date Released : 07/10/19

Appendix B

Biological Resources Letter Report

December 9, 2022

00888.00033.018

Ms. Lauren Lievers
Campus Planning
University of California, San Diego
9500 Gilman Drive MC 0074
La Jolla, CA 92093-0074

Subject: UC San Diego Ridge Walk North Living & Learning Neighborhood Project Biological Resources Letter Report

Dear Ms. Lievers:

This letter report prepared by HELIX Environmental Planning, Inc. (HELIX) documents the findings of a biological resources technical study for the proposed Ridge Walk North Living and Learning Neighborhood (RWNLLN) project (project) located at the University of California, San Diego (UC San Diego) La Jolla campus in San Diego, California.

The study includes an assessment of existing conditions within an approximately 20.9-acre project site. The project site encompasses all proposed access, staging, and development areas associated with the proposed project. This letter references the findings of several biological studies completed within the project site and surrounding areas, including those performed for the 2018 Long Range Development Plan (LRDP) Final Environmental Impact Report (EIR; UC San Diego 2018) and 2021 Ecological Reserve Annual Report of Management and Maintenance Activities (Wood Environment & Infrastructure Solutions, Inc. [Wood Env.] 2022).

Figure 1, *Project Vicinity Map*, depicts the project location and Coastal Zone boundary; Figure 2, *Aerial Photograph of Site and Surroundings*, depicts the project site and surroundings; Figure 3, *Site Plan*, depicts the project layout and components; Figure 4, *Vegetation and UC San Diego Open Space Designations*, depicts biological resources and Ecological Reserve and Historic Grove boundaries; and Figure 5, *Project Limits/Vegetation and ESHA*, depicts project impact area in relation to existing biological resources and California Coastal Commission-defined Environmentally Sensitive Habitat Areas (ESHA).

This report intends to provide the project-specific information necessary to support the proposed project's California Environmental Quality Act (CEQA) document.

INTRODUCTION

Project Location

The UC San Diego La Jolla campus is comprised of three distinct but contiguous geographical areas: the Scripps portion of the campus, the western area of the campus (West Campus), and the eastern area of the campus (East Campus; [Figure 1]). The East and West Campuses are bisected by Interstate 5 [I-5]. The project would be constructed within Marshall College, one of UC San Diego's seven colleges for undergraduate learning in the West Campus. The site is bordered by Hopkins Drive to the east and Voigt Walk to the north. The project site is entirely within the Coastal Zone.

Project Description

The project would impact approximately 11.3 acres of the 20.9-acre site, including the redevelopment of approximately 6.1 acres east of Ridge Walk. The project would provide 2,455 new student beds in three residential towers ranging in height from 10 to 18 stories. A fourth 6-story building would be constructed containing mostly academic and administrative uses. In addition to housing, the project would include landscape and hardscape improvements, additional academic spaces such as classrooms and lecture halls, a café and market, administrative space, and utility infrastructure and connections.

Construction of the project would demolish existing structures within the Marshall College campus, including the Marshall Lowers residences, Dean's Residence, Economics Building, Sequoyah Hall, Fireside Lounge, and the Thurgood Marshall Administration Building. Sequoyah Hall and the Administration Building would be replaced with a new flexible-use green space. The Marshall Field would be utilized as a staging area during construction and would be returned to previous conditions upon completion of the project. The project would include the removal of 16 Torrey pines (*Pinus torreyana* ssp. *torreyana*) and 63 eucalyptus trees, which would be replaced at a 2:1 ratio.

Figure 2 shows the project boundary, which includes all areas that could be utilized for construction purposes, including staging and minor utility connections. Figure 3 shows the project components.

METHODS

HELIX reviewed recent aerial imagery, and the previous vegetation and sensitive resources mapping for the campus conducted as part of the 2018 LRDP EIR, as well as results of previous biological surveys and protocol coastal California gnatcatcher surveys conducted on lands near and adjacent to the project site for nearby projects between 2001 and 2021.

HELIX biologists completed vegetation mapping, general biological surveys, rare plant surveys, and surveys for coastal California gnatcatcher (*Polioptila californica californica*) for the project site and adjacent lands as part of campus-wide biological surveys for the 2018 LRDP EIR. Updated surveys for coastal California gnatcatcher were completed in 2021 by Wood Env. The results of these surveys are incorporated into this report.

In addition to the campus-wide surveys identified above, HELIX biologist Stacy Nigro conducted a project-specific site visit on February 28, 2022, to verify previous vegetation mapping and conduct a general biological survey of undeveloped lands within 100 feet of the project site. Plant and animal

species observed or otherwise detected during HELIX's biological survey were documented during the survey.

Biological data for undeveloped lands adjacent to the site is taken from the 2018 LRDP EIR, 2021 gnatcatcher surveys, and the 2022 general biological survey. Data presented herein is compiled from numerous reports (HELIX 2016, 2018, and 2019; Wood Env. 2021 and 2022), in addition to database records described below.

Database Review

Database applications reviewed for the proposed project included the California Department of Fish and Wildlife's (CDFW's) California Natural Diversity Database (CNDDDB; CDFW 2022a), California Native Plant Society (CNPS) Inventory of Endangered and Rare Plants (2022), and U.S. Fish and Wildlife Service (USFWS) listed species occurrence database (USFWS 2022), in addition to cumulative biological data from UC San Diego's database.

Nomenclature

Nomenclature used in this report generally comes from Holland (1986) and Oberbauer (2008) for vegetation; Baldwin et al. (2012) for plants; Glassberg (2001) for butterflies, and Chesser (2021) for birds. Animal species status is from CDFW (2022b).

EXISTING CONDITIONS

General Land Use

The project site consists of existing campus housing, lecture halls, parking, and recreational facilities, with numerous campus buildings interspersed between parking lots, lawn areas, and landscaping. The northernmost portion of the campus' Historic Grove parallels the west side of Hopkins Drive in the eastern portion of the project site, as well as occurring off-site to the east of Hopkins Drive. The Historic Grove is the name of a stand of mature and semi-mature eucalyptus trees situated in a north-south orientation through the center of West Campus, amid developed portions of the campus.

Surrounding uses include the Hopkins Parking Structure to the north across Voigt Drive, the Ecological Reserve open space area to the east across Hopkins Lane, and the Marshall Upper Apartments to the west across Ridge Walk (Figure 2). Academic buildings, including the Cognitive Science Building, are located to the south. The project is within proximity to the North Torrey Pines Living and Learning Neighborhood to the northwest, and UC San Diego's main library, Geisel Library, to the southeast.

Topography and Soils

The project site slopes gently upward from east to west, with the lowest elevations along Hopkins Drive. On-site elevations range from approximately 382 feet above mean sea level (AMSL) to 438 feet AMSL.

Soil mapping units in the project site consist of Carlsbad gravelly loamy sands and Chesterton fine sandy loams (NRCS 2022). These mapped soil types underlie the developed project site.

Vegetation Communities/Land Cover Types within the Project Site

Urban/developed land is the only vegetation community/land cover type present within the project site (Table 1, *Vegetation Communities/Land Cover Types within the Project Site*; Figure 4) and is further described below.

Table 1
VEGETATION COMMUNITIES/LAND USE TYPES WITHIN THE PROJECT SITE

Vegetation Community/Land Use	Acreage ¹
Urban/Developed	20.9
TOTAL	20.9

¹ Rounded to the nearest tenth acre

Urban/Developed Land

The entire project site consists of developed land composed of existing campus housing, educational facilities, parking, and ornamental landscaping. The portion of Historic Grove on-site exists within the context of the surrounding development, with roads, housing and other buildings, sidewalks, and landscaping occurring below the canopy. A description of the Historic Grove is provided on page 9 of this report.

SENSITIVE BIOLOGICAL RESOURCES

Sensitive Vegetation Communities

Sensitive vegetation communities include land that supports unique vegetation or the habitats of rare or endangered species or subspecies of animals or plants as defined by Section 15380 of the CEQA Guidelines.

No sensitive vegetation communities are present within the project site, which consists of urban/developed lands (see Figure 4).

Special-Status Plant and Animal Species

Special-Status Plant Species

Special-status plant species are those listed as federally threatened or endangered by the USFWS; state listed as threatened or endangered, or considered sensitive by the CDFW; and/or are identified by the CNPS as California Native Plant Rank (CRPR) 1A, 1B, or 2 species, as recognized in the CNPS's Inventory of Rare and Endangered Vascular Plants of California and consistent with the CEQA Guidelines.

The project site is developed and does not contain naturally occurring special-status plant species or have the potential to support special-status plant species, including state or federally listed plant species. Construction would require the removal of 16 Torrey pines that occur within the project site; however, this species does not occur naturally on campus. These trees were planted as landscape ornamentals and, as such, are not considered sensitive for purposes of CEQA.

A search of the UC San Diego database, which includes the results of cumulative biological survey data for the campus, as well as searches of USFWS, CNDDDB, and CNPS species records reported in the project vicinity (within one mile), did not result in any point records for sensitive plant species within the project limits. The nearest recorded special-status plant species is Nuttall's scrub oak (*Quercus dumosa*), which is the dominant species occurring in off-site southern maritime chaparral located opposite the project site and immediately east of Hopkins Drive. Nuttall's scrub oak is a CRPR 1B.1 species.

Special-Status Animal Species

Special-status animal species are those listed as threatened or endangered, proposed for listing, or candidates for listing by the USFWS and/or CDFW, in addition to other animal species considered sensitive by the CDFW.

No federally or state listed animal species have the potential to occur on-site. The site is completely developed, and the only special-status animal species with the potential to occur are species that may utilize mature eucalyptus trees or other planted trees on-site for roosting or nesting. Cooper's hawk (*Accipiter cooperii*) is a special-status raptor that could nest in mature trees on-site. Additional information is provided below.

Searches of UC San Diego's campus database and USFWS and CNDDDB species records reported in the project vicinity (within one mile) resulted in point records for only one sensitive animal species on or within 500 feet of the project site: a monarch butterfly (*Danaus plexippus*) overwintering site is identified in eucalyptus trees within the Historic Grove approximately 315 feet off-site to the south of the project site. Additional information is provided below.

No other special-status animal species have the potential to occur within the project site due to the lack of suitable habitat and existing disturbances.

Coastal California gnatcatcher does not have the potential to occur on-site and has not been documented within 500 feet of the site. A more in-depth discussion of this species is also included below due to the presence of Ecological Reserve lands in the vicinity of the project site to the east and northeast.

Cooper's Hawk

Cooper's hawk, a CDFW Watch List species, occurs year-round in San Diego County's coastal slope and has been documented on campus. This species has the potential to roost and/or nest in mature trees on the project site, including eucalyptus trees in the Historic Grove.

Monarch Butterfly

The California overwintering population of monarch butterflies is considered sensitive by CDFW, and the USFWS classified the monarch as a candidate species for listing under the federal Endangered Species Act (FESA) in December 2020. The overwintering site (Faculty Club/Mandeville site), approximately 315 feet south of the project site, was first identified in 1997, hosting approximately 8,000 monarchs. This number went down significantly the following year, with only 750 monarchs observed in 1998. Since then, counts at this overwintering site have ranged from zero to ten individuals, with no overwintering individuals reported since 2011. These data are provided by the Xerces Society's Western Monarch Overwintering Sites Database (Xerces Society 2022). While eucalyptus trees in the Historic Grove provide potentially suitable overwintering habitat for this species, the overwintering monarch

populations on the campus have not been prolific since the late 1990s, overwintering has not been documented on the project site, and the project site does not overlap with the Faculty Club/Mandeville overwintering site to the south.

Coastal California Gnatcatcher

The results of several general biological surveys and protocol surveys for coastal California gnatcatcher, a federally listed threatened species and CDFW species of special concern, conducted between 2001 and 2021 in Ecological Reserve lands did not result in any gnatcatcher sightings within 500 feet of the project site. Based on the cumulative data records from UC San Diego, USFWS, and CNDDDB, the nearest occurrence records for coastal California gnatcatcher are over 2,000 feet east of the project site, in the easternmost portion of the North Canyon area, with dense campus development occurring between the project site and these previous gnatcatcher observations, which occurred in 2001, 2004, and 2005. A single gnatcatcher was observed on West Campus during the 2021 protocol surveys; this individual was over 2,400 feet northeast of the project site (Wood Env. 2021), north of Voigt Drive. This species has never been documented using Ecological Reserve lands adjacent to the project site/south of Voigt Drive, and given the many years of negative survey data for this area, Ecological Reserve lands directly east of the project site are not considered occupied by this species.

Nesting Birds

The project site contains planted trees and shrubs that could be used as nesting habitat by a variety of bird species, including raptors, protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFG Code). For example, red-shouldered hawk (*Buteo lineatus*) has been observed perching in eucalyptus above the community garden immediately west of Hopkins Drive and could also nest in this location or other suitable locations in and near the project site. Cooper's hawk also could nest in mature trees on-site. Avoidance and mitigation measures are referenced herein to prevent impacts to nesting birds, which are protected by the MBTA and CFG Code.

Jurisdictional Waters and Wetlands

Jurisdictional waters and wetlands include those resources subject to the regulatory jurisdiction of the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the federal Clean Water Act (CWA), the Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the CWA and State Porter-Cologne Water Quality Control Act, or CDFW pursuant to Sections 1600 *et seq.* of the CFG Code.

The project site does not contain any potential jurisdictional waters or wetlands, and none are located within 100 feet of the project site.

Wildlife Corridors and Linkages

No wildlife corridors or linkages occur within the project site, which consists entirely of urban/developed land.

REGULATORY SETTING

Biological resources on campus are subject to regulatory administration by the federal government and the State of California. The federal government administers non-marine plant and wildlife-related issues through the USFWS, while waters of the U.S. issues are administered by the USACE. California law

relating to wetland, water-related, and wildlife issues is administered by the CDFW. Under CEQA, impacts associated with a proposed project or program are assessed with regard to significance criteria determined by the CEQA Lead Agency (in this case, UC San Diego) pursuant to CEQA Guidelines.

The UC San Diego campus is located within the City of San Diego (City) but is not included within the City's Multiple Species Conservation Program (MSCP), nor is it an enrolled agency in the Natural Communities Conservation Planning (NCCP) program. Although not subject to either of these programs, UC San Diego must still address impacts to threatened and endangered species as required by the FESA and California Endangered Species Act (CESA). In addition, impacts to all species and habitats considered sensitive by state and federal resource agencies are required to be disclosed under the CEQA.

Applicable biological resources-related laws and regulations include the FESA, MBTA, CEQA, CESA, CFG Code, and California Coastal Act, which are further discussed below. Jurisdictional waters or wetlands are not present on or immediately adjacent to the site; thus, the CWA and CDFW's Streambed Alteration Program are not discussed.

In addition to federal and state protections, the 2018 LRDP EIR for the UC San Diego La Jolla Campus designates certain lands on campus as UC San Diego Open Space Preserve (OSP). The OSP consists of four types of open spaces with distinct qualities of vegetation, topography, and geography. These areas are the Ecological Reserve, Restoration Lands, Urban Forest, and Historic Grove. UC San Diego-designated Ecological Reserve is located offsite to the east within 100 feet of the project site, and a portion of the Historic Grove overlaps with the project site and adjacent areas to the east and south. Additional information is provided below.

Federal Endangered Species Act

Administered by the USFWS, the FESA provides the legal framework for the listing and protection of species (and their habitats) that are identified as being endangered or threatened with extinction. Actions that jeopardize endangered or threatened species and the habitats upon which they rely are considered a "take" under the FESA and require authorization from the USFWS. The project site does not contain habitat that could be used by federally listed species. The potential for federally listed species to occupy lands adjacent to the site is discussed above under *Special-Status Plant Species* and *Special-Status Animal Species*.

The USFWS designates critical habitat for endangered and threatened species. Critical habitat is defined as areas of land that are considered necessary for endangered or threatened species to recover. No designated critical habitat occurs on or adjacent to the campus.

Migratory Bird Treaty Act

All migratory bird species that are native to the United States or its territories are protected under the federal MBTA as amended under the Migratory Bird Treaty Reform Act of 2004 (FR Doc. 05-5127). The MBTA is generally protective of migratory birds but does not actually stipulate the type of protection required. In common practice, the MBTA is used to place restrictions on the disturbance of active bird nests during the nesting season (generally February 15 to August 31 for most birds and January 15 through July 31 for raptors). In addition, the USFWS commonly places restrictions on disturbances allowed near active raptor nests.

California Environmental Quality Act

Primary environmental legislation in California is found in CEQA and its implementing guidelines (State CEQA Guidelines), which require that projects with potential adverse effects (or impacts) on the environment undergo environmental review. Adverse environmental impacts are typically mitigated as a result of the environmental review process in accordance with existing laws and regulations. The 2018 LRDP EIR for UC San Diego includes goals and policies for the protection of sensitive habitats and species, and outlines mitigation measures for the compensation of unavoidable impacts. Applicable mitigation measures are incorporated herein.

California Endangered Species Act

The CESA established that it is state policy to conserve, protect, restore, and enhance state endangered species and their habitats. Under state law, plant and animal species may be formally designated rare, threatened, or endangered by official listing by the California Fish and Game Commission. The CESA authorizes private entities to “take” plant or wildlife species listed as endangered or threatened under the FESA and CESA pursuant to a federal Incidental Take Permit if the CDFW certifies that the incidental take is consistent with CESA (CFG Code Section 2080.1[a]). For state-only listed species, Section 2081 of the CFG Code authorizes the CDFW to issue an Incidental Take Permit for state listed threatened and endangered species if specific criteria are met. The project site does not contain habitat that could be used by state listed species. The potential for state listed species to occupy undeveloped lands adjacent to the site is discussed above under *Special-Status Plant Species* and *Special-Status Animal Species*.

California Fish and Game Code

The CFG Code regulates the taking or possession of birds, mammals, fish, amphibians, and reptiles, as well as natural resources such as lakes and streams. Pursuant to CFG Code Section 3503, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the code or any regulation made pursuant thereto. Raptors (birds of prey) and owls and their active nests are protected by CFG Code Section 3503.5, which states that it is unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird unless authorized by the CDFW. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the MBTA. These regulations could require that construction activities (particularly vegetation removal on-site or construction near nests) should not commence during the breeding season when nests are present.

California Coastal Act

The California Coastal Commission (CCC), through provisions of the California Coastal Act, is authorized to issue a Coastal Development Permit (CDP) for projects located within the Coastal Zone (see Figure 1 for Coastal Zone Boundary). The project site is within the Coastal Zone and would require a CDP from the CCC.

Environmentally Sensitive Habitat Areas

Section 30240 of the California Coastal Act includes a policy for the protection of Environmentally Sensitive Habitat Areas (ESHAs). Section 30107.5 defines ESHA or environmentally sensitive areas as “any area in which plant or animal life or their habitats are either rare or especially valuable because of

their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments”.

The project site is completely developed and does not support any native vegetation communities or other areas that meet the definition of ESHA; however, ESHA does occur off-site in the project vicinity, as discussed below.

The monarch overwintering site located in the Historic Grove, approximately 315 feet south of the project site, is considered ESHA by the CCC. Additionally, southern maritime chaparral dominated by Nuttall’s scrub oak located offsite east of the project site to the east of Hopkins Drive is also considered ESHA by the CCC based on the sensitivity status of Nuttall’s scrub oak (Figure 5). The project boundary lies immediately adjacent to, but outside of, this ESHA occurrence. The area of the project site that lies adjacent to the ESHA boundary is the existing, paved Hopkins Drive. Utility connection work would occur within Hopkins Drive. All developed structures would be placed more than 100 feet from the ESHA boundary.

UC San Diego Ecological Reserve

UC San Diego-designated Ecological Reserve lands contain most of the native stands of vegetation occurring on campus and are considered the most biologically sensitive of the four OSP designations. No buildings, roads, or driveways are permitted in the Ecological Reserve. The project site is located near, but outside of, the Ecological Reserve, which occurs on the east side of Hopkins Drive (Figure 4).

UC San Diego Historic Grove

UC San Diego-designated Historic Grove includes the eucalyptus stands stretching south from the intersection of Hopkins Drive and Voigt Drive through the core of the campus to the intersection of North Torrey Pines and Revelle College Drive to the south. The mature eucalyptus groves are a valuable cultural landscape and aesthetic resource to the campus. Much of the landscape character of UC San Diego has been defined by these trees over the past 70 years. The Historic Grove has been impacted by prior development, drought, disease, and aging of the original stands of eucalyptus, many of which were planted around the turn of the last century. Expansion of existing facilities and new facilities in the grove is subject to limitations; however, construction of bicycle and pedestrian paths is encouraged as long as tree health and location are given utmost importance in the design and implementation of these projects.

THRESHOLDS OF SIGNIFICANCE

Significance thresholds from Appendix G of the state CEQA Guidelines are identified for biological resource issues in the 2018 LRDP EIR. A significant adverse impact is identified in this project-specific analysis if the proposed project would result in any of the following:

- 1) Substantial adverse effect, either directly or through habitat modifications, on any plant or animal species identified as a candidate, sensitive, or special-status species;
- 2) Substantial adverse effect on riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS; or

- 3) Substantial adverse effect on state or federally protected wetlands through direct removal, filling, hydrologic interruption, or other means;
- 4) Substantial interference with the movement of any native resident or migratory fish or wildlife species or with an established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- 5) Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance; and
- 6) Conflict with the provisions of an adopted HCP, Natural Community Conservation Plan, or other applicable habitat conservation plan.

PROJECT IMPACT ANALYSIS

This section describes potential direct and indirect impacts associated with the proposed project. Direct impacts immediately alter the affected biological resources such that those resources are permanently or temporarily eliminated. Indirect impacts consist of secondary effects of a project, such as water quality impacts, fugitive dust, introduction of non-native plant species, human intrusion, construction noise, roadkill, night lighting, errant construction impacts, invasive insect pests, and brush management activities.

In addition to direct and indirect impacts are the cumulative impacts related to the development of larger areas. The cumulative impact of LRDP implementation was addressed in the 2018 LRDP EIR; no new analysis is presented herein.

Direct Impacts

The project's limits of work are depicted on Figure 5, and further discussion is provided below.

Sensitive Vegetation Communities

The project would not result in direct impacts to sensitive vegetation communities (Table 2, *Project Impacts to Vegetation Communities/Land Use Types*). All project grading, equipment staging, and other construction activities would occur within the limits of the developed site. Construction access would be from adjacent developed roads (see Figure 2).

Table 2
PROJECT IMPACTS TO VEGETATION COMMUNITIES/LAND USE TYPES

Vegetation Community/Land Use	Impact Acreage ¹
Urban/Developed	11.3
TOTAL	11.3

¹ Rounded to the nearest tenth acre.

Special-Status Plant Species

The project site is entirely developed, and no special-status plant species are present. No direct impacts to special-status plant species would occur, and no mitigation would be required.

Special-Status Animal Species

No special-status animal species were observed within the project site, and the only special-status species with high potential to occur on-site is Cooper's hawk due to the presence of suitable nesting trees and nearby open space areas for foraging.

Monarch butterfly is the only special-status animal species documented within 500 feet of the project site; specifically, the Faculty Club/Mandeville monarch overwintering site is located approximately 315 feet south of the project site. The project would not impact the monarch overwintering site; there is no overlap between the project site and the overwintering site.

The project would remove existing structures within the Historic Grove on-site, but no new structures would be built within the Historic Grove boundaries. Paved walkways may be constructed in the Historic Grove as part of the project and would be sited to avoid tree removal. The project has the potential to remove or harm some eucalyptus trees within the Historic Grove on-site; however, given that the project does not overlap with the overwintering site, combined with the lack of sightings over multiple years of surveys, the monarch butterfly is considered to have low potential to occur on the project site, and no impacts to this species are expected to occur. To ensure compliance with the Historic Grove's status as a historic landscape on campus, the project would replace any eucalyptus removed from the Historic Grove at a 2:1 ratio within the Historic Grove. The planting of replacement trees would be prioritized within the project site but may be planted elsewhere in the Historic Grove if necessary.

Potential impacts to nesting Cooper's hawk from the removal of eucalyptus trees would be avoided through the implementation of pre-construction surveys and avoidance measures, as discussed in the *Mitigation Requirements* section of this document.

Jurisdictional Waters and Wetlands

The project site is developed and does not support jurisdictional waters, wetlands, or riparian habitats. No impacts to riparian habitat or jurisdictional waters or wetlands would result from project implementation, and no mitigation would be required. The project does not require the issuance of CWA Section 404 or 401 permits from the USACE or RWQCB, or a Streambed Alteration Agreement from CDFW.

Wildlife Corridors and Linkages

The project site is an existing developed portion of campus and is not part of a wildlife corridor or linkage (see 2018 LRDP EIR Section 3.3.5). Project implementation would, therefore, not result in impacts to wildlife corridors or linkages; no mitigation is required.

Nesting Birds

Existing ornamental landscaping shrubs and trees within the project site provide potential nesting habitat for some bird species. Nesting birds are protected under the federal MBTA and CFG Code. If project construction must occur during the nesting season for raptors (January 15 through July 31) or general nesting bird season (February 15 through August 31), mitigation measures would be implemented to avoid direct impacts to nesting birds protected by the MBTA and CFG Code, as discussed in the *Mitigation Requirements* section of this document.

Local Policies

The project would not conflict with any local policies or ordinances or habitat conservation plans. As stated previously, UC San Diego is not included within the City's MSCP, nor is it an enrolled agency in the NCCP program. No impact would occur, and no mitigation is required.

Ecological Reserve

No disturbance outside the limits of existing developed areas is proposed as part of the project; thus, the project would not impact lands designated as Ecological Reserve by UC San Diego. No impact would occur, and no mitigation is required.

Environmentally Sensitive Habitat Areas

Impacts to CCC-defined ESHA would not occur from project implementation. The closest ESHA to the project site is southern maritime chaparral occurring east of Hopkins Drive. Figure 5 shows the ESHA boundary and approximate 100-foot ESHA setback, which extends onto the project site. The CCC typically requires a minimum 100-foot development setback from ESHA. However, the existing conditions within the portion of this 100-foot ESHA setback within the project limits contain a sidewalk, the two-lane paved Hopkins Drive, and a paved bike lane that supports frequent pedestrian, cyclist, and motor vehicle traffic. Landscaping and other developed areas comprise the remainder of the ESHA setback on-site. While some of these existing developed and landscaped features within the 100-foot ESHA setback may be impacted during construction and utility connection work within Hopkins Drive, all hardscape and landscape would be replaced in kind following construction. No changes to the configuration of Hopkins Drive are proposed. Redevelopment of the project site would not result in impacts to ESHA or a change in the existing ongoing uses in the ESHA buffer. No impact would occur, and no mitigation is required.

Indirect Impacts

The following provides information on potential construction and post-construction indirect impacts to biological resources related to the implementation of the proposed project, including runoff/water quality, non-native plant species, human intrusion/edge effects, construction noise, night lighting, shading effects, errant construction impacts, invasive insect pests, and brush management.

Runoff/Water Quality

Degraded surface water quality during construction could be a potentially significant impact if not adequately addressed. However, UC San Diego would be required, through the enforcement of water quality mitigation associated with the campus' Small MS4 permit and National Pollutant Discharge Elimination System (NPDES) regulations, to minimize water quality impacts during and after construction. The project will comply with storm water regulations and implement best management practices during construction to control runoff from the project site and will ensure that the use of petroleum projects (i.e., fuels, oils, and lubricants) are properly managed to avoid contamination of surface or ground water. Therefore, water quality impacts to adjacent biological resources during construction would be less than significant.

Following construction, the use of chemical pesticides, herbicides, and fertilizers on project landscaping, as well as irrigation, could have a potentially significant impact on off-site habitat and terrestrial wildlife if not adequately controlled. However, the maintenance of project landscaping will be guided by Integrated Pest Management principles and minimization and control of irrigation, as further outlined in the *Mitigation Requirements* section of this document, thereby reducing this potential impact to less than significant.

Fugitive Dust

If not managed effectively, fugitive dust produced by construction could disperse onto native habitat east of the project site. The resulting dust covering could, in turn, reduce native plant productivity, displacing native vegetation, reducing diversity, and affecting wildlife dependent on the vegetation. In order to avoid indirect impacts to plants and wildlife from fugitive dust, the project would implement standard air quality control measures and NPDES regulations required by the UC San Diego construction specifications to effectively reduce emissions during construction. The control measures may include, but are not limited to, the application of soil stabilizers (water) to disturbed areas, termination of soil disturbance during high wind events, and covering material stockpiles. Therefore, fugitive dust impacts would be a less than significant impact.

Non-native Plant Species

Project landscaping has the potential to introduce non-native plant species into adjacent off-site habitats, which in turn could alter the species composition of native habitats by reducing native species diversity and affecting wildlife dependent on native plant species. However, the project would reduce this potential impact to less than significant through the use of appropriate plant species in project landscaping and installing only non-invasive species, as outlined in the *Mitigation Requirements* section of this document.

Human Intrusion/Edge Effects

The project site is currently developed with campus housing, buildings, recreational areas, roads, and parking lots. Redevelopment of the site would not increase the potential for human intrusion and associated edge effects on nearby native habitats east of Hopkins Drive and north of Voigt Drive beyond existing conditions. No significant impact would occur.

Construction Noise

Construction-related noise from such sources as demolition and grading could be a temporary impact to wildlife. Breeding birds and mammals may temporarily or permanently leave their territories to avoid disturbances from construction activities, which could lead to reduced reproductive success and increased mortality. These indirect impacts would be considered significant if state or federally listed species, or nesting raptors, were affected. As further discussed below, the project would not impact state or federally listed species, and mitigation measures would be implemented to reduce the potential impacts to nesting raptors to less than significant.

In accordance with the analysis in the 2018 LRDP EIR, if a proposed project could indirectly impact suitable habitat for coastal California gnatcatcher, surveys for this species would be conducted to determine its presence/absence. Protocol surveys for coastal California gnatcatcher were conducted in

habitat east and northeast of the project site in 2021; the results were negative. Further, no state or federally listed species have been documented on or adjacent to the project site based on twenty years of cumulative biological survey data, and no impacts to listed species are expected to occur.

Suitable nesting locations for raptors occur in mature Torrey pine trees on-site and mature eucalyptus trees both on-site and within 500 feet of the project site. Active raptor nests, if present, could be adversely affected by noise during construction. Mitigation to address potential impacts to nesting raptors from noise is provided in the *Mitigation Requirements* section of this document, which would reduce impacts to less than significant through pre-construction surveys and temporary 500-foot construction setbacks from active raptor nests.

Night Lighting

Projects that install nighttime lighting have the potential to cause indirect impacts on adjacent native habitats through the spillover of lighting into native vegetation communities, exposing wildlife species to an unnatural light regime and potentially altering their behavior patterns, which can result in lower reproductive success, thus, reducing species diversity. Nighttime lighting can also provide nocturnal predators with an unnatural advantage over their prey, resulting in higher predation rates on native wildlife, which could be a potentially significant impact, particularly for sensitive species that may occur adjacent to a site.

The project site is within an urbanized area with existing lighting associated with roads, sidewalks, and buildings; as such, adjacent habitat areas may already be subject to some level of light spillover. Nevertheless, the proposed project would minimize the effects of any proposed lighting on adjacent habitat by (1) limiting construction to daylight hours, (2) if night lighting is determined to be necessary during construction, lighting would be temporary and shielded and directed away from adjacent habitats, and (3) permanent lighting associated with the project would be selectively placed, shielded, and directed away from habitat areas.

Mitigation to address this potential impact is provided in the *Mitigation Requirements* section of this document. Furthermore, the project would adhere to anticipated CDP lighting plan conditions that provide direction on using the best available dark skies technology and pole height and design to minimize light spill, sky glow, and glare impacts. CDP lighting plan conditions are anticipated to include limitations on types and design of lighting for walkways and communal spaces, security lighting, and require that window glass be treated to minimize transmission of indoor lighting to outdoor areas. The project would conform to CDP conditions regarding lighting.

Shading Effects

Construction of tall buildings near habitat areas, or structures over habitats, has the potential to result in shading impacts on surrounding habitats by reducing the amount of sunlight reaching these areas, which could have adverse effects on plant species composition.

A review of the shade study completed for the project indicates that habitats in the Ecological Reserve east of the site would not be significantly impacted by shading from the new, taller buildings proposed on the project site, which are set back sufficiently from the Ecological Reserve so as not to result in densely shaded areas. No significant impact would occur.

Errant Construction Impacts

Although the project site consists entirely of developed lands, native habitat is present immediately east of the project site on the opposite side of Hopkins Drive, which could be inadvertently impacted during construction if not adequately identified for construction personnel. If inadvertent impacts to native habitat outside of the project limits were to occur, a potentially significant impact would result. UC San Diego would implement several standard measures to ensure errant construction impacts do not occur, including, but not limited to, clear demarcation of the project limits with temporary fencing and regular monitoring by a biologist. Measures to be implemented are provided in the *Mitigation Requirements* section of this document.

Invasive Insect Pests

Project landscaping has the potential to introduce invasive, non-native insects into adjacent habitat areas if infected planting stock is installed on the project site. This could result in the weakening and eventual death of native plant species that are used as host species by these insects, or an invasion of natural areas by species that displace native insect species, disrupt natural food webs, or that may otherwise adversely affect native wildlife. Species that may displace native ant species and adversely affect native wildlife include Argentine ants (*Linepithema humile*) and South American fire ants (*Solenopsis invicta*), while species that could adversely affect native trees and shrubs include the polyphagous and Kuroshio shot hole borers (SHBs, [*Euwallacea* sp.]).

Mitigation to address this potential impact is provided in the *Mitigation Requirements* section of this document.

Brush Management

Proposed fuel modification is proposed to be contained entirely within the existing project site and existing pre-established fuel modification zone that extend into eucalyptus woodland east of Hopkins Drive. No impact would occur to native habitat, and no mitigation is required.

MITIGATION REQUIREMENTS

With the implementation of the following mitigation measures for significant or potentially significant impacts to sensitive biological resources, direct and indirect impacts from the implementation of the proposed project would be considered less than significant. See Attachment A for a detailed summary of applicable mitigation measures as taken from the 2018 LRDP EIR.

Mitigation for Direct Impacts

Nesting Raptors and Birds

Implementation of measures **Bio-2D** and **Bio-2E** of the 2018 LRDP EIR would reduce potential impacts to nesting birds and raptors to a level that is less than significant. These measures include pre-construction nesting surveys and restrictions on clearing vegetation during the raptor nesting season (generally January 15 through July 31) and the general avian breeding season (generally February 15 through August 31). Mitigation for Indirect Impacts

The following provides information on mitigation measures for potential construction and postconstruction indirect impacts to sensitive biological resources related to the implementation of the proposed project.

Runoff/Water Quality

Implementation of measures **Bio-3K(i)** and **(ii)** of the 2018 LRDP EIR would reduce potential runoff/water quality impacts to a level that is less than significant. The project will limit the use of chemical pesticides, herbicides, and fertilizers adjacent to the Ecological Reserve, and will minimize irrigation of landscaping to match watering needs.

Non-native Plant Species

Implementation of measures **Bio-3I(i)** and **(ii)** of the 2018 LRDP EIR would reduce potential impacts from non-native plant species to a level that is less than significant. The project will incorporate appropriate landscaping and will not include invasive plant species in the plant palette.

Construction Noise

Implementation of measure **Bio-2D** of the 2018 LRDP EIR would reduce potential impacts from construction noise on nesting raptors to a level that is less than significant. As detailed in the mitigation measure, pre-construction surveys for raptors and avoidance of construction activities within 500 feet of active raptor nests would be implemented.

Night Lighting

Implementation of measures **Bio-3E(iv)** and **Bio-3J** of the 2018 LRDP EIR would reduce potential impacts from night lighting to a level that is less than significant. During construction, the proposed project will avoid the use of night lighting adjacent to the natural habitats east of Hopkins Drive to the maximum extent feasible. Project construction is expected to occur only during daylight hours. Any construction or operational lighting will be selectively placed, shielded, and directed away from sensitive habitat, and any operational lighting next to Ecological Reserve lands will be of the lowest illumination allowable for human safety. In addition, and, as previously stated, the project would adhere to anticipated CDP lighting plan conditions that provide direction on using the best available dark skies technology and pole height and design to minimize light spill, sky glow, and glare impacts. CDP lighting plan conditions are anticipated to include limitations on types and design of lighting for walkways and communal spaces, security lighting, and require that window glass be treated to minimize transmission of indoor lighting to outdoor areas. The project would conform to CDP conditions regarding lighting.

Errant Construction Impacts

Implementation of measures **Bio-3E(i)** through **(iii)** and **Bio-3F** of the 2018 LRDP EIR would reduce potential impacts from errant construction to a level that is less than significant. Measures include clearly delineating the work area, monitoring the project construction by a biologist, reporting compliance with mitigation measures to UC San Diego, locating construction material storage and stockpile areas away from the Ecological Reserve, and keeping fire extinguishers on-site during construction.

Invasive Insect Pests

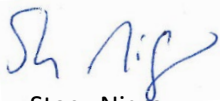
Implementation of measures **Bio-3G(i)** through **(vi)** and **Bio-3I(iii)** of the 2018 LRDP EIR would reduce potential impacts from the introduction of invasive insect pests to a level that is less than significant. All plants installed as part of project landscaping will be inspected for insect pests that could invade adjacent natural areas, and any infested plants will be disposed of in a manner that precludes invasion into natural habitats.

SUMMARY

In summary, the biological impacts associated with the Ridge Walk North LLN are consistent with the biological impacts analyzed in the 2018 LRDP EIR, and there would not be any new significant impacts. The project would avoid impacts to sensitive biological resources by remaining entirely within existing developed lands and would implement applicable 2018 LRDP EIR mitigation measures to address potential direct effects on nesting birds, as well as potential indirect effects on biological resources. These measures include pre-construction bird surveys, integrated pest management, controlling irrigation, installation of non-invasive plant species for landscaping, construction during daylight hours, low-illumination lighting, regular biological monitoring during construction, and inspection of landscaping stock for invasive insect pests. In addition, any eucalyptus trees removed from the Historic Grove would be replaced at a 2:1 ratio. A detailed summary of applicable mitigation measures is provided in a table as Attachment A. Applicable measures contained in Attachment A include 2018 LRDP measures **Bio-2D, Bio-2E, Bio-3E(i) through (iv), Bio-3F, Bio-3G(i) through (vi), Bio-3I(i) through (iii), Bio-3J, and Bio-3K(i) and (ii)**. With the implementation of the mitigation measures described in this report, in addition to compliance with CDP conditions and standard stormwater regulations, and adherence to best management practices, all project impacts to biological resources would be reduced to a level less than significant.

Should you have any questions regarding this report, please do not hesitate to call me at (619) 462-1515.

Sincerely,



Stacy Nigro
Principal Biologist

Attachments

- Figure 1: Project Vicinity Map
- Figure 2: Aerial Photograph of Site and Surroundings
- Figure 3: Site Plan
- Figure 4: Vegetation and UC San Diego Open Space Designations
- Figure 5: Project Limits/Vegetation and ESHA
- Attachment A: Summary of Biological Resources Mitigation Measures

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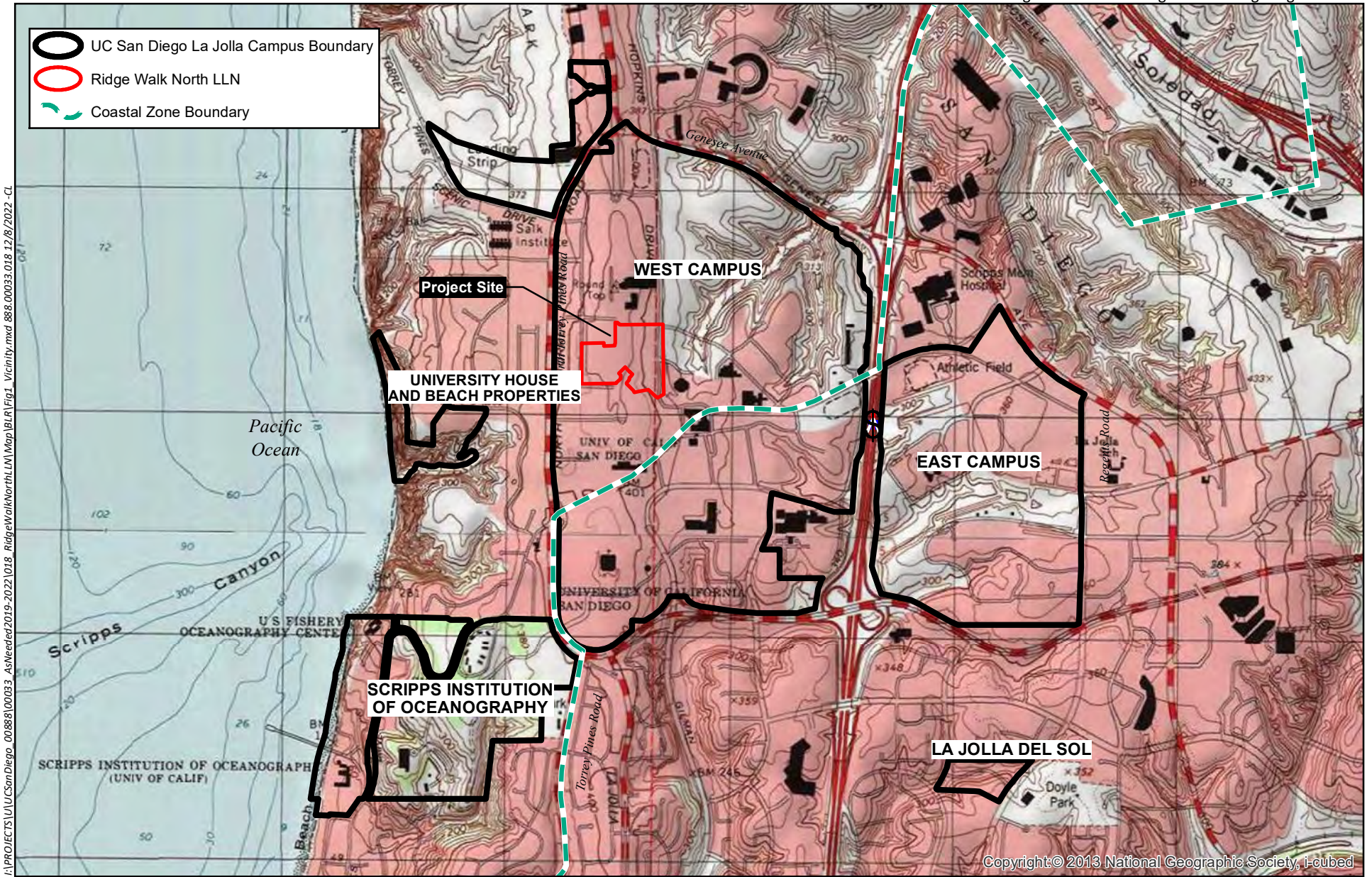
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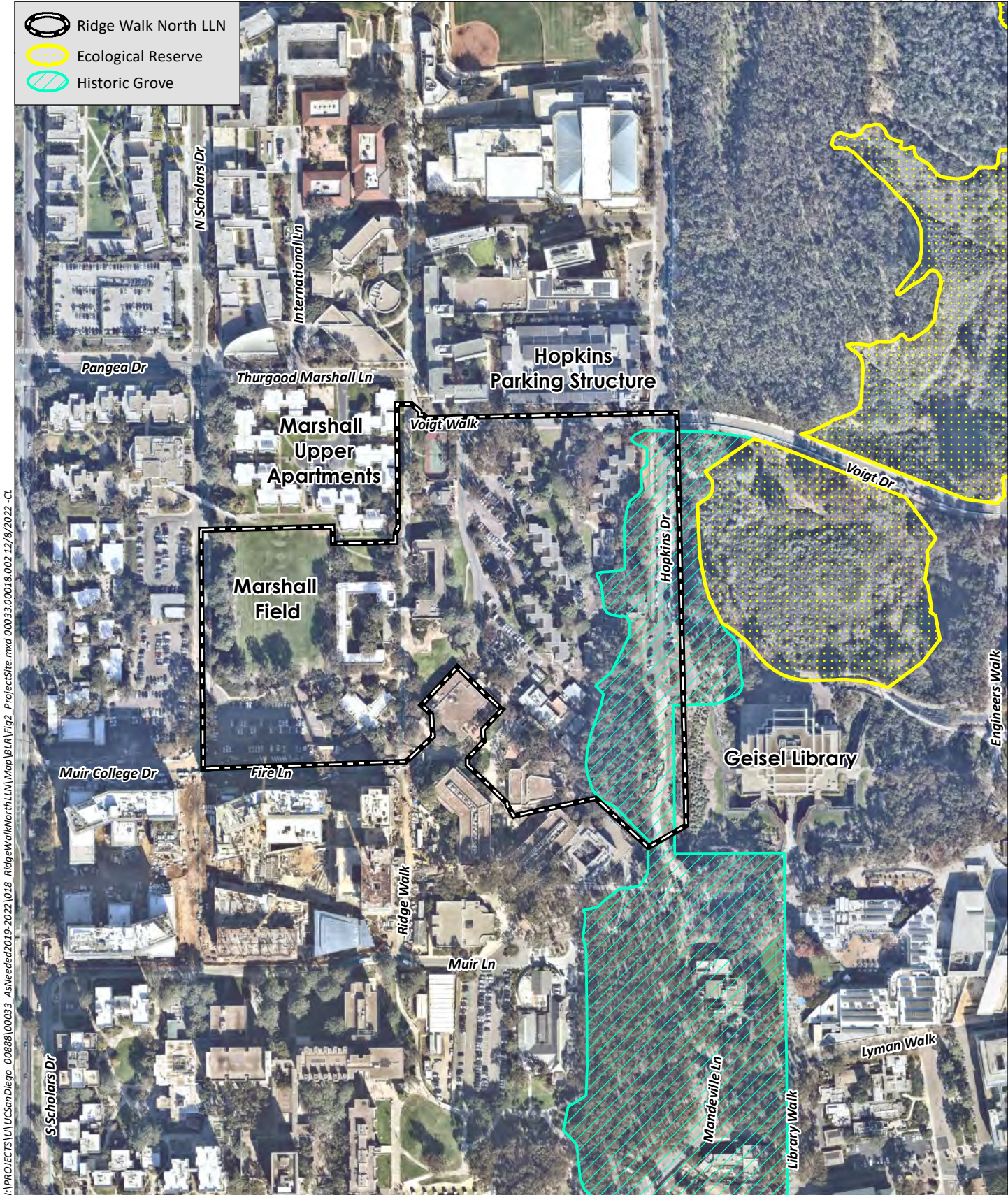
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Source: Aerial (SanGIS 2019)



BUILDING E
 BASEMENT: CLASSROOMS & ECON STUDY
 LEVEL 1: ECONOMICS ADMINISTRATION, LAB, AND BASIC NEEDS
 LEVEL 2: GPS & ECON NON-RESEARCH
 LEVEL 3: ECONOMICS RESEARCH
 LEVEL 4: ECONOMICS RESEARCH
 LEVEL 5: CLASSROOMS, FACULTY LOUNGE, ROOF TERRACE

APPROXIMATE LIMITS OF HISTORIC GROVE, SEE CIVIL DRAWINGS

BUILDING A
 BASEMENT: LOADING DOCK, FBS
 LEVEL 1: HDH HUMAN RESOURCES, RESIDENTIAL SUPPORT, PROFESSIONAL STAFF
 LEVELS 2-16: RESIDENTIAL
 LEVEL 17: RESIDENTIAL, LARGE MPR, ROOF TERRACE

(4) STANDARD UC VEHICLE STALLS (INCLUDES (1) ADA STALL, SEE CIVIL FOR ACCESSIBLE STALLS)

BUILDING B
 BASEMENT: PROFESSIONAL STAFF APARTMENTS
 LEVEL 1: GAME ROOM, COMMUNITY KITCHEN, LARGE MPR, RES LIFE, RESIDENTIAL SUPPORT
 LEVELS 2-14: RESIDENTIAL
 LEVEL 15: RESIDENTIAL, FITNESS, ROOF DECK

BUILDING C
 BASEMENT: CLASSROOMS, HOSPITALITY INFORMATION, RESIDENTIAL SUPPORT, LOADING DOCK
 LEVEL 1: GLASS BLOWING, CAFE/MARKET, 150 SEAT LECTURE HALL, CLASSROOMS, RESIDENTIAL SUPPORT
 LEVELS 2: TMC ADMINISTRATION, RESIDENTIAL
 LEVEL 3-8: RESIDENTIAL, LARGE GROUP STUDY, ROOF TERRACE

LEGEND

- APPROXIMATE LIMIT OF WORK. REFER TO ADDITIONAL DRAWINGS FOR WORK WHICH MAY EXTEND BEYOND THIS APPROXIMATE LIMIT OF WORK LINE.
- PROPERTY LINE
- NEW BUILDING
- EXISTING BUILDINGS
- FIRE HYDRANT - SEE CIVIL DRAWINGS
- - - REPRESENTATIVE PRIMARY ACCESSIBLE PATH OF TRAVEL - SEE CIVIL DRAWINGS C201 AND C202
- PROPOSED BIKE RACKS - SEE LANDSCAPE DRAWINGS L4.01 AND L4.02

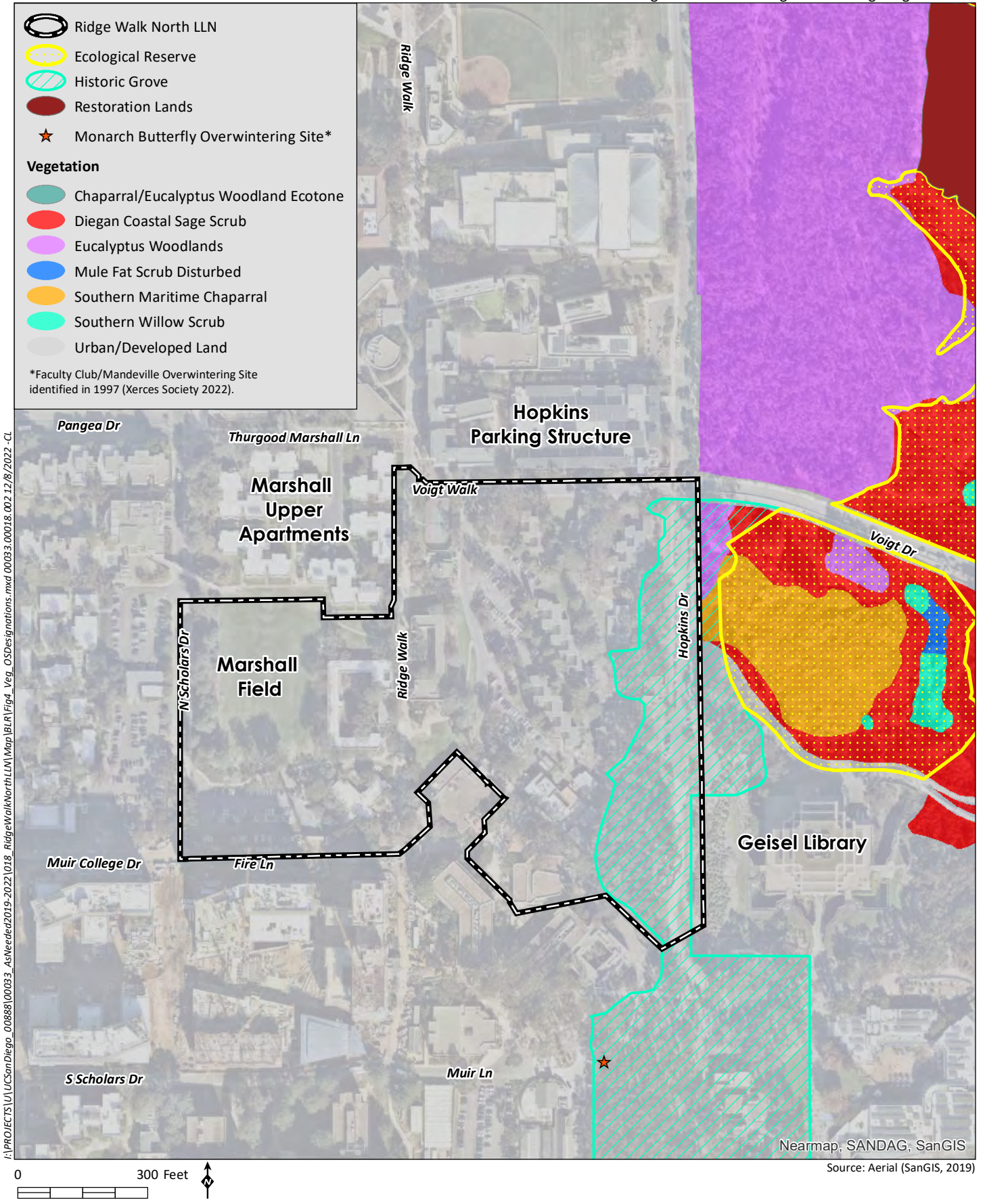
PARKING TABULATION

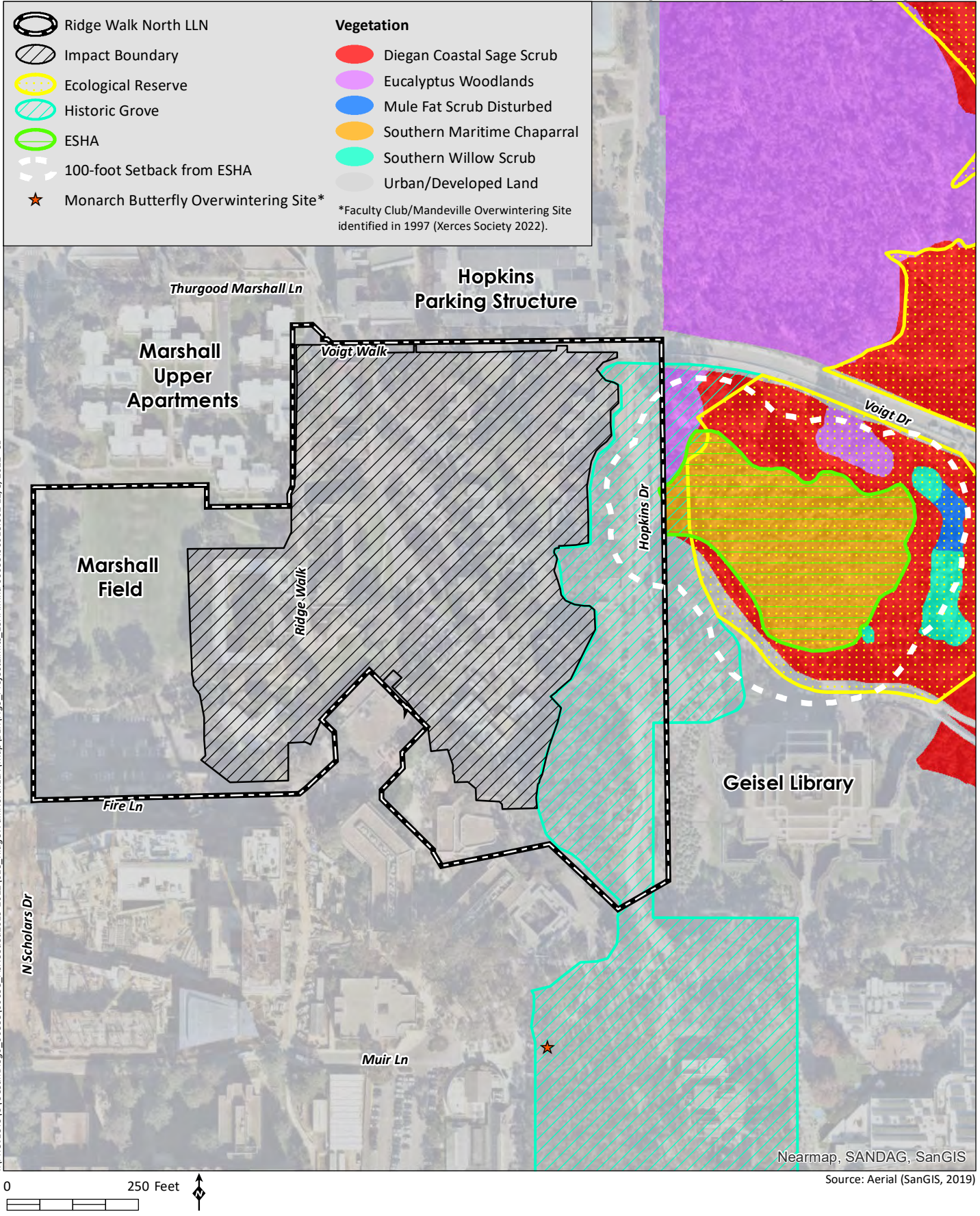
OPERATIONAL PARKING SPACES	REQUIRED	REQUIRED
ELECTRIC UC VEHICLE CHARGING AND PARKING	8	8
ELECTRIC UC VEHICLE CHARGING AND PARKING	8	8
UC VEHICLE PARKING	5	5
LOADING/UNLOADING	8	8
ADA PARKING		2*

*Minimum ADA Parking per California Building Code Section 11B-0202.1

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Source: HMC Architects 9/2022





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Nearmap, SANDAG, SanGIS
Source: Aerial (SanGIS, 2019)

Topic	2018 Long Range Development Plan (LRDP) EIR Mitigation Measure (MM):	Implementation / Additional Information
Nesting Birds and Raptors	<p>Bio-2D: If project construction is scheduled to commence during the raptor nesting season (generally January 15 through July 31), pre-construction surveys for raptor nests shall be performed by a qualified biologist within 500 feet of project construction activities no more than seven days prior to the initiation of construction. Construction activities within 500 feet of an identified active raptor nest shall not commence during the breeding season until a qualified biologist determines that the nest is no longer active and any young birds in the area have adequately fledged and are no longer reliant on the nest. Trees with inactive nests can be removed outside the breeding season without causing an impact.</p> <p>Bio-2E: No grubbing, trimming, or clearing of vegetation (including brush management) from project sites shall occur during the general avian breeding season (February 15 through August 31). If grubbing, trimming, or clearing cannot feasibly occur outside of the general avian breeding season, a qualified biologist shall perform a pre-construction nesting bird survey no more than seven days prior to the commencement of vegetation clearing or grubbing to determine if active bird nests are present in the affected areas. Should an active migratory bird nest be located, the project biologist shall direct vegetation clearing away from the nest until it has been determined by the project biologist that the young have fledged, or the nest has failed. If there are no nesting birds (includes nest building or other breeding/nesting behavior) within the survey area, clearing, grubbing, and grading shall be allowed to proceed.</p>	Implement prior to start of construction.
Runoff/Water Quality	<p>Bio-3K: The following best management practices shall be implemented by the campus along areas that interface with the Open Space Preserve to address runoff/water quality impacts from landscaping:</p> <ul style="list-style-type: none"> i. Integrated Pest Management principles (University of California Integrated Pest Management Program) shall be implemented to the extent practicable for areas in and adjacent to the Open Space Preserve for chemical pesticides, herbicides, and fertilizers. Examples of such measures may include, but are not limited to, alternative weed/pest control measures (e.g., removal by hand) and proper application techniques (e.g., conformance to manufacturer specifications and legal requirements). ii. Irrigation for project landscaping shall be minimized and controlled in areas in and adjacent to the Open Space Preserve through efforts such as designing irrigation systems to match landscaping water needs, using sensor devices to prevent irrigation during and after precipitation, and using automatic flow reducers/shut-off valves that are triggered by a decrease in water pressure from broken sprinkler heads or pipes. 	Implement in design or during maintenance.

Topic	2018 Long Range Development Plan (LRDP) EIR Mitigation Measure (MM):	Implementation / Additional Information
Non-native Plant Species	<p>Bio-3I: Landscaping adjacent to the Open Space Preserve shall comply with the following requirements to prevent the introduction of invasive species:</p> <ul style="list-style-type: none"> i. Appropriate landscaping shall be selected based on the vegetation communities within the portion of the Open Space Preserve adjacent to the project. In areas supporting native (or disturbed native) vegetation communities, revegetation of impacted slopes shall be with appropriate native plant materials. In particular, where the Open Space Preserve is disturbed by construction of the Campus Meander, installation of native plants such as lemonadeberry (<i>Rhus integrifolia</i>), toyon (<i>Heteromeles arbutifolia</i>), deerweed (<i>Acmispon glaber</i>), monkey flower (<i>Diplacus aurantiacus</i>), and sages (<i>Salvia</i> spp.) are recommended to make the Open Space Preserve more impenetrable to people while reinforcing the boundaries and edges of the Campus Meander. ii. Only non-invasive plant species shall be included in the landscape plans for projects (species not listed on the California Invasive Plant Inventory prepared by the Cal-IPC [2006]). A qualified landscape architect and/or qualified biologist shall review landscape plant palettes prior to implementation to ensure that no invasive species are included. 	Implement in design.
Construction Noise	<p>Bio-2D: If project construction is scheduled to commence during the raptor nesting season (generally January 15 through July 31), pre-construction surveys for raptor nests shall be performed by a qualified biologist within 500 feet of project construction activities no more than seven days prior to the initiation of construction. Construction activities within 500 feet of an identified active raptor nest shall not commence during the breeding season until a qualified biologist determines that the nest is no longer active and any young birds in the area have adequately fledged and are no longer reliant on the nest. Trees with inactive nests can be removed outside the breeding season without causing an impact.</p>	Implement prior to start of construction.

Topic	2018 Long Range Development Plan (LRDP) EIR Mitigation Measure (MM):	Implementation / Additional Information
Night Lighting	<p>Bio-3E: Prior to construction, a pre-construction meeting shall be held between the Project Manager, qualified biologist, Environmental Planner, and construction crews to ensure crews are informed of the sensitivity of habitats in the Open Space Preserve and adjacent undeveloped lands.</p> <p>iv. Temporary night lighting shall not be used during construction unless determined to be absolutely necessary. If night lighting is necessary, lights shall be directed away from sensitive vegetation communities and shielded to minimize temporary lighting of the surrounding habitat. If night lighting is necessary, lights shall be directed away from sensitive vegetation communities and shielded to minimize temporary lighting of the surrounding habitat.</p> <p>Bio-3J: Permanent lighting within or adjacent to the Ecological Reserve and Restoration Lands shall be selectively placed, shielded, and directed to minimize potential impacts to sensitive species. In addition, lighting from buildings or parking lots/structures abutting the Ecological Reserve shall be shielded and/or screened by vegetation to the extent feasible.</p>	Implement during design and at start of and during construction.
Errant Construction Impacts	<p>Bio-3E: Prior to construction, a pre-construction meeting shall be held between the Project Manager, qualified biologist, Environmental Planner, and construction crews to ensure crews are informed of the sensitivity of habitats in the Open Space Preserve and adjacent undeveloped lands.</p> <p>i. Prior to commencement of clearing or grading activities, fencing (e.g., silt fencing, orange construction fencing, and/or chain-link fencing as determined by campus planning) shall be installed around the approved limits of disturbance to prevent errant disturbance of sensitive biological resources by construction vehicles or personnel. Installation of fencing to demarcate the approved limits of disturbance shall be verified by the project biologist prior to initiation of clearing or grading activities. All movement of construction contractors, including ingress and egress of equipment and personnel, shall be limited to designated construction zones. This fencing shall be removed upon completion of all construction activities.</p>	Implement at start of and during construction.

Topic	2018 Long Range Development Plan (LRDP) EIR Mitigation Measure (MM):	Implementation / Additional Information
Errant Construction Impacts (cont.)	<p>ii. No temporary storage or stockpiling of construction materials shall be allowed within the Ecological Reserve or Restoration Lands, and all staging areas for equipment and materials shall be located at least 50 feet from the edge of these areas. This prohibition shall not be applied to facilities that are planned to traverse Ecological Reserve or Restoration Lands (e.g., trails and utilities). Staging areas and construction sites in proximity to the Ecological Reserve or Restoration Lands shall be kept free of trash, refuse, and other waste; no waste dirt, rubble, or trash shall be deposited in these areas.</p> <p>iii. Equipment to extinguish small brush fires (e.g., from trucks or other vehicles) shall be present on site during all phases of project construction activities, along with personnel trained in the use of such equipment. Smoking shall be prohibited in construction areas adjacent to flammable vegetation.</p> <p>Bio-3F: During project construction, a biological monitor shall visit the site weekly during site preparation and rough grading activities, and monthly following completion of rough grading, until construction is completed. During site visits, the monitor shall be responsible for ensuring that the construction activities and staging areas are restricted to the approved limits of work, and protective fencing is adequately maintained. The monitor shall be responsible for ensuring that the contractor adheres to the other provisions described above. The monitor, in cooperation with the on-site construction manager, shall have the authority to halt construction activities in the event that these provisions are not met. Monitors shall submit regular reports to the UC San Diego Campus Planning Office during construction documenting the implementation of construction measures Bio-3E.</p>	

Topic	2018 Long Range Development Plan (LRDP) EIR Mitigation Measure (MM):	Implementation / Additional Information
Invasive Insect Pests	<p>Bio 3G: The following best management practices shall be implemented for each project that would remove or install tree species on UC San Diego that may be used as host trees by SHBs:</p> <ul style="list-style-type: none"> i. Trees to be planted on UC San Diego shall be obtained from a reliable source and be free of sign of SHB infestation. ii. An education program for on-site workers responsible for tree installation shall be implemented. The program shall describe the signs of SHB infestation (e.g., sugary exudate on trunks or branches, and SHB entry/exit holes [approximately the size of the tip of a ballpoint pen]). iii. Sign of SHB infestation shall be reported to CDFW and UC Riverside’s Eskalen Lab (www.eskalenlab.ucr.edu) by the UC San Diego Project Manager and/or the project biologist. iv. Trees with sign of SHB infestation shall be pruned or removed, as appropriate, and potential host materials shall be chipped to less than one inch prior to composting on site or transfer to a landfill. v. Equipment that is used to prune or remove SHB-infected trees shall be disinfected prior to additional use. vi. Biologists monitoring mitigation sites shall be knowledgeable regarding sign of SHB infestation. <p>Bio-3I: Landscaping adjacent to the Open Space Preserve shall comply with the following requirements to prevent the introduction of invasive species:</p> <ul style="list-style-type: none"> iii. Any planting stock brought onto a project site adjacent to the Open Space Preserve for landscaping or habitat restoration shall be inspected to ensure it is free of pest species that could invade natural areas, including but not limited to Argentine ants and South American fire ants. Inspections of planting stock for habitat restoration shall be by a qualified biologist, and inspections of planting stock for landscaping shall be the responsibility of qualified UC San Diego Project Manager or their designated assignee. Any planting stock found to be infested with such pests shall be quarantined, treated, or disposed of according to best management practices by qualified personnel, in a manner that precludes invasions into natural habitats. 	Implement during construction.

Appendix C

Cultural/Historic Resources Report

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December 8, 2022

00888.00033.018

Ms. Lauren Lievers
Campus Planning
University of California, San Diego
9500 Gilman Drive MC 0074
La Jolla, CA 92093-0074

Subject: UC San Diego Ridge Walk North Living & Learning Neighborhood Cultural/Historic Resource Report

Dear Ms. Lievers,

HELIX Environmental Planning, Inc. (HELIX) prepared this cultural and historic resource assessment under contract to the University of California, San Diego (UC San Diego; University) for the proposed Ridge Walk North Living and Learning Neighborhood Project (Project) on the La Jolla campus in San Diego County, California (Attachment 1). This report complies with the National Historic Preservation Act (NHPA) of 1966, California Environmental Quality Act (CEQA) §15168 and §21094, applicable sections of the California Coastal Act focusing on historic/cultural resources, and standards and mitigation measures identified in the UC San Diego La Jolla Campus 2018 Long Range Development Plan (LRDP) Environmental Impact Report (EIR).

HELIX reviewed records search data from the South Coastal Information Center (SCIC) and Sacred Lands File Search from the Native American Heritage Commission (NAHC), which were completed for the 2018 LRDP EIR. A cultural resource field survey was not conducted for this report because the Project area has been previously surveyed with 100 percent coverage. Findings from the UC San Diego 2018 LRDP EIR were considered, including *Appendix D: Archaeological Resources Report* (Jow and Cooley 2018) and *Appendix E: Historical Resources Technical Report* (Architectural Resources Group 2018). One historic vernacular landscape encompassing a 42-acre eucalyptus grove, referred to in this report as Historic Grove, was identified within the proposed Project area and is the subject of this report.

PROJECT LOCATION AND DESCRIPTION

The Project area is on the Pacific Coast north of La Jolla Shores on Pueblo Lands within Township 15 South, Range 3 West, on the La Jolla U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (Attachment 2). The UC San Diego La Jolla campus is comprised of three distinct, but contiguous, geographical areas: the Scripps portion of the campus, the western area of the campus (West Campus),

and the eastern area of the campus (East Campus). The Project would be constructed within Marshall College, one of UC San Diego's seven colleges for undergraduate learning in the West Campus. Refer to Attachment 1, *Campus Map*, and Attachment 2, *Aerial Photograph of Site and Surroundings*.

The project would redevelop approximately 6.1 acres of a 20.9-acre site. The project would provide 2,455 new student beds in three residential towers ranging in height from 10 to 18 stories. A fourth 6-story building would be constructed containing mostly academic and administrative uses. In addition to housing, the project would include landscape and hardscape improvements, academic spaces such as classrooms and lecture halls, a café and market, administrative space, and utility infrastructure and connections. Refer to Attachment 3, *Site Plan*, for project layout and components.

Construction of the project would demolish existing structures within the Marshall College campus, including the Marshall Lowers residences, Dean's Residence, Economics Building, Sequoyah Hall, Fireside Lounge, and the Thurgood Marshall Administration Building. The Marshall Field would be utilized as a staging area during construction and would be returned to previous conditions upon completion of the project. The project would include the removal of 16 Torrey Pines and 63 eucalyptus trees, which would be replaced at a 2:1 ratio.

REGULATORY FRAMEWORK

Cultural resources are defined as buildings, sites, structures, or objects, each of which may have historical, architectural, archaeological, cultural, and/or scientific importance. The CEQA, Public Resources Code (PRC) 21084.1, and California Code of Regulations (CCR) Title 14 §15064.5, address determining the significance of impacts to archaeological and historic resources and discuss significant cultural resources as "historical resources," which are defined as:

- Resource(s) listed or determined eligible by the State Historical Resources Commission for listing in the California Register of Historical Resources (CRHR; 14 CCR §15064.5[a][1]);
- Resource(s) either listed in the National Register of Historic Places (NRHP) or in a "local register of historical resources" or identified as significant in a historical resource survey meeting the requirements of §5024.1(g) of the PRC, unless "the preponderance of evidence demonstrates that it is not historically or culturally significant" (14 CCR §15064.5[a][2]); and/or
- Resources determined by the Lead Agency to meet the criteria for listing on the CRHR (14 CCR §15064.5[a][3]) or otherwise determined by the Lead Agency pursuant to PRC §5020.1(j) or 5024.1 per 14 CCR §15064.5(a)(4).

For listing in the NRHP or CRHR, a historical resource must be significant at the local, state, or national level under one or more of the following four criteria:

1. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
2. It is associated with the lives of persons important to local, California, or national history;

3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; and/or
4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

As described in the National Register Bulletin (NRB) 15: *How to Apply the National Register Criteria for Evaluation*, significant resources must retain enough physical and associative qualities to convey the reasons for its significance, otherwise known as integrity (National Park Service 1995). Integrity is sometimes thought of as a historical resource's "authenticity," evidenced by survival of characteristics that existed during the resource's period of significance. Therefore, historical resources are evaluated for their retention of location, design, setting, materials, workmanship, feeling, and association. To be considered eligible for inclusion in the NRHP, a resource must retain most or all seven aspects relative to its period of significance. In general, a resource must also be at least 50 years of age to be listed in the NRHP, unless the resource is of exceptional importance and belongs to Categories A-G as described in Section II of the NRB 15 (National Park Service 1995:2).

The California process for resource identification, evaluation, and assessment for eligibility to be included in the California Register of Historical Resources (CRHR) is nearly identical to the NRHP. Thus, all properties listed in the NRHP also qualify for inclusion in the CRHR. The State Historic Preservation Officer maintains the CRHR, which also includes properties designated under local ordinances.

CULTURAL BACKGROUND

A detailed cultural background for the Project area is available in the UC San Diego LRDP EIR (2018), Chapter 3.4, *Cultural and Tribal Cultural Resources*. The chapter encompasses regional prehistory, history, built environment, and archaeological resources.

BACKGROUND RESEARCH

Methods

On August 8, 2022, HELIX reviewed the California Historical Resources Information System (CHRIS) Southern California Information Center (SCIC) records search data for the LRDP EIR (2018) study area, which fully encompasses the Project area. Originally collected in February 2017 by Jow and Cooley (2018), the SCIC data includes previously completed reports and archaeological, ethnographic, and built environment resources. HELIX then reviewed findings from the Native American Heritage Commission Sacred Lands File information request submitted in February 2017 and Native American correspondence regarding sacred sites reported by Jow and Cooley (2018). HELIX also reviewed the *UC San Diego Long Range Development Plan Historical Resources Technical Report* prepared by Architectural Resources Group (2018) to identify historical resources intersecting the Project area. Various archival sources were reviewed as presented by Architectural Resources Group (2018), including historic topographic maps and aerial imagery, to identify historic structures and land use in the area and assess the potential for unidentified historic archaeological resources to be present.

Results

In summary, 78 cultural resource studies have been conducted in the LRDP EIR study area since 1959. Of these, five cultural resource studies intersect with the Project area. Cultural resource studies include 10 cultural resource surveys or reconnaissance reports, 1 cultural resource monitoring report, 5 archaeological investigation reports, 47 archaeological evaluation reports, and 15 environmental planning documents. Refer to Table 1, *Previous Cultural Resource Studies Within the Project Area*.

Twenty archaeological resources have been recorded in the LRDP EIR study area consisting of prehistoric lithic scatters and habitation sites, as well as historic-era foundations, culverts, and Camp Matthews. However, none of these are within the Project area. An expansive multi-component prehistoric and historic archaeological site, Camp Callan (CA-SDI-8470), is located approximately 280 feet (85 meters) west of the northernmost Project area boundary. The prehistoric cultural material within CA-SDI-8470 is a secondary deposit borrowed during World War II from site SDM-W-9N to create the residential base at Camp Callan. Although several Native American sacred sites are located within the UC San Diego campus, based on the findings of the LRDP EIR (2018), none intersect with or are adjacent to the Project area.

As shown in Table 2, *Previously Recorded Cultural Resources Within the Project Area*, one historical vernacular landscape, the Historic Grove, is partially encompassed by the Project area. The Historic Grove is a dense concentration of mature and semi-mature eucalyptus trees that flows along a general north-to-south direction through the center of West Campus. The trees were initially planted circa 1910 as part of an urban tree farm (Architectural Resources Group 2018). Most of the trees rise between 30 and 50 feet in height and are planted in a regular grid pattern. The northern arm of the grove is situated within the eastern portion of the Project area, adjacent to Hopkins Lane.

The Historic Grove is significant for conveying broad patterns of history associated with the economic development of San Diego and is individually eligible for the National Register of Historic Places and the California Register of Historical Resources. The mature eucalyptus trees are a valuable cultural landscape and aesthetic resource to the campus, with much of the landscape character of UC San Diego being defined by the grove. However, the significance of the Historic Grove is defined by the holistic qualities of the landscape and not by any individual tree or number of tree specimens (Architectural Resources Group 2018). Section 2.4.3.2, *Landscape and Open Space*, of the LRDP EIR (2018), includes a description of the Historic Grove and its value to the campus:

“Approximately 42 acres of Historic Grove are designated in the Open Space Preserve on campus in the proposed 2018 LRDP. Historic Grove includes the eucalyptus stands through the core of the campus. The mature eucalyptus groves are a valuable cultural landscape and aesthetic resource to the campus. Much of the landscape character of UC San Diego has been defined by these trees over the past 50 years. Future expansion of existing facilities and new facilities would be limited in the Historic Grove and, wherever possible, efforts would be made to reduce building footprints and restore the eucalyptus groves to enhance the integrity of this open space. Development of suitable bicycle and pedestrian paths in the Historic Grove would be encouraged by the proposed 2018 LRDP, taking into account tree health and location.”

No structures are visible, and the area appears largely undeveloped within the Project area in 1903, 1913, 1930, 1940, and 1955 La Jolla (1:62,500) 15-minute topographic quadrangles. Aerial photographs from 1941 and 1966 show portions of the Historic Grove (Architectural Resources Group 2018:34 and 77). The Historic Grove is also partially visible in a 1967 aerial image included in the California DPR site record for the Revelle College Historic District (Architectural Resources Group 2018).

Geologically, the Project is underlain by a sedimentary formation dating to the Cenozoic Era (Jow and Cooley 2018). Soil units within the Project area include Carlsbad gravelly loamy sand in 2-9 percent slopes and Chesterton fine sandy loam found in areas having 5-15 percent slopes. Both soils are non-hydric and moderately well drained (USDA 1973).

Table 1
PREVIOUS CULTURAL RESOURCE STUDIES WITHIN THE PROJECT AREA

Report Number	Year	Author(s)	Title	Report Type
SD-00827	1989	Gallegos, Dennis, Roxana Phillips, Andrew Pignolo, Tom Demere, and Patricia M. Masters	A Cultural and Paleontological Inventory Update for the University of California at San Diego and Scripps Institution of Oceanography	Archaeological, Field Study
SD-01920	1980	Hanna, David Jr.	A Cultural Resource Inventory of the University of California at San Diego	Archaeological, Field Study
SD-04383	1989	ERC Environmental and Energy Services	A Cultural and Paleontological Inventory Update for the University of California at San Diego and Scripps Institution of Oceanography	Archaeological, Evaluation
SD-09376	2004	Kyle, Carolyn	Cultural Resource Inventory Update and Recommendations for the University of California at San Diego 2004 Long Range Development Plan	Management, Planning
SD-10885	2007	Mattingly, Scott A.	Archaeological And Geospatial Investigations of Fire-Altered Rock Features at Torrey Pines State Reserve, San Diego, California	Archaeological, Evaluation

Table 2
PREVIOUSLY RECORDED CULTURAL RESOURCES WITHIN THE PROJECT AREA

Resource Name	Architect/Designer	Age	Description/Location	NRHP/CRHR Criteria; Status
Eucalyptus Grove	Max Watson (Forester)	c. 1910	A 42-acre eucalyptus grove within Revelle, Muir and Marshall Colleges	Eligible for listing in NRHP/CRHR under Criteria A/1; 3S/3CS

IMPACT ANALYSIS

The proposed Project could result in a significant impact if alteration of a historical resource (i.e., the Historic Grove) would cause substantial adverse change to its significance. Per the LRDP EIR, potential significant impacts to the Historic Grove would include the “removal of a substantial volume of trees or other natural features, the introduction of non-historic tree and plant species into the grove” (LRDP EIR 2018). However, a discussion of potential impacts to UC San Diego historic vernacular landscapes concludes that, “It is possible to remove some trees and landscape features without adversely affecting the overall integrity of the landscape, provided that the district’s essential character and significance remain unimpaired.” (Architectural Resources Group 2018:35). Therefore, intact concentrations of trees within the project site should be preserved so that the landscape would continue to convey its historical significance and major features upon Project completion, as described in the 2018 LRDP EIR (UCSD 2018b: 3.4-51).

The project has been designed to minimize impacts to the Historic Grove to the extent feasible. The removal of individual trees on the periphery of concentrations and outside the designated Historical Grove boundary would generally not impact the historic integrity of the resource. A total of 63 trees throughout Grove will be removed. Trees removed or impacted by construction activities within the Historic Grove boundaries would be replaced at a 2:1 ratio, consistent with standard maintenance practices of the Grove over the years. Therefore, 126 eucalyptus trees would be added as part of the project. Additionally, vernacular landscapes, by definition, have evolved over time, generally cover large areas, and often have boundaries that blur into the surrounding environment. As such, buildings constructed adjacent to the Grove would not adversely affect the overall integrity of the vernacular landscape. Therefore, the Historic Grove’s essential historic character would be maintained. The proposed Project would result in a less than significant impact to the Historic Grove.

CONCLUSION AND RECOMMENDATIONS

Based on the records search, the results of the Sacred Lands File search, and prior development of the Project site, no impacts to archaeological resources are anticipated. However, there is low to moderate possibility of encountering human remains within the prehistoric secondary deposit at CA-SDI-8470, which is in proximity to the Project area. Therefore, archaeological and Native American monitoring during ground disturbing activities is recommended for the northeastern portion of the Project area and shall be implemented according to LRDP EIR mitigation measure (MM) CUL-2E, Construction Monitoring. Per MM CUL-2E(iv), if human remains are discovered, work shall halt in that area and the procedures detailed in the California Health and Safety Code (Section 7050.5) and the California PRC (Section 5097.98) will be followed.

To reduce potential adverse impacts to the historic vernacular landscape (i.e., Historic Grove) that encompasses the eastern portion of the Project area, UC San Diego shall implement the Standards for Historic Landscapes as described in MM CUL-1B, Project Redesign. Design of the Project includes efforts to minimize removal of individual eucalyptus trees from within the Historic Grove, avoid introduction of plant species that may cause harm or adversely affect positive growth of the eucalyptus trees, and minimize the construction of buildings, structures, objects, features, or other constructed elements above ground that may cause an adverse impact to those characteristics that contribute to the significance of the resource.

Trees removed or impacted by construction activities within the Historic Grove boundaries would be replaced, consistent with standard maintenance practices of the Grove over the years. Because removed trees would be replaced at a 2:1 ratio within the Historic Grove, potential impacts would be fully mitigated per the CEQA guidelines and no additional action is necessary.






Diana T. Dyste, RPA
Cultural Resources Discipline Leader

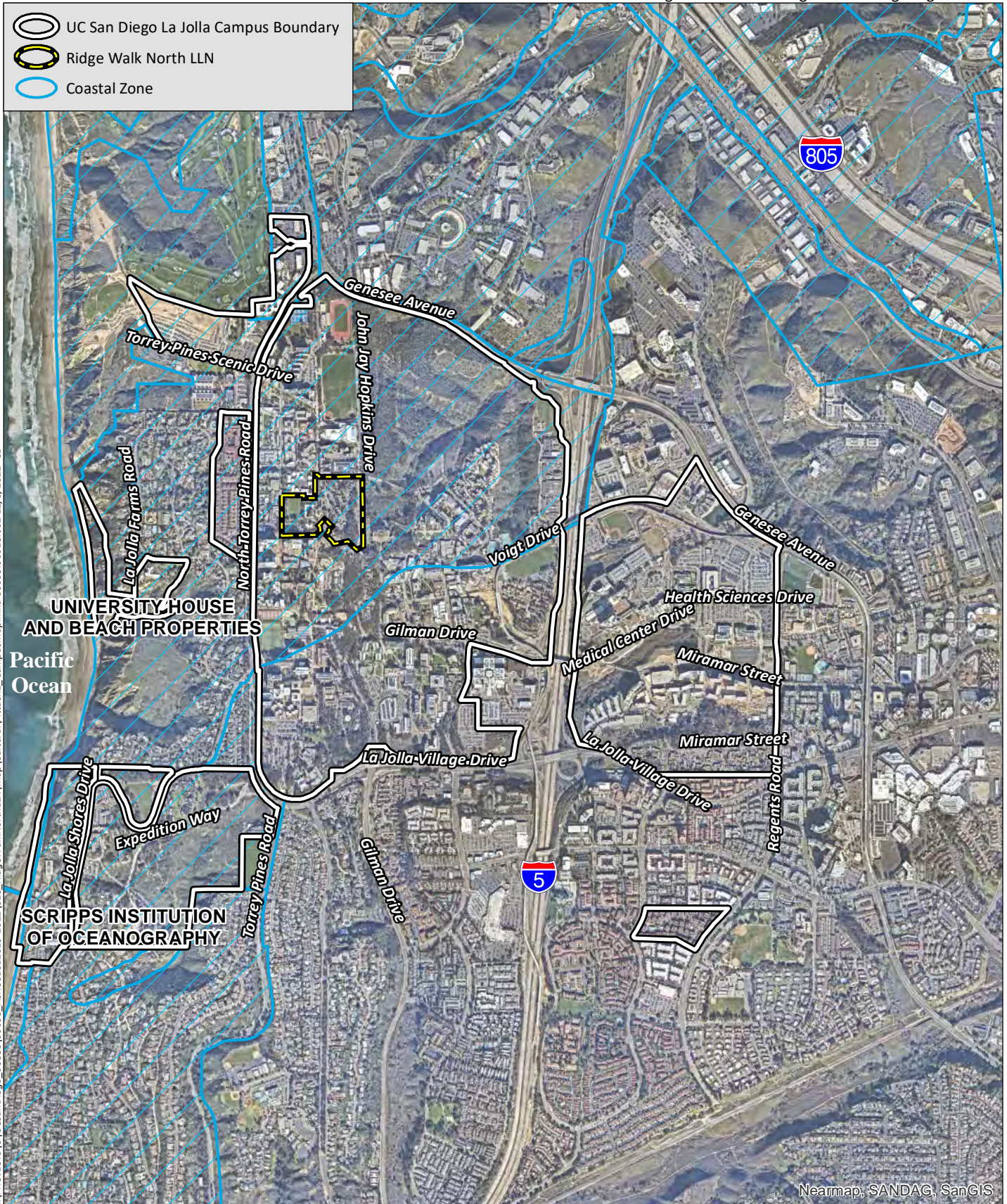
Attachments:

- Attachment 1: Campus Map
- Attachment 2: Aerial Photograph of Site and Surroundings
- Attachment 3: Site Plan

REFERENCES

- Architectural Resources Group. 2018. UC San Diego Long Range Development Plan Historical Resources Technical Report. October.
https://drive.google.com/file/d/1Vyky_GrfpQXUGYxplUPguxbnzwQ95vN1/view?usp=sharing.
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- U.S. Department of Agriculture (USDA). 1973. Soil Conservation Service and Forest Service. Soil survey: San Diego, California.

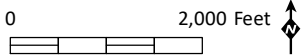
-  UC San Diego La Jolla Campus Boundary
-  Ridge Walk North LLN
-  Coastal Zone






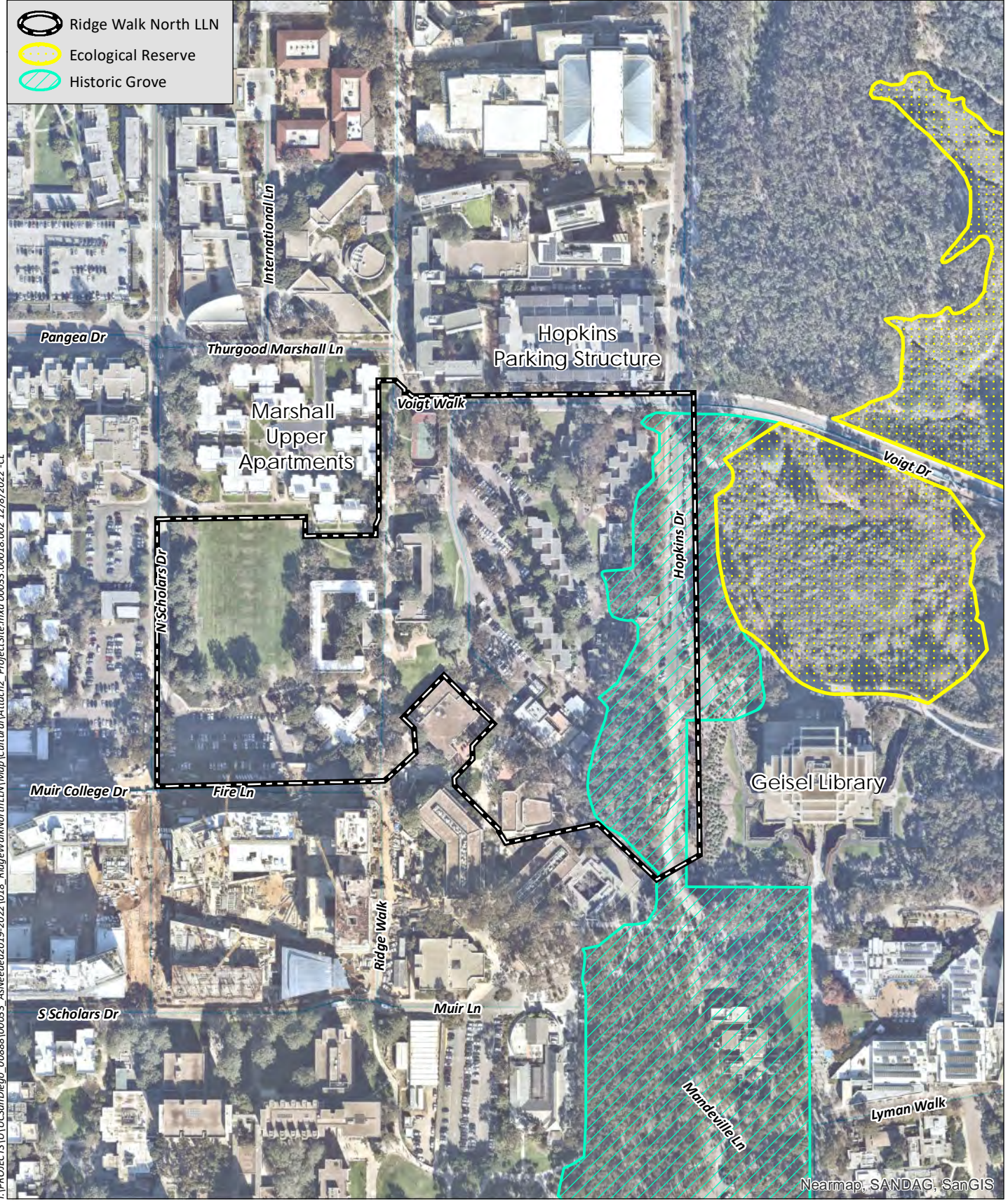
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Nearmap, SANDAG, SanGIS

Source: Aerial (SanGIS, 2019)



-  Ridge Walk North LLN
-  Ecological Reserve
-  Historic Grove



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Nearmap, SANDAG, SanGIS

Source: Aerial (SanGIS, 2019)





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APPROXIMATE LIMITS OF HISTORIC GROVE, SEE CIVIL DRAWINGS

BUILDING A
BASEMENT: LOADING DOCK, FBS
LEVEL 1: HDH HUMAN RESOURCES, RESIDENTIAL SUPPORT, PROFESSIONAL STAFF
LEVELS 2-16: RESIDENTIAL
LEVEL 17: RESIDENTIAL, LARGE MPR, ROOF TERRACE

BUILDING B
BASEMENT: PROFESSIONAL STAFF APARTMENTS (INCLUDES (1) ADA STALL, SEE CIVIL FOR ACCESSIBLE STALLS)
LEVEL 1: GAME ROOM, COMMUNITY KITCHEN, LARGE MPR, RES LIFE, RESIDENTIAL SUPPORT
LEVELS 2-14: RESIDENTIAL
LEVEL 15: RESIDENTIAL, FITNESS, ROOF DECK

BUILDING C
BASEMENT: CLASSROOMS, HOSPITALITY INFORMATION, RESIDENTIAL SUPPORT, LOADING DOCK
LEVEL 1: GLASS BLOWING, CAFE/MARKET, 150 SEAT LECTURE HALL, CLASSROOMS, RESIDENTIAL SUPPORT
LEVELS 2: TMC ADMINISTRATION, RESIDENTIAL
LEVEL 3-8: RESIDENTIAL, LARGE GROUP STUDY, ROOF TERRACE

(4) STANDARD UC VEHICLE STALLS (INCLUDES (1) ADA STALL, SEE CIVIL FOR ACCESSIBLE STALLS)

(1) UC CART CHARGING STALLS

(3) LOADING/UNLOADING STALLS

UNPAVED UC VEHICLE CHARGING STALLS (INCLUDES (1) ADA STALL, SEE CIVIL FOR ACCESSIBLE STALLS)

STANDARD UC VEHICLE STALL

Appendix D

Hydrology Study



Hydrology Study

UCSD Ridge Walk North Living and Learning Neighborhood

UCSD PROJECT NO. 5511

CEI PROJECT NO. 222555

Original September 2022

Revised December 2022

HYDROLOGY STUDY

FOR

**UNIVERSITY OF CALIFORNIA SAN DIEGO
RIDGE WALK NORTH LIVING AND LEARNING NEIGHBORHOOD
SAN DIEGO, CA 92161**

**UCSD Project No. 5511
CEI Project Number. 222555**

PREPARED BY:

**COFFMAN ENGINEERS, INC.
1455 Frazee Road, Suite 600
San Diego CA 92108**

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IV. METHODOLOGY.....	4
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APPENDIX B: DRAINAGE EXHIBIT

APPENDIX C: HYDRAULIC CALCULATIONS

APPENDIX D: REFERENCES

I. PROJECT INFORMATION

The 11.5-acre project site is located on the University of California San Diego campus within Thurgood Marshall College on the corner of Hopkins Lane and Voigt Drive in San Diego, California. A vicinity map is shown below.



VICINITY MAP

The proposed project consists of four mixed-use buildings, including three high-rise buildings to be built on grade and one non-high-rise building to be built on grade. The project's building program includes undergraduate housing, educational, business and assembly occupancies, which includes 2,455 beds, general assignment classrooms, offices, a market/cafe, and glassblowing lab.

Site demolition includes the removal of various buildings and trailers around the Thurgood Marshall College Lower Apartments, as well as associated parking lots, pedestrian paths, and utilities.

Proposed site improvements include fire access lanes, pedestrian paths and amenity spaces, landscaping, utilities and storm water BMPs.

This report has been prepared for UCSD in compliance with the San Diego County Hydrology Manual dated June 2003. It provides hydrologic and hydraulic analyses of the existing and proposed conditions using the 100-year storm event.

II. EXISTING CONDITIONS

The existing site straddles a major drainage basin divide with the majority of the site lying in the Miramar Reservoir Hydrologic Area and a portion within the Scripps Hydrologic Area.

Miramar Reservoir Hydrologic Area

The existing site east of and including the pedestrian promenade known as Ridge Walk, drains from west to east with an average grade of 10 percent and elevations ranging from 390 to 440. This portion of the site consists of existing residential and academic buildings, parking lots, and landscaped slopes. The area is bordered on the east by a protected grove of eucalyptus trees sloping down to Hopkins Lane.

Drainage is collected in a series of catch basins and leaves the site at four storm drain connection points. Outfall 1 is located at the northeast corner of the site and consists of an existing 15" storm drain that runs down to Hopkins Lane, then travels under the street, and outlets into the natural area to the east. The storm drain at this outfall will be protected in place and re-used in the proposed condition.

South of Outfall 1, another area drain system collects runoff and outlets to the slope within the protected grove (Existing Outfall 2). This runoff flows downhill and is collected in catch basins adjacent to Hopkins Lane which connect to the same pipe running east under the street. This area drain system will be removed in the proposed condition.

South of Existing Outfall 2, another area drain system exits the site at a 12" storm drain referred to as Outfall 3. This pipe runs down to Hopkins Lane and travels north along the street where it meets the pipe running under the road that outlets in the natural area to the east. The 12" storm drain will be protected in place and re-used in the proposed condition.

The southernmost area drain system leaves the site at an existing 21" storm drain pipe referred to as Outfall 4. The storm drain continues east and converges with an area drain system surrounding Geisel Library before reaching the natural area to the east. The 21" storm drain will be protected in place and re-used in the proposed condition. This study considers the area tributary to Outfall 4 pipe only within the limits of the proposed project area.

The landscaped slope along the eastern edge of the site is not captured in the on-site storm drain system. Runoff surface flows into the protected grove and eventually reaches catch basins adjacent to Hopkins Lane.

The site also includes the sidewalk on the south side of Voigt Drive. Runoff flows into Voigt Drive and is picked up in inlets in Hopkins Lane, eventually reaching the natural area to the east.

Scripps Hydrologic Area

The small portion of the site west of Ridge Walk includes an academic building and an administrative building. Runoff is collected in area drains and leaves the site to the west (Outfall 5). The area drain system will be protected for re-use in the proposed condition.

III. DEVELOPED CONDITIONS

In the proposed condition, existing drainage patterns and outfall conditions will be maintained. The proposed site improvements include four new buildings, a fire lane, pedestrian paving, landscaped areas, biofiltration basins, and a new storm drain system.

Miramar Reservoir Hydrologic Area

Run off including and east of the replaced Ridge Walk pavement will continue to flow to the east and will be collected in the new storm drain system.

Drainage from Building A, a portion of Building E, and the surrounding areas will be piped to a biofiltration basin at the northeast corner of the site. The basin will outlet to the existing 15" storm drain line known as Outfall 1.

Runoff from Building B, portions of the fire lane, and outdoor amenity spaces will drain to another biofiltration basin. The outdoor spaces between Buildings B and C will drain to one of two smaller biofiltration basins. Existing Outfall 2 that outlets at the grove slope will be removed. A new 15" storm drain known as Proposed Outfall 2 will be constructed downstream of these three basins and will travel through the grove to the storm drain running north along Hopkins Lane. The existing storm drain downstream of this point will be upsized from 15" to 21" up until the system turns east under Hopkins Lane.

The next sub-basin to the south includes runoff from Building C and the fire lane. Runoff from these areas is piped to a biofiltration basin, which outlets to the existing 12" pipe known as Outfall 3.

Runoff from Ridge Walk will generally run south along a curb and gutter, where it will be collected and piped to a biofiltration basin for treatment. The basin will outlet to the existing storm drain system tributary to Outfall 4.

A small portion of runoff from graded slope on the east side of the site will continue to surface flow to the protected grove as it does in the existing condition.

The sidewalk along Voigt Drive will be replaced and will continue to drain into Voigt Drive as it does in the existing condition. Portions of graded slope north of Building A will surface flow to Voigt Drive.

Scripps Hydrologic Area

The two existing buildings west of Ridge Walk will be removed, and the area will be used as an activity green. The existing area drain system will be maintained and will continue to flow west.

IV. METHODOLOGY

This drainage study was performed to shown conformance of the proposed development with the requirements set forth in the County of San Diego Hydrology Manual, dated June 2003. Since all basins analyzed are less than one square mile in area, the Rational Method was used to model both existing and proposed hydrologic conditions. The 100-year frequency storm was used for peak runoff values.

Time of Concentration (T_c)

Drainage basins in both the existing and proposed conditions are relatively small in area and high in impervious area; therefore, short times of concentration across the basins are anticipated. The minimum T_c of 5 minutes was used in the analysis.

Rainfall Intensity (i)

Rainfall intensity was calculated in accordance with Section 3.1.3 of the County Hydrology Manual. For the 100-year storm, P_6 was found to be 2.25 inches based on the 100-year, 6-hour isopluvial in Appendix B of the County Hydrology Manual. P_{24} was checked per the requirements set forth in the manual, and P_6 did not require adjustment. The Intensity-Duration-Frequency Chart (Figure 3-2 in the manual) was used to obtain rainfall intensity with T_c and P_6 .

Runoff Coefficient (C)

Runoff Coefficient was determined per Section 3.1.2 of the County Hydrology Manual. The NRCS Web Soil Survey indicated Type D soil across the majority of the site. Per Table 3-1 a runoff coefficient of 0.35 was utilized for pervious areas. The various surface types were tabulated for each basin and sub-basin. For impervious areas, a runoff coefficient of 0.9 was utilized. A weighted runoff coefficient was then calculated per the equation below:

$$C = 0.90 \times (\% \text{ Impervious}) + C_p \times (1 - \% \text{ Impervious})$$

Where C_p = pervious runoff coefficient (0.35 as stated above)

Rational Method Peak Flow (Q_{100})

With the above factors established, the Rational Method was used to determine peak runoff rates for the 100-year storm event using the equation $Q_{100} = CiA$, where:

Q_{100} = peak runoff from the site resulting from the 100-year storm event (cfs)

C = weighted runoff coefficient

i = rainfall intensity (in/hr)

A = basin area (acres)

The resulting peak flow is considered the unmitigated peak flow as it is the full runoff from each sub-basin and does not consider detention in biofiltration basins.

Pipe Sizing

Although this study is primarily focused on hydrology, hydraulic analysis was performed on the pipes downstream of each outfall point. Pipe capacity was verified utilizing Autodesk's *Hydraflow Express Extension for Autodesk Civil 3D*, which performs Manning's equation for open channel flow.

V. RESULTS

Below is a summary of the existing and proposed runoff rates for each drainage basin. Full calculations for the existing and developed conditions can be found in **Appendix A**.

Summary of Existing and Unmitigated Proposed Condition 100-Year Flows

Outfall	Existing Peak Q₁₀₀ (CFS)	Unmitigated Proposed Peak Q₁₀₀ (CFS)	Change (CFS)
1	11.3	4.7	-6.6
2	0.0	21.2	21.2
3	12.6	8.8	-3.8
4	6.2	3.2	-3.0
Grove Slope	3.8*	1.2	-2.6
Voigt	0.4	0.7	0.3
Total Miramar Reservoir Hydrologic Area	34.3	39.7	5.4
5	5.8	3.0	-2.8
Total Scripps Hydrologic Area	5.8	3.0	-2.8
Site Total	40.1	42.8	2.6

*Includes slope surface draining to the Grove as well as Existing Outfall 2, which outlets at a headwall in the Grove.

VI. CONCLUSION

The proposed project will have no negative impacts on downstream drainage conditions. In the proposed unmitigated condition, which does not account for detention in the biofiltration basins, the peak flow to the Miramar Reservoir Hydrologic Area will increase 5.4 CFS from the existing condition due to the increase in impervious area. Flow from the proposed improvements will reach one of six biofiltration basins before entering the existing UCSD storm drain system. The basins have been sized in accordance with the Storm Water Management Plan for University of California San Diego, dated October 2019, as well as the California State Water Resources Control Board Phase II Small MS4 Permit draft dated January 2019. The basins will provide detention to the lower the unmitigated peak flow.

Runoff draining west to the Scripps Hydrologic Area will decrease in the proposed condition due to the decrease in imperviousness. No detention is required or proposed for this area.

The pipes downstream of each outfall have the capacity to convey the peak flow from the unmitigated proposed condition without instances of pressure flow.

The site does not require permitting associated with Sections 401 or 404 of the Federal Clean Water Act, due to the lack of wetlands, streams, or other protected bodies of water.

APPENDIX A: HYDROLOGIC CALCULATIONS

UCSD RWNLLN

UCSD RWNLLN - Rational Method Calculations Existing Condition

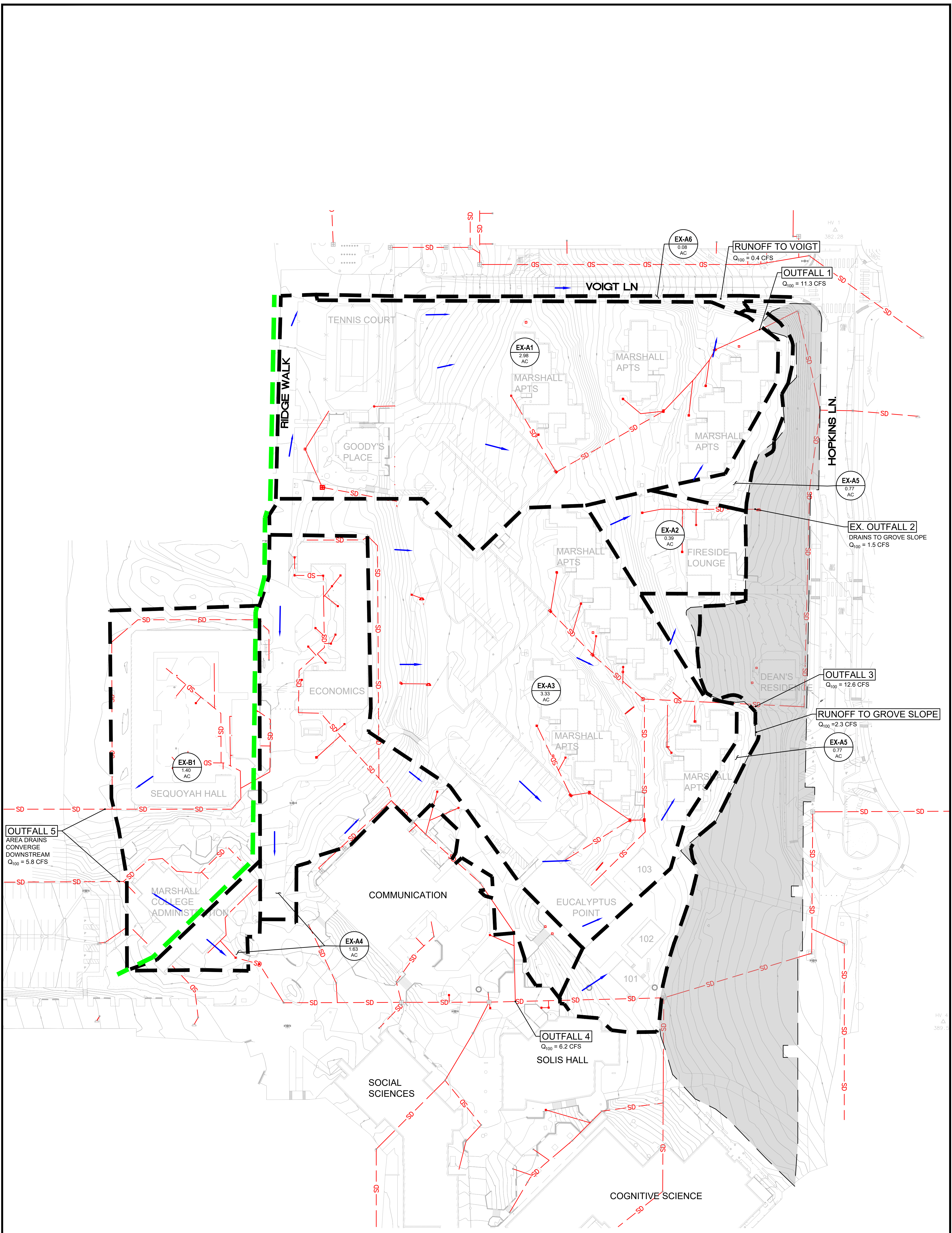
Sub-Basin	Description	Area (SF)	Area (AC)	C	T _c (min.)	100-year P ₆ (in)	Intensity (in/hr)	Peak Q ₁₀₀ (CFS)
EX-A1	Portion of Ridge Walk; Goody's Place; Marshall Apartments; tennis court; parking lots; hardscape; landscape. Tributary to Outfall 1.	129600	2.98	0.64	5	2.25	5.9	11.3
EX-A2	Fireside Lounge; hardscape; landscape. Outlets to grove slope.	17100	0.39	0.64	5	2.25	5.9	1.5
EX-A3	Marshall Apartments; Eucalyptus Point; parking lots; hardscape; landscape. Tributary to Outfall 3.	145100	3.33	0.64	5	2.25	5.9	12.6
EX-A4	Portion of Ridge Walk; Economics; Marshall Administration; hardscape; landscape; Tributary to Outfall 4.	71000	1.63	0.64	5	2.25	5.9	6.2
EX-A5	Slope with pedestrian path not tributary to site storm drain. Buildings 101 and 102. Tributary to grove slope.	33400	0.77	0.50	5	2.25	5.9	2.3
EX-A6	Sidewalk. Tributary to Voigt.	3600	0.08	0.90	5	2.25	5.9	0.4
Total EX-A	Within Miramar Reservoir Hydrologic Area	399800	9.18					34.3
EX-B1	Sequoyah Hall; Portion of Marshall Administration. Tributary to Outfall 5.	61200	1.40	0.70	5	2.25	5.9	5.8
Total EX-B	Within Scripps Hydrologic Area	61200	1.40					5.8
Total		461000	10.58					40.1

UCSD RWNLLN - Rational Method Calculations Proposed Condition

Sub-Basin	Description	Area (SF)	Area (AC)	C	T _c (min.)	100-year P ₆ (in)	Intensity (in/hr)	Peak Q ₁₀₀ (CFS)
A1	Building A; Portion of Building E; fire lane; pedestrian hardscape; landscape; biofiltration basin. Tributary to Outfall 1.	45800	1.05	0.75	5	2.25	5.9	4.7
A2	Building B; fire lane; hardscape; landscape; biofiltration basin. Tributary to Outfall 2.	207500	4.76	0.75	5	2.25	5.9	21.2
A3	Building C; fire lane; hardscape; landscape; biofiltration basin. Tributary to Outfall 3.	86200	1.98	0.75	5	2.25	5.9	8.8
A4	Ridge Walk pavement; hardscape; landscape; biofiltration basin. Tributary to Outfall 4.	27600	0.63	0.85	5	2.25	5.9	3.2
A5	Graded slope with pedestrian path not tributary to site storm drain. Tributary to grove slope.	22300	0.51	0.40	5	2.25	5.9	1.2
A6	Replaced sidewalk. Graded slope. Tributary to Voigt.	8300	0.19	0.60	5	2.25	5.9	0.7
Total A	Within Miramar Reservoir Hydrologic Area	397700	9.13					39.7
B1	Activity green. Tributary to Outfall 5	63300	1.45	0.35	5	2.25	5.9	3.0
Total B	Within Scripps Hydrologic Area	63300	1.45					3.0
Total		461000	10.58					42.8

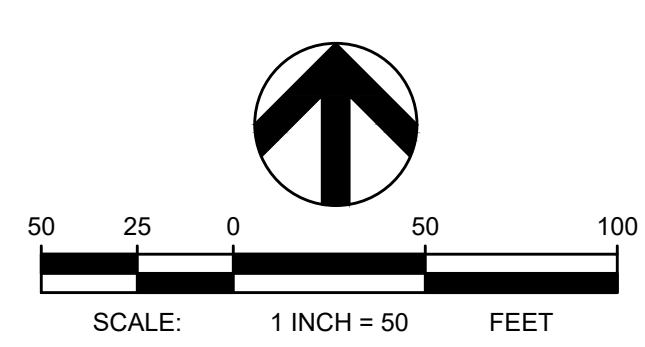
APPENDIX B: DRAINAGE EXHIBIT

UCSD RWNLLN



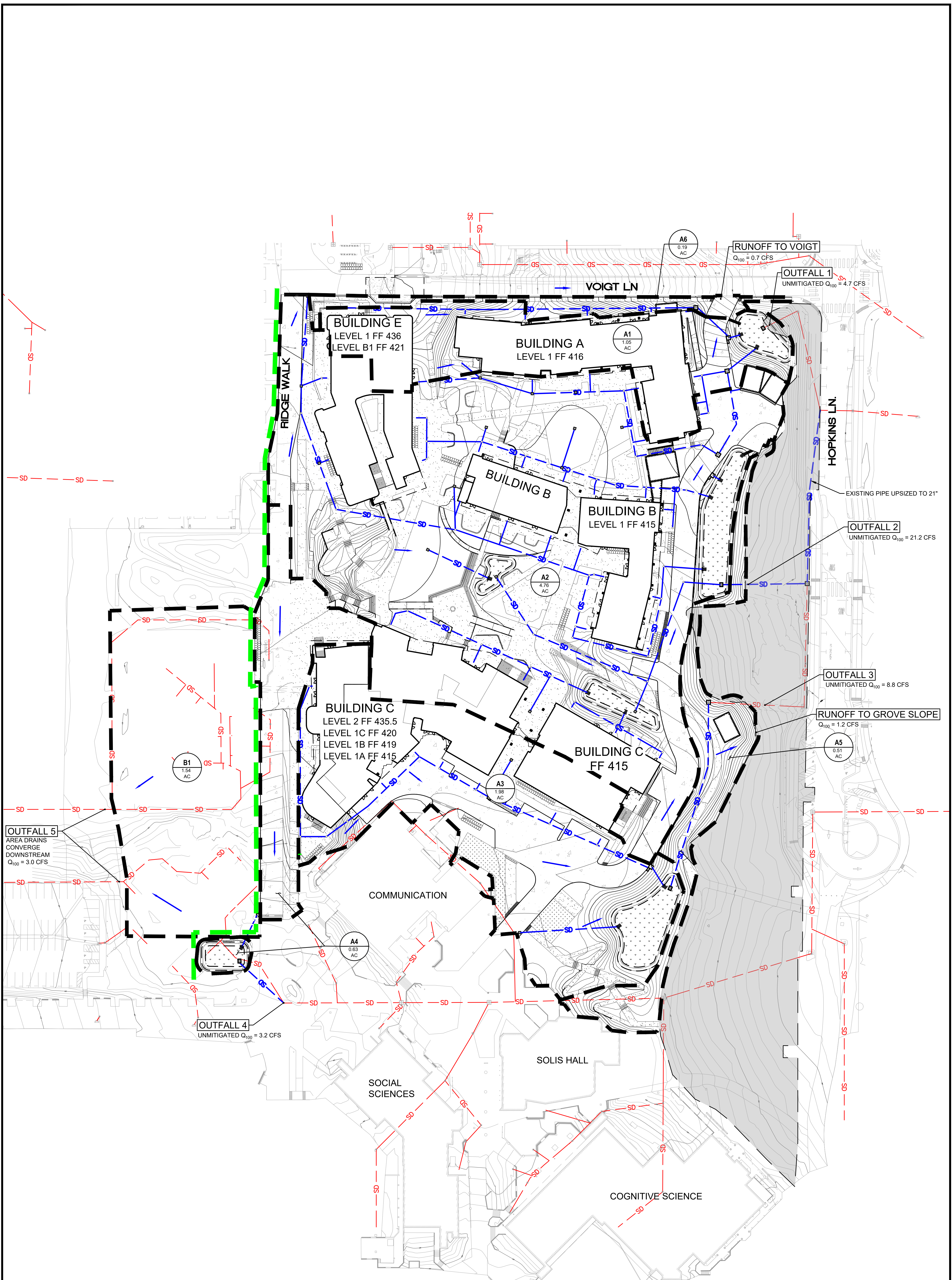
LEGEND

- MAJOR BASIN DIVIDE
- SUB-BASIN BOUNDARY
- EXISTING STORM DRAIN
- FLOW DIRECTION
- PROTECTED GROVE
- ID
X.XX
AC SUB-BASIN ID AND AREA



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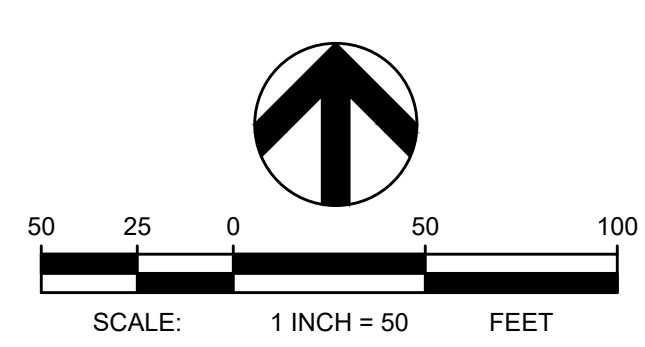
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DRAINAGE EXHIBIT EXISTING CONDITION			
PROJECT NO. 222555	SCALE: 1" = 50'	DATE: 12/15/2022	DRAWING NO. 1 OF 2
DRAWN BY: LZ	REVIEWED BY: JA		



LEGEND

- MAJOR BASIN DIVIDE
- SUB-BASIN BOUNDARY
- EXISTING STORM DRAIN TO REMAIN
- PROPOSED STORM DRAIN
- FLOW DIRECTION
- PROTECTED GROVE
- BIOFILTRATION BASIN
- ID
X.XX
AC SUB-BASIN ID AND AREA

NOTE: UNMITIGATED PEAK FLOW IS LISTED FOR SUB-BASINS WITH BIOFILTRATION BASINS WHERE DETENTION WILL OCCUR. OTHER SUB-BASINS DO NOT INCLUDE DETENTION BASINS, AND, THEREFORE, NO MITIGATION IS PROPOSED.



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DRAWING TITLE			
DRAINAGE EXHIBIT PROPOSED CONDITION			
PROJECT NO. 222555	SCALE: 1" = 50'	DATE: 12/15/2022	DRAWING NO. 2 OF 2
DRAWN BY: LZ	REVIEWED BY: JA		

APPENDIX C: HYDRAULIC CALCULATIONS

UCSD RWNLLN

Channel Report

UCSD RWNLLN - Outfall 1 Pipe

Circular

Diameter (ft) = 1.25

Invert Elev (ft) = 100.00

Slope (%) = 2.00

N-Value = 0.013

Calculations

Compute by: Known Q

Known Q (cfs) = 4.70

Highlighted

Depth (ft) = 0.64

Q (cfs) = 4.700

Area (sqft) = 0.63

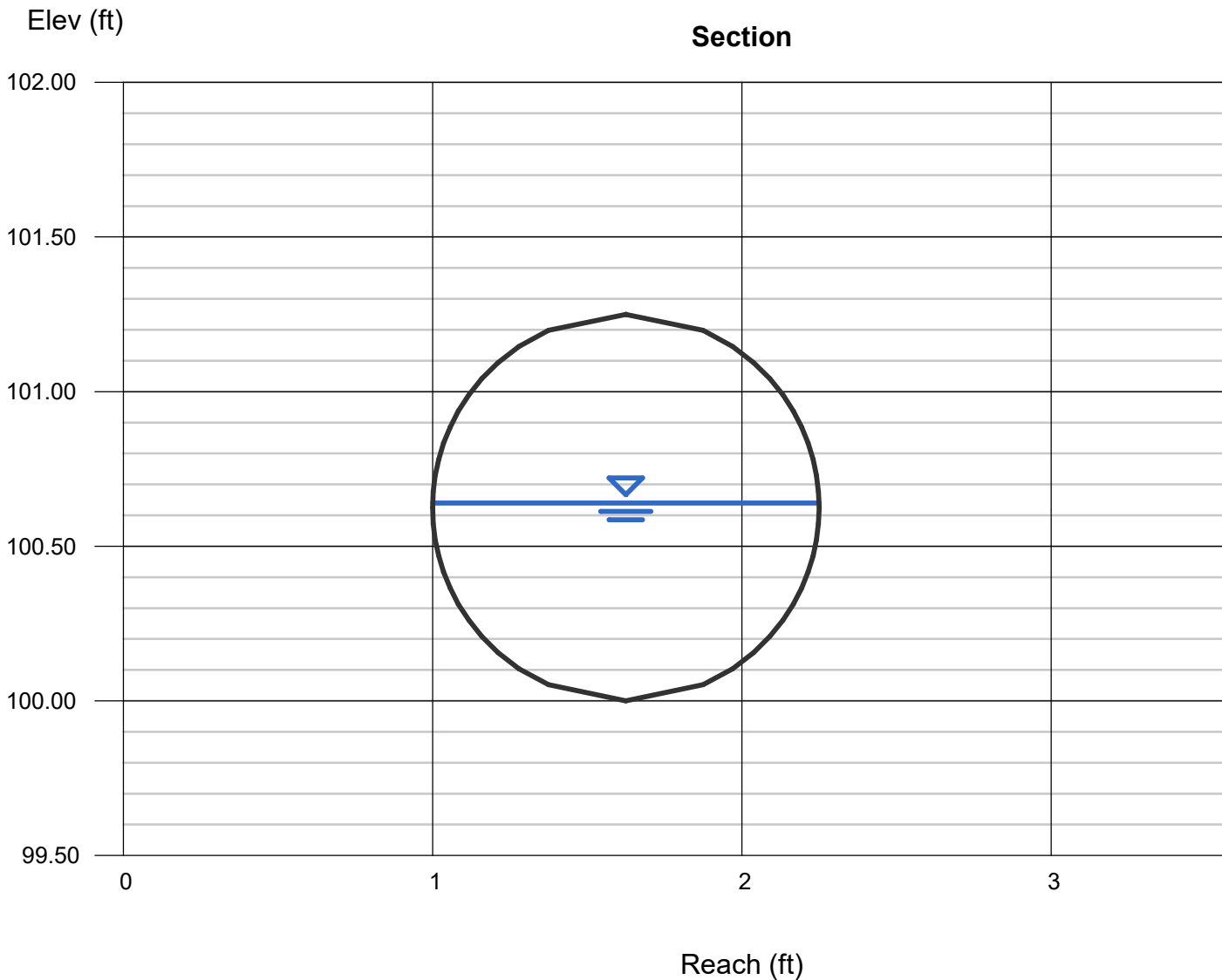
Velocity (ft/s) = 7.43

Wetted Perim (ft) = 1.99

Crit Depth, Y_c (ft) = 0.88

Top Width (ft) = 1.25

EGL (ft) = 1.50



Channel Report

UCSD RWNLLN - Outfall 2 Pipe

Circular

Diameter (ft) = 1.25

Invert Elev (ft) = 100.00

Slope (%) = 8.50

N-Value = 0.010

Calculations

Compute by: Known Q

Known Q (cfs) = 21.20

Highlighted

Depth (ft) = 0.90

Q (cfs) = 21.20

Area (sqft) = 0.95

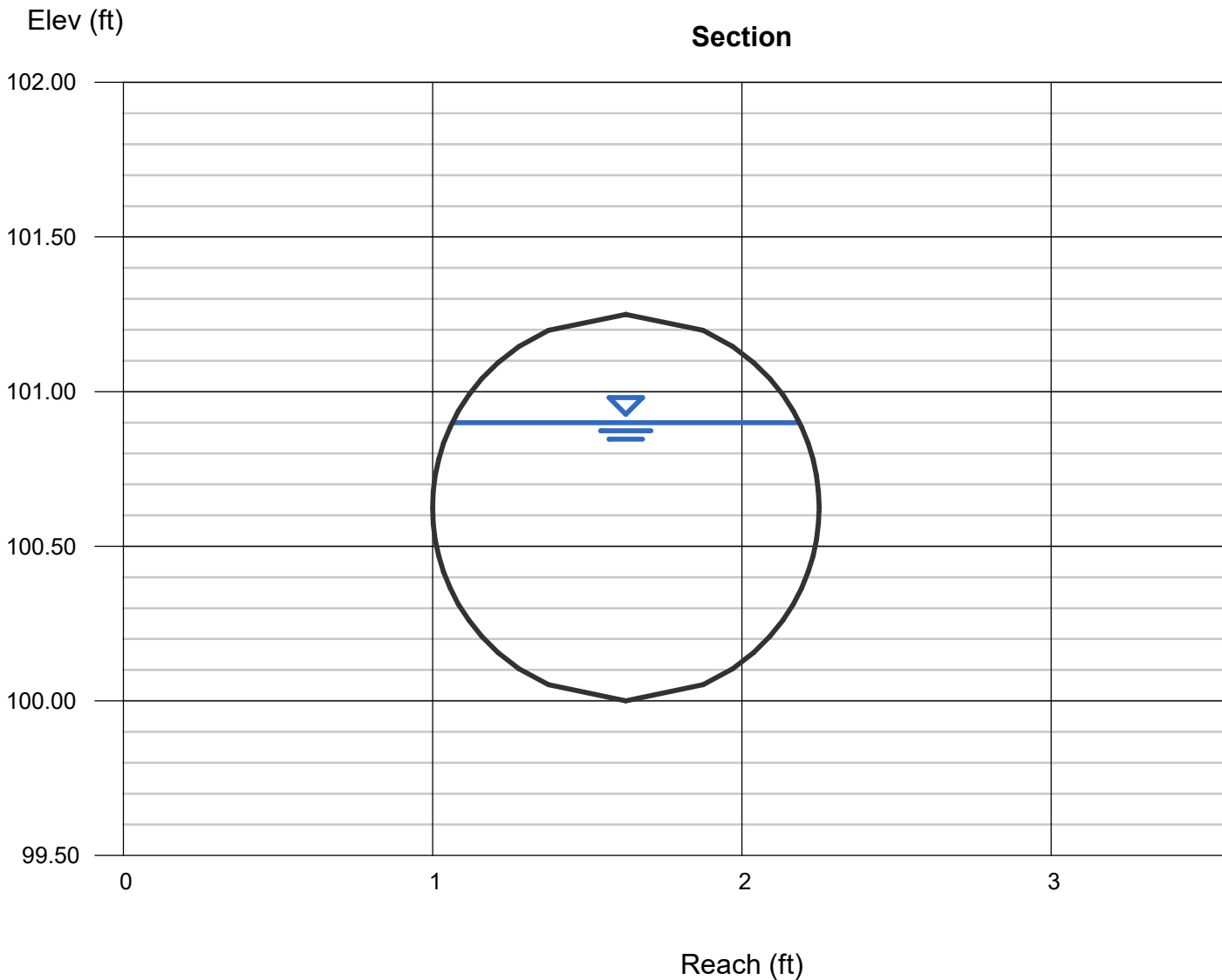
Velocity (ft/s) = 22.36

Wetted Perim (ft) = 2.54

Crit Depth, Y_c (ft) = 1.25

Top Width (ft) = 1.12

EGL (ft) = 8.67



Channel Report

UCSD RWNLLN - Outfall 3 Pipe

Circular

Diameter (ft) = 1.00

Invert Elev (ft) = 100.00

Slope (%) = 7.50

N-Value = 0.013

Calculations

Compute by: Known Q

Known Q (cfs) = 8.80

Highlighted

Depth (ft) = 0.75

Q (cfs) = 8.800

Area (sqft) = 0.63

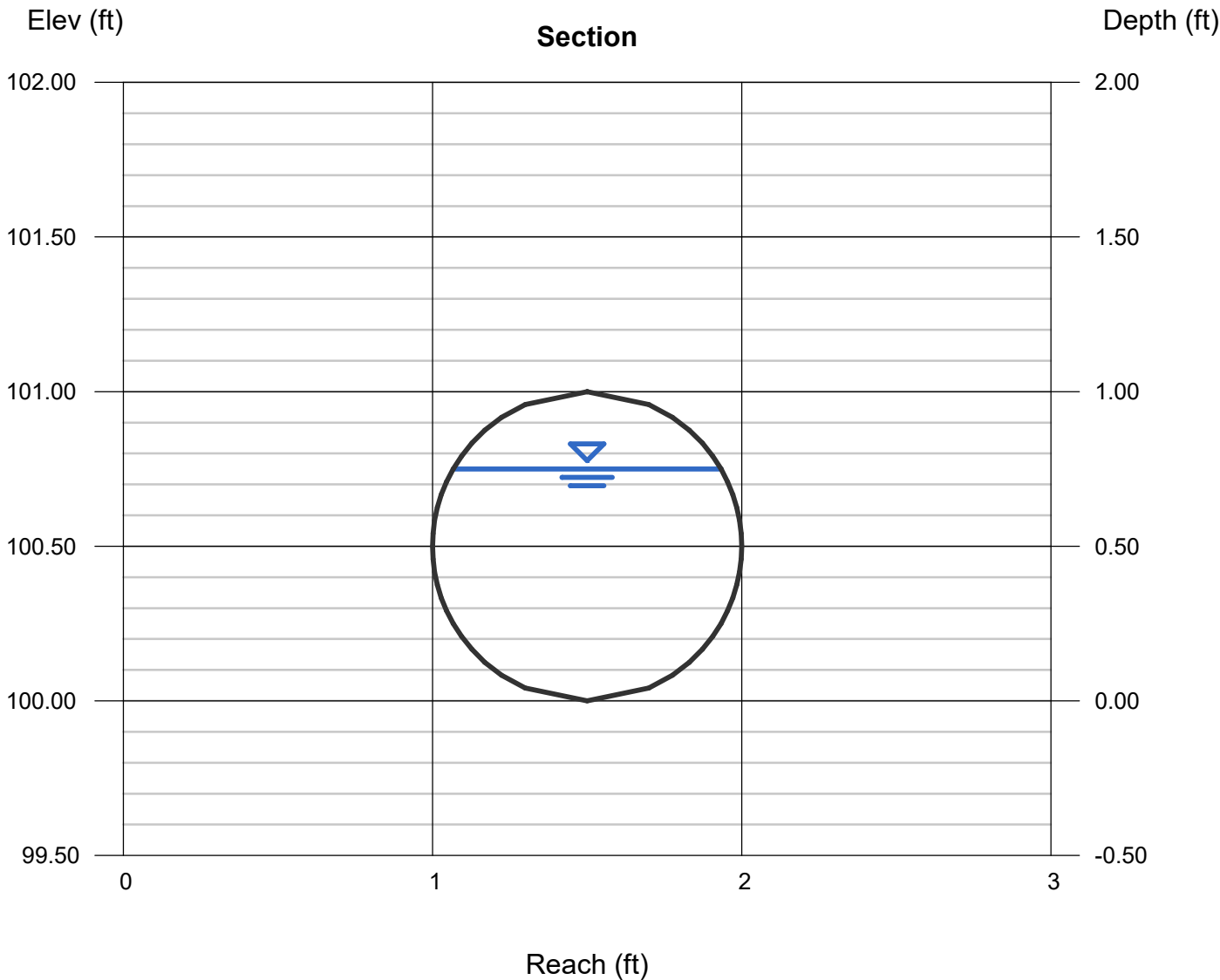
Velocity (ft/s) = 13.92

Wetted Perim (ft) = 2.10

Crit Depth, Yc (ft) = 0.99

Top Width (ft) = 0.87

EGL (ft) = 3.76



Channel Report

UCSD RWNLLN - Outfall 4 Pipe

Circular

Diameter (ft) = 1.00

Invert Elev (ft) = 100.00

Slope (%) = 2.30

N-Value = 0.013

Calculations

Compute by: Known Q

Known Q (cfs) = 3.20

Highlighted

Depth (ft) = 0.56

Q (cfs) = 3.200

Area (sqft) = 0.45

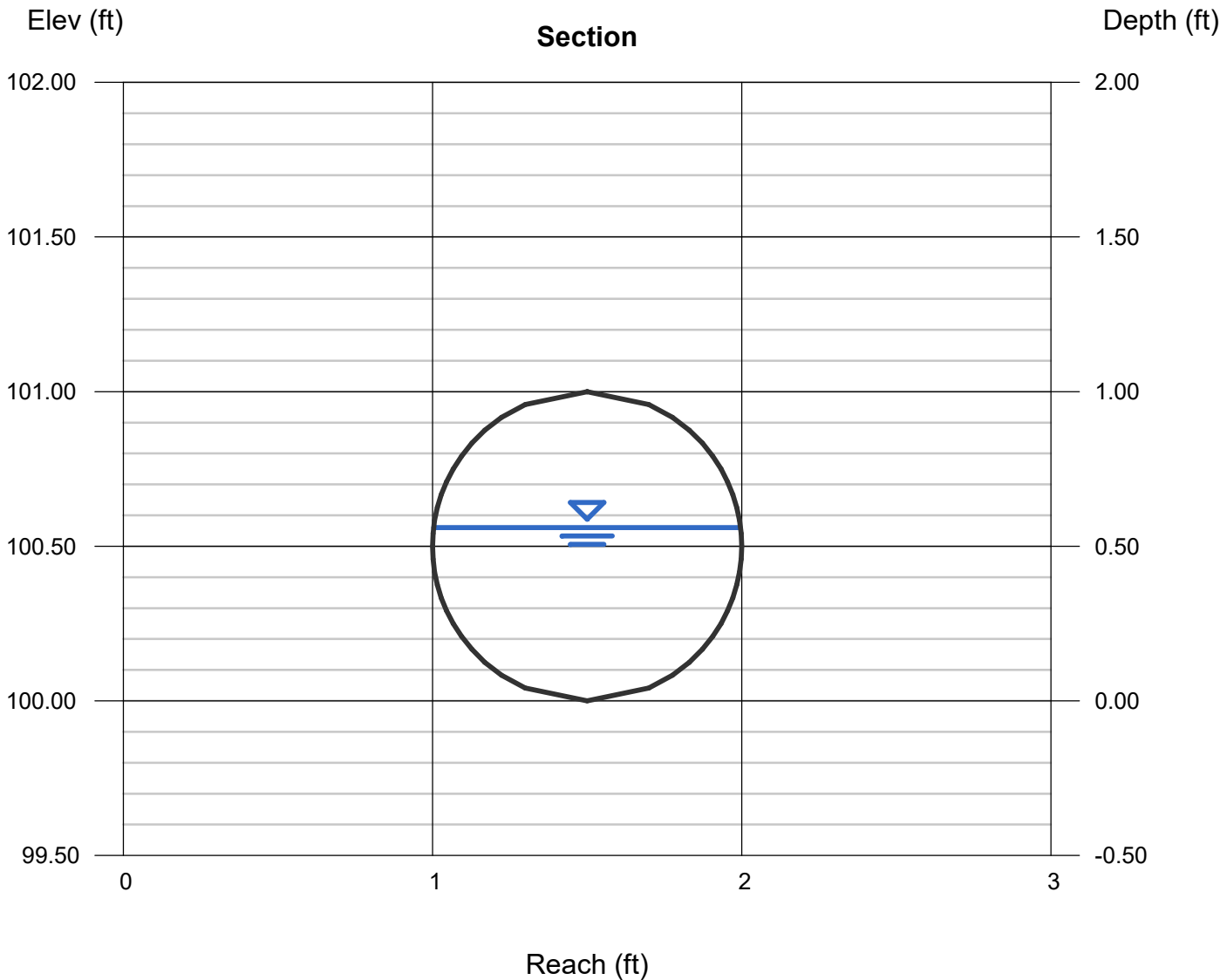
Velocity (ft/s) = 7.04

Wetted Perim (ft) = 1.69

Crit Depth, Yc (ft) = 0.77

Top Width (ft) = 0.99

EGL (ft) = 1.33



Channel Report

UCSD RWNLLN - Downstream of Outfall 4 with ex. tributary flows added to proposed

Circular

Diameter (ft) = 1.75

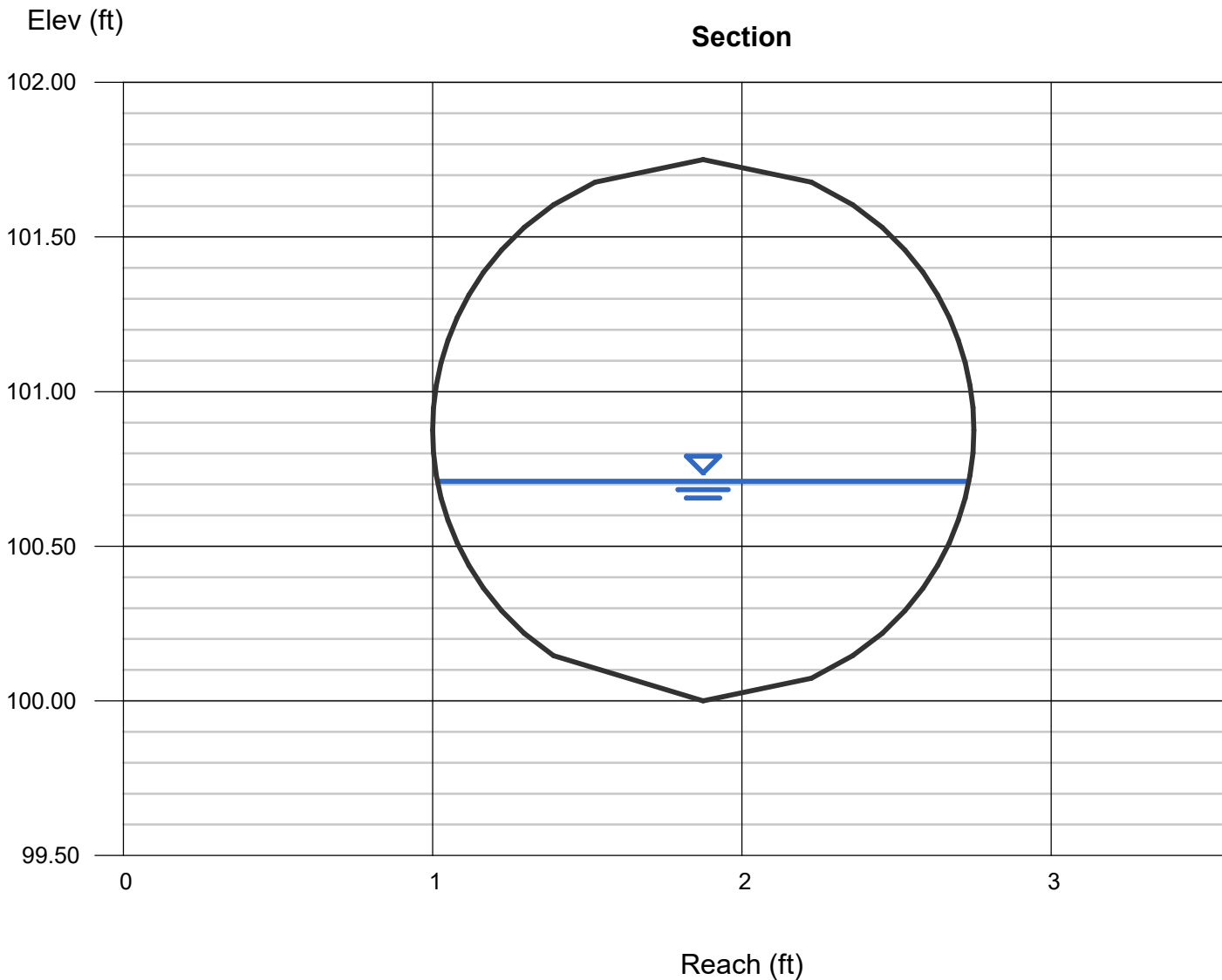
Invert Elev (ft) = 100.00
Slope (%) = 10.00
N-Value = 0.013

Highlighted

Depth (ft) = 0.71
Q (cfs) = 17.30
Area (sqft) = 0.92
Velocity (ft/s) = 18.78
Wetted Perim (ft) = 2.42
Crit Depth, Yc (ft) = 1.53
Top Width (ft) = 1.72
EGL (ft) = 6.19

Calculations

Compute by: Known Q
Known Q (cfs) = 17.30



Channel Report

UCSD RWNLLN - Outfall 5 Pipe

Circular

Diameter (ft) = 1.25

Invert Elev (ft) = 100.00

Slope (%) = 1.20

N-Value = 0.011

Calculations

Compute by: Known Q

Known Q (cfs) = 3.00

Highlighted

Depth (ft) = 0.52

Q (cfs) = 3.000

Area (sqft) = 0.49

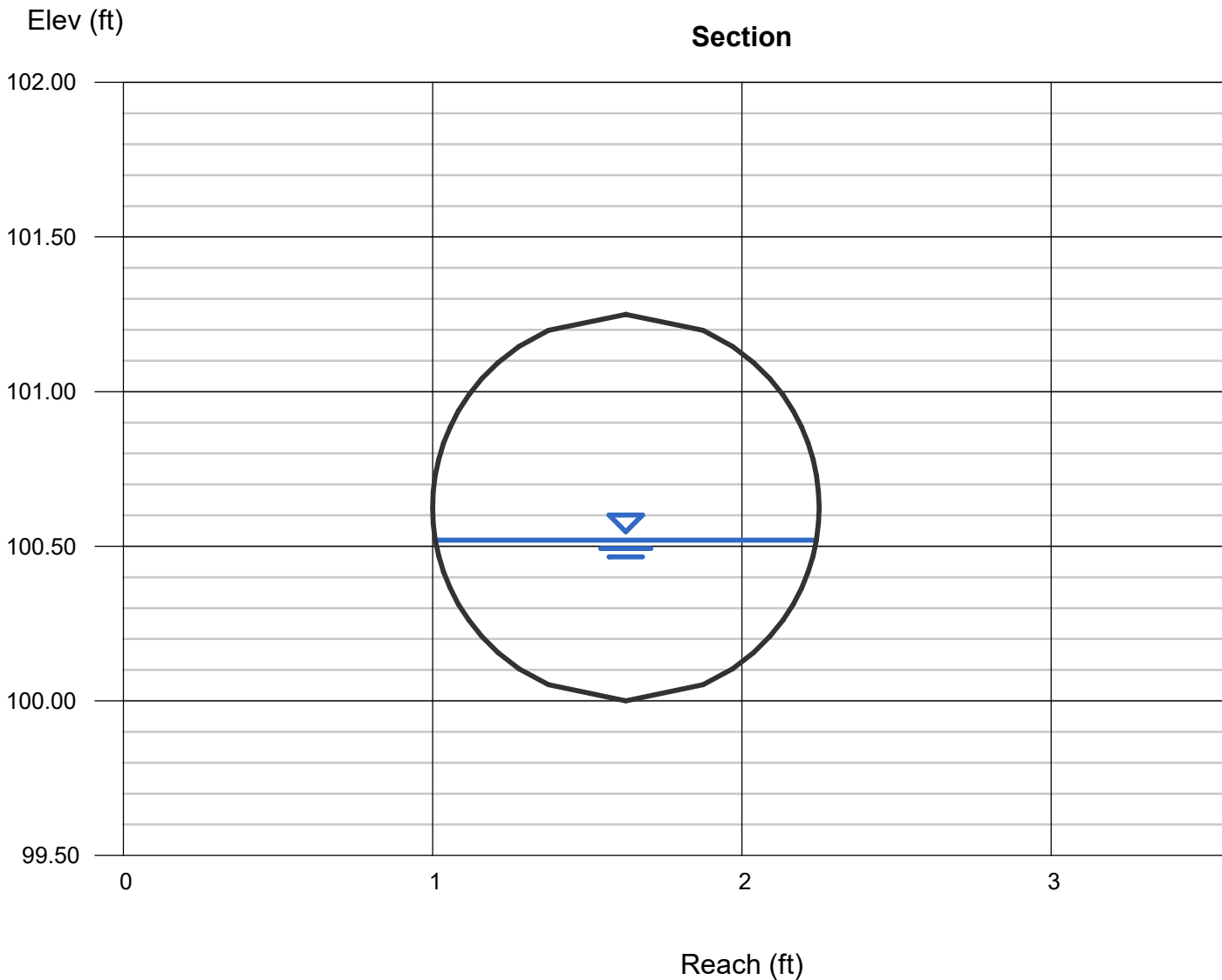
Velocity (ft/s) = 6.18

Wetted Perim (ft) = 1.76

Crit Depth, Y_c (ft) = 0.70

Top Width (ft) = 1.23

EGL (ft) = 1.11



Channel Report

UCSD RWNLLN - Upsized pipe downstream of Outfalls 2 and 3

Circular

Diameter (ft) = 1.75

Invert Elev (ft) = 100.00

Slope (%) = 2.33

N-Value = 0.010

Calculations

Compute by: Known Q

Known Q (cfs) = 30.00

Highlighted

Depth (ft) = 1.37

Q (cfs) = 30.00

Area (sqft) = 2.02

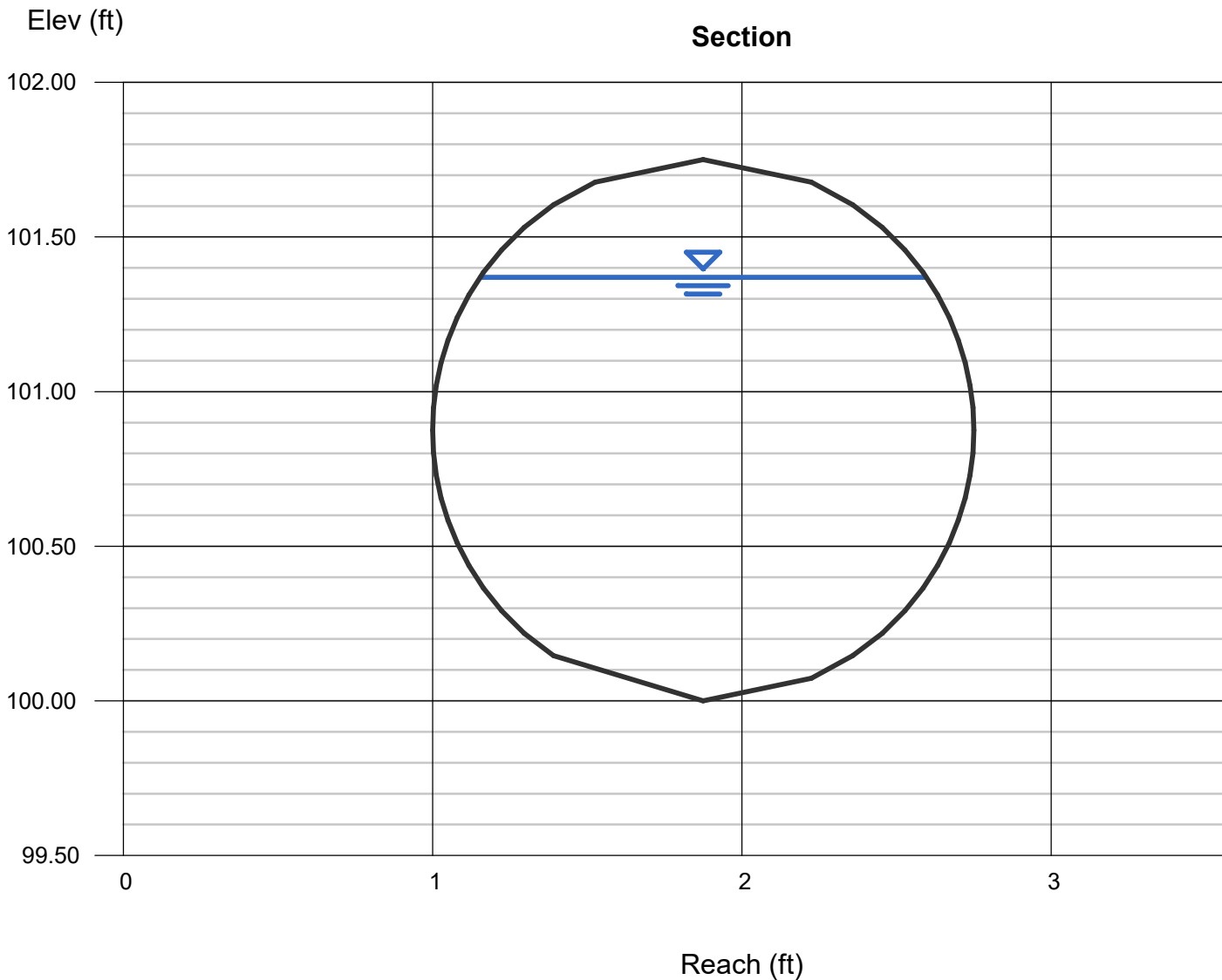
Velocity (ft/s) = 14.83

Wetted Perim (ft) = 3.81

Crit Depth, Yc (ft) = 1.72

Top Width (ft) = 1.44

EGL (ft) = 4.79



Channel Report

UCSD RWNLLN - Existing pipe under Hopkins downstream of Outfalls 1-3

Circular

Diameter (ft) = 2.00

Invert Elev (ft) = 100.00

Slope (%) = 7.10

N-Value = 0.020

Calculations

Compute by: Known Q

Known Q (cfs) = 35.90

Highlighted

Depth (ft) = 1.51

Q (cfs) = 35.90

Area (sqft) = 2.55

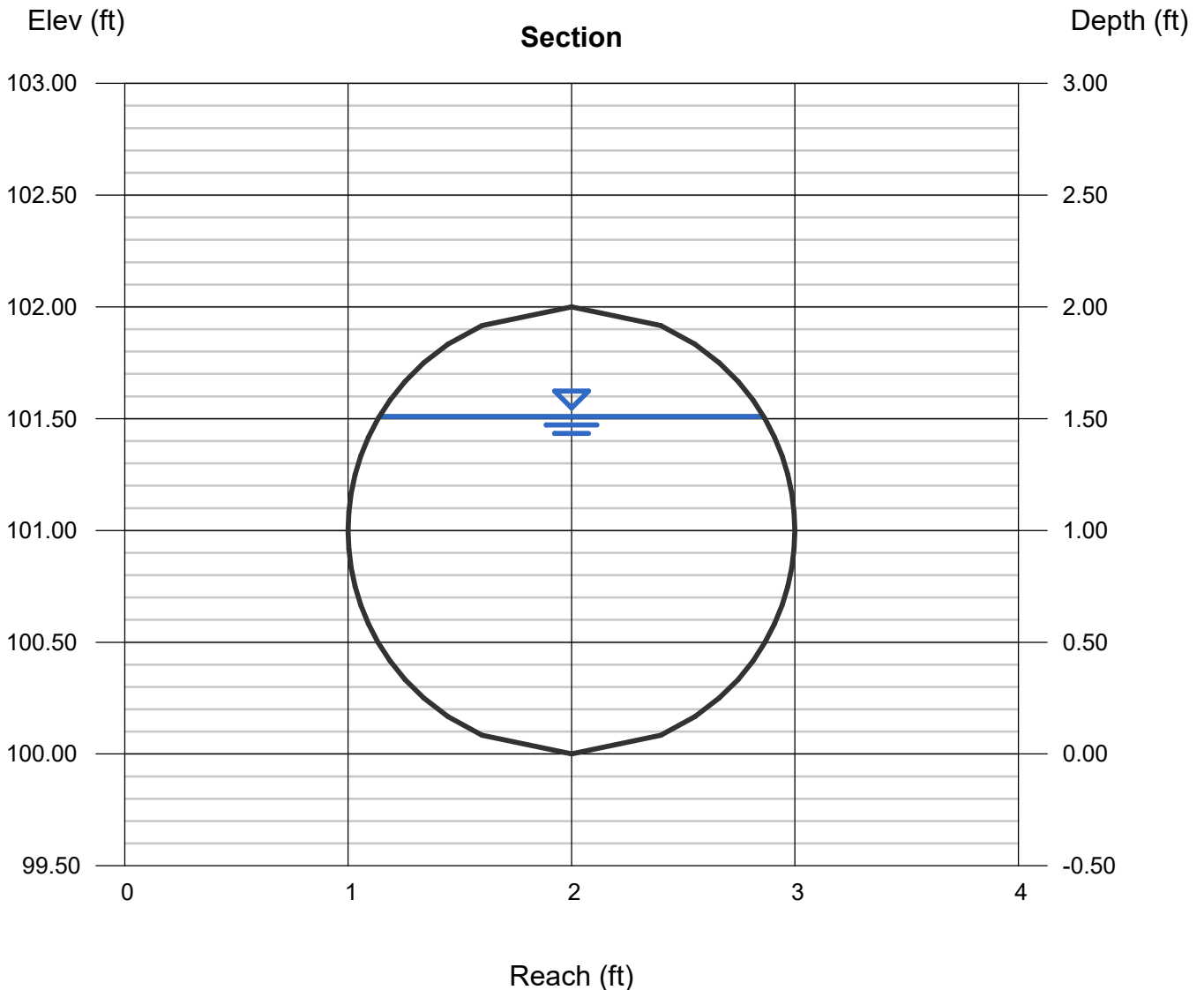
Velocity (ft/s) = 14.08

Wetted Perim (ft) = 4.22

Crit Depth, Y_c (ft) = 1.93

Top Width (ft) = 1.72

EGL (ft) = 4.59



APPENDIX D: REFERENCES

UCSD RWNLLN

SECTION 3 RATIONAL METHOD AND MODIFIED RATIONAL METHOD

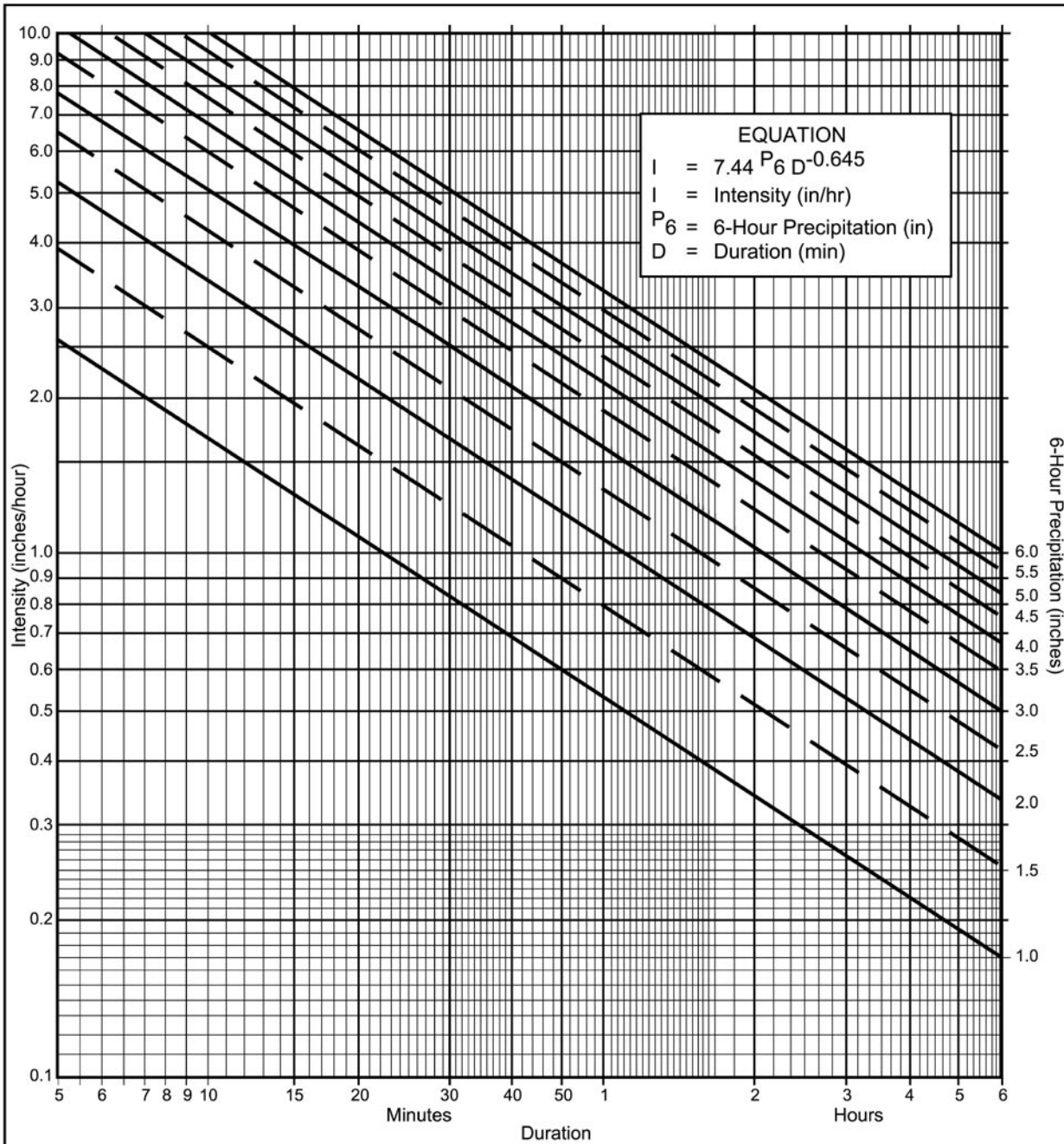
3.1 THE RATIONAL METHOD

The Rational Method (RM) is a mathematical formula used to determine the maximum runoff rate from a given rainfall. It has particular application in urban storm drainage, where it is used to estimate peak runoff rates from small urban and rural watersheds for the design of storm drains and small drainage structures. The RM is recommended for analyzing the runoff response from drainage areas up to approximately 1 square mile in size. It should not be used in instances where there is a junction of independent drainage systems or for drainage areas greater than approximately 1 square mile in size. In these instances, the Modified Rational Method (MRM) should be used for junctions of independent drainage systems in watersheds up to approximately 1 square mile in size (see Section 3.4); or the NRCS Hydrologic Method should be used for watersheds greater than approximately 1 square mile in size (see Section 4).

The RM can be applied using any design storm frequency (e.g., 100-year, 50-year, 10-year, etc.). The local agency determines the design storm frequency that must be used based on the type of project and specific local requirements. A discussion of design storm frequency is provided in Section 2.3 of this manual. A procedure has been developed that converts the 6-hour and 24-hour precipitation isopluvial map data to an Intensity-Duration curve that can be used for the rainfall intensity in the RM formula as shown in Figure 3-1. The RM is applicable to a 6-hour storm duration because the procedure uses Intensity-Duration Design Charts that are based on a 6-hour storm duration.

3.1.1 Rational Method Formula

The RM formula estimates the peak rate of runoff at any location in a watershed as a function of the drainage area (A), runoff coefficient (C), and rainfall intensity (I) for a duration equal to the time of concentration (T_c), which is the time required for water to



Directions for Application:

- (1) From precipitation maps determine 6 hr and 24 hr amounts for the selected frequency. These maps are included in the County Hydrology Manual (10, 50, and 100 yr maps included in the Design and Procedure Manual).
- (2) Adjust 6 hr precipitation (if necessary) so that it is within the range of 45% to 65% of the 24 hr precipitation (not applicable to Desert).
- (3) Plot 6 hr precipitation on the right side of the chart.
- (4) Draw a line through the point parallel to the plotted lines.
- (5) This line is the intensity-duration curve for the location being analyzed.

Application Form:

- (a) Selected frequency _____ year
- (b) $P_6 =$ _____ in., $P_{24} =$ _____, $\frac{P_6}{P_{24}} =$ _____ %⁽²⁾
- (c) Adjusted $P_6^{(2)} =$ _____ in.
- (d) $t_x =$ _____ min.
- (e) $I =$ _____ in./hr.

Note: This chart replaces the Intensity-Duration-Frequency curves used since 1965.

P6	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6
Duration											
5	2.63	3.95	5.27	6.59	7.90	9.22	10.54	11.86	13.17	14.49	15.81
7	2.12	3.18	4.24	5.30	6.36	7.42	8.48	9.54	10.60	11.66	12.72
10	1.68	2.53	3.37	4.21	5.05	5.90	6.74	7.58	8.42	9.27	10.11
15	1.30	1.95	2.59	3.24	3.89	4.54	5.19	5.84	6.49	7.13	7.78
20	1.08	1.62	2.15	2.69	3.23	3.77	4.31	4.85	5.39	5.93	6.46
25	0.93	1.40	1.87	2.33	2.80	3.27	3.73	4.20	4.67	5.13	5.60
30	0.83	1.24	1.66	2.07	2.49	2.90	3.32	3.73	4.15	4.56	4.98
40	0.69	1.03	1.38	1.72	2.07	2.41	2.76	3.10	3.45	3.79	4.13
50	0.60	0.90	1.19	1.49	1.79	2.09	2.39	2.69	2.98	3.28	3.58
60	0.53	0.80	1.06	1.33	1.59	1.86	2.12	2.39	2.65	2.92	3.18
90	0.41	0.61	0.82	1.02	1.23	1.43	1.63	1.84	2.04	2.25	2.45
120	0.34	0.51	0.68	0.85	1.02	1.19	1.36	1.53	1.70	1.87	2.04
150	0.29	0.44	0.59	0.73	0.88	1.03	1.18	1.32	1.47	1.62	1.76
180	0.26	0.39	0.52	0.65	0.78	0.91	1.04	1.18	1.31	1.44	1.57
240	0.22	0.33	0.43	0.54	0.65	0.76	0.87	0.98	1.08	1.19	1.30
300	0.19	0.28	0.38	0.47	0.56	0.66	0.75	0.85	0.94	1.03	1.13
360	0.17	0.25	0.33	0.42	0.50	0.58	0.67	0.75	0.84	0.92	1.00

Intensity-Duration Design Chart - Template

FIGURE

3-1

flow from the most remote point of the basin to the location being analyzed. The RM formula is expressed as follows:

$$Q = C I A$$

Where: Q = peak discharge, in cubic feet per second (cfs)
C = runoff coefficient, proportion of the rainfall that runs off the surface (no units)
I = average rainfall intensity for a duration equal to the T_c for the area, in inches per hour (Note: If the computed T_c is less than 5 minutes, use 5 minutes for computing the peak discharge, Q)
A = drainage area contributing to the design location, in acres

Combining the units for the expression CIA yields:

$$\left(\frac{1 \text{ acre} \times \text{inch}}{\text{hour}} \right) \left(\frac{43,560 \text{ ft}^2}{\text{acre}} \right) \left(\frac{1 \text{ foot}}{12 \text{ inches}} \right) \left(\frac{1 \text{ hour}}{3,600 \text{ seconds}} \right) \Rightarrow 1.008 \text{ cfs}$$

For practical purposes the unit conversion coefficient difference of 0.8% can be ignored.

The RM formula is based on the assumption that for constant rainfall intensity, the peak discharge rate at a point will occur when the raindrop that falls at the most upstream point in the tributary drainage basin arrives at the point of interest.

Unlike the MRM (discussed in Section 3.4) or the NRCS hydrologic method (discussed in Section 4), the RM does not create hydrographs and therefore does not add separate subarea hydrographs at collection points. Instead, the RM develops peak discharges in the main line by increasing the T_c as flow travels downstream.

Characteristics of, or assumptions inherent to, the RM are listed below:

- The discharge flow rate resulting from any I is maximum when the I lasts as long as or longer than the T_c .

- The storm frequency of peak discharges is the same as that of I for the given T_c .
- The fraction of rainfall that becomes runoff (or the runoff coefficient, C) is independent of I or precipitation zone number (PZN) condition (PZN Condition is discussed in Section 4.1.2.4).
- The peak rate of runoff is the only information produced by using the RM.

3.1.2 Runoff Coefficient

Table 3-1 lists the estimated runoff coefficients for urban areas. The concepts related to the runoff coefficient were evaluated in a report entitled *Evaluation, Rational Method "C" Values* (Hill, 2002) that was reviewed by the Hydrology Manual Committee. The Report is available at San Diego County Department of Public Works, Flood Control Section and on the San Diego County Department of Public Works web page.

The runoff coefficients are based on land use and soil type. Soil type can be determined from the soil type map provided in Appendix A. An appropriate runoff coefficient (C) for each type of land use in the subarea should be selected from this table and multiplied by the percentage of the total area (A) included in that class. The sum of the products for all land uses is the weighted runoff coefficient ($\Sigma[CA]$). Good engineering judgment should be used when applying the values presented in Table 3-1, as adjustments to these values may be appropriate based on site-specific characteristics. In any event, the impervious percentage (% Impervious) as given in the table, for any area, shall govern the selected value for C. The runoff coefficient can also be calculated for an area based on soil type and impervious percentage using the following formula:

$$C = 0.90 \times (\% \text{ Impervious}) + C_p \times (1 - \% \text{ Impervious})$$

Where: C_p = Pervious Coefficient Runoff Value for the soil type (shown in Table 3-1 as Undisturbed Natural Terrain/Permanent Open Space, 0% Impervious). Soil type can be determined from the soil type map provided in Appendix A.

The values in Table 3-1 are typical for most urban areas. However, if the basin contains rural or agricultural land use, parks, golf courses, or other types of nonurban land use that are expected to be permanent, the appropriate value should be selected based upon the soil and cover and approved by the local agency.

**Table 3-1
RUNOFF COEFFICIENTS FOR URBAN AREAS**

Land Use		Runoff Coefficient "C"				
		Soil Type				
NRCS Elements	County Elements	% IMPER.	A	B	C	D
Undisturbed Natural Terrain (Natural)	Permanent Open Space	0*	0.20	0.25	0.30	0.35
Low Density Residential (LDR)	Residential, 1.0 DU/A or less	10	0.27	0.32	0.36	0.41
Low Density Residential (LDR)	Residential, 2.0 DU/A or less	20	0.34	0.38	0.42	0.46
Low Density Residential (LDR)	Residential, 2.9 DU/A or less	25	0.38	0.41	0.45	0.49
Medium Density Residential (MDR)	Residential, 4.3 DU/A or less	30	0.41	0.45	0.48	0.52
Medium Density Residential (MDR)	Residential, 7.3 DU/A or less	40	0.48	0.51	0.54	0.57
Medium Density Residential (MDR)	Residential, 10.9 DU/A or less	45	0.52	0.54	0.57	0.60
Medium Density Residential (MDR)	Residential, 14.5 DU/A or less	50	0.55	0.58	0.60	0.63
High Density Residential (HDR)	Residential, 24.0 DU/A or less	65	0.66	0.67	0.69	0.71
High Density Residential (HDR)	Residential, 43.0 DU/A or less	80	0.76	0.77	0.78	0.79
Commercial/Industrial (N. Com)	Neighborhood Commercial	80	0.76	0.77	0.78	0.79
Commercial/Industrial (G. Com)	General Commercial	85	0.80	0.80	0.81	0.82
Commercial/Industrial (O.P. Com)	Office Professional/Commercial	90	0.83	0.84	0.84	0.85
Commercial/Industrial (Limited I.)	Limited Industrial	90	0.83	0.84	0.84	0.85
Commercial/Industrial (General I.)	General Industrial	95	0.87	0.87	0.87	0.87

*The values associated with 0% impervious may be used for direct calculation of the runoff coefficient as described in Section 3.1.2 (representing the pervious runoff coefficient, Cp, for the soil type), or for areas that will remain undisturbed in perpetuity. Justification must be given that the area will remain natural forever (e.g., the area is located in Cleveland National Forest).

DU/A = dwelling units per acre

NRCS = National Resources Conservation Service

3.1.3 Rainfall Intensity

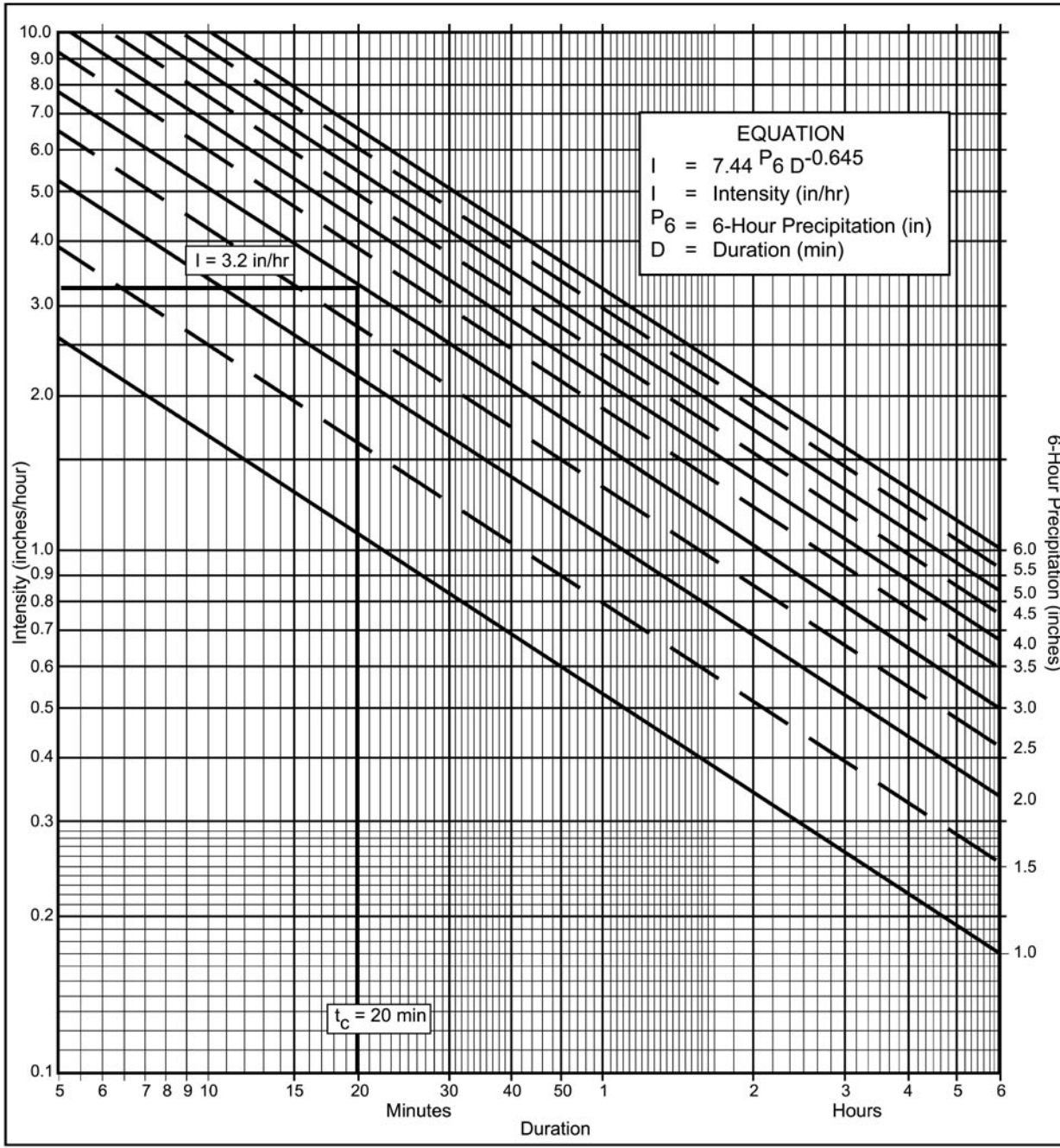
The rainfall intensity (I) is the rainfall in inches per hour (in/hr) for a duration equal to the T_c for a selected storm frequency. Once a particular storm frequency has been selected for design and a T_c calculated for the drainage area, the rainfall intensity can be determined from the Intensity-Duration Design Chart (Figure 3-1). The 6-hour storm rainfall amount (P_6) and the 24-hour storm rainfall amount (P_{24}) for the selected storm frequency are also needed for calculation of I. P_6 and P_{24} can be read from the isopluvial maps provided in Appendix B. An Intensity-Duration Design Chart applicable to all areas within San Diego County is provided as Figure 3-1. Figure 3-2 provides an example of use of the Intensity-Duration Design Chart. Intensity can also be calculated using the following equation:

$$I = 7.44 P_6 D^{-0.645}$$

Where: P_6 = adjusted 6-hour storm rainfall amount (see discussion below)
 D = duration in minutes (use T_c)

Note: This equation applies only to the 6-hour storm rainfall amount (i.e., P_6 cannot be changed to P_{24} to calculate a 24-hour intensity using this equation).

The Intensity-Duration Design Chart and the equation are for the 6-hour storm rainfall amount. In general, P_6 for the selected frequency should be between 45% and 65% of P_{24} for the selected frequency. If P_6 is not within 45% to 65% of P_{24} , P_6 should be increased or decreased as necessary to meet this criteria. The isopluvial lines are based on precipitation gauge data. At the time that the isopluvial lines were created, the majority of precipitation gauges in San Diego County were read daily, and these readings yielded 24-hour precipitation data. Some 6-hour data were available from the few recording gauges distributed throughout the County at that time; however, some 6-hour data were extrapolated. Therefore, the 24-hour precipitation data for San Diego County are considered to be more reliable.



Directions for Application:

- (1) From precipitation maps determine 6 hr and 24 hr amounts for the selected frequency. These maps are included in the County Hydrology Manual (10, 50, and 100 yr maps included in the Design and Procedure Manual).
- (2) Adjust 6 hr precipitation (if necessary) so that it is within the range of 45% to 65% of the 24 hr precipitation (not applicable to Desert).
- (3) Plot 6 hr precipitation on the right side of the chart.
- (4) Draw a line through the point parallel to the plotted lines.
- (5) This line is the intensity-duration curve for the location being analyzed.

Application Form:

- (a) Selected frequency 50 year
- (b) $P_6 = \underline{3}$ in., $P_{24} = \underline{5.5}$, $\frac{P_6}{P_{24}} = \underline{54.5} \%$ (²)
- (c) Adjusted $P_6^{(2)} = \underline{3}$ in.
- (d) $t_x = \underline{20}$ min.
- (e) $I = \underline{3.2}$ in./hr.

Note: This chart replaces the Intensity-Duration-Frequency curves used since 1965.

P6	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6
Duration	I	I	I	I	I	I	I	I	I	I	I
5	2.63	3.95	5.27	6.59	7.90	9.22	10.54	11.86	13.17	14.49	15.81
7	2.12	3.18	4.24	5.30	6.36	7.42	8.48	9.54	10.60	11.66	12.72
10	1.68	2.53	3.37	4.21	5.05	5.90	6.74	7.58	8.42	9.27	10.11
15	1.30	1.95	2.59	3.24	3.89	4.54	5.19	5.84	6.49	7.13	7.78
20	1.08	1.62	2.15	2.69	3.23	3.77	4.31	4.85	5.39	5.93	6.46
25	0.93	1.40	1.87	2.33	2.80	3.27	3.73	4.20	4.67	5.13	5.60
30	0.83	1.24	1.66	2.07	2.49	2.90	3.32	3.73	4.15	4.56	4.98
40	0.69	1.03	1.38	1.72	2.07	2.41	2.76	3.10	3.45	3.79	4.13
50	0.60	0.90	1.19	1.49	1.79	2.09	2.39	2.69	2.98	3.28	3.58
60	0.53	0.80	1.06	1.33	1.59	1.86	2.12	2.39	2.65	2.92	3.18
90	0.41	0.61	0.82	1.02	1.23	1.43	1.63	1.84	2.04	2.25	2.45
120	0.34	0.51	0.68	0.85	1.02	1.19	1.36	1.53	1.70	1.87	2.04
150	0.29	0.44	0.59	0.73	0.88	1.03	1.18	1.32	1.47	1.62	1.76
180	0.26	0.39	0.52	0.65	0.78	0.91	1.04	1.18	1.31	1.44	1.57
240	0.22	0.33	0.43	0.54	0.65	0.76	0.87	0.98	1.08	1.19	1.30
300	0.19	0.28	0.38	0.47	0.56	0.66	0.75	0.85	0.94	1.03	1.13
360	0.17	0.25	0.33	0.42	0.50	0.58	0.67	0.75	0.84	0.92	1.00

Intensity-Duration Design Chart - Example

FIGURE

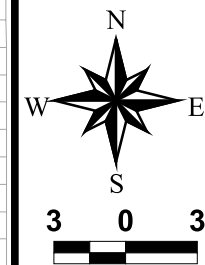
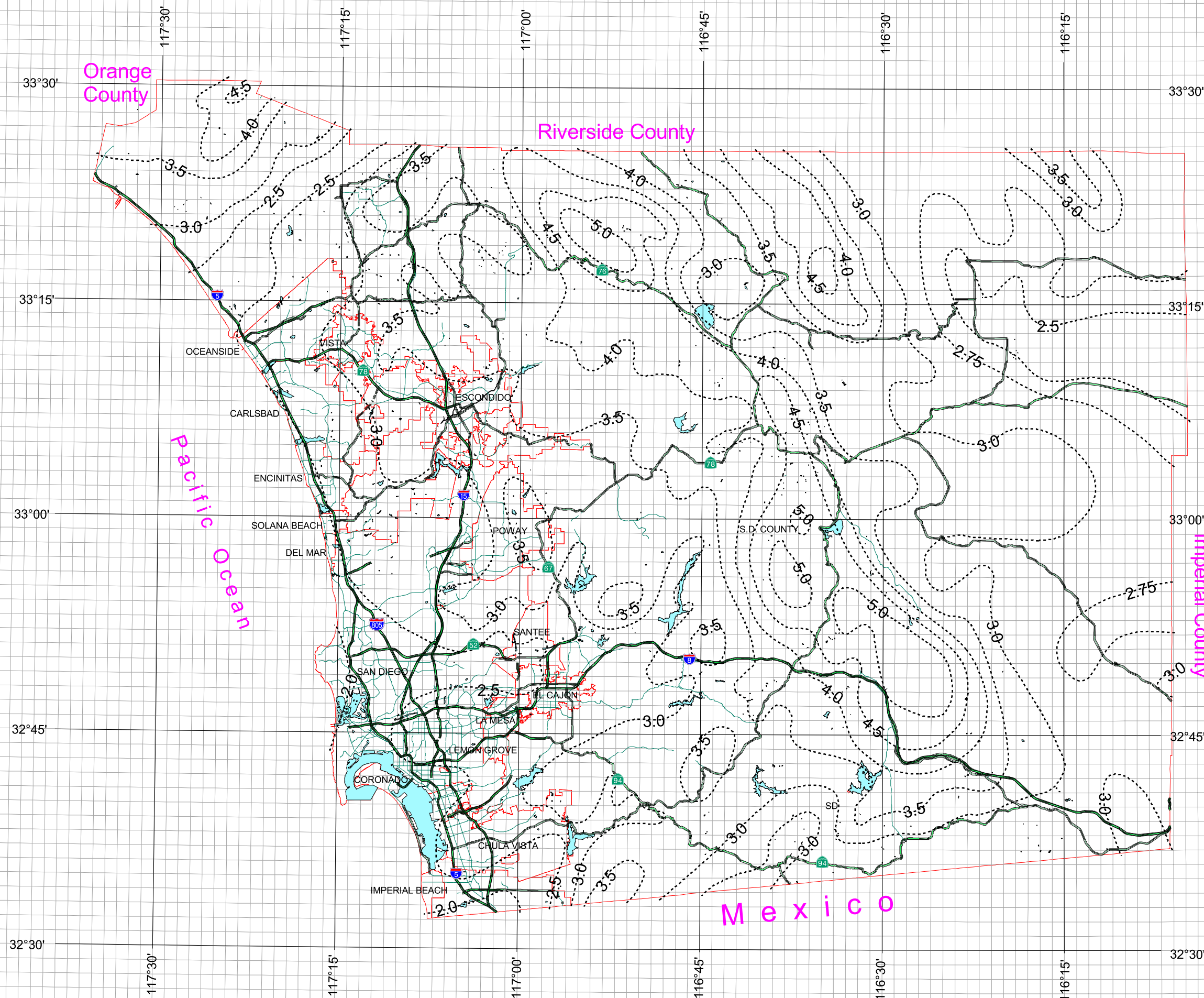
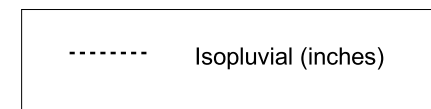
3-2

County of San Diego Hydrology Manual



Rainfall Isopluvials

100 Year Rainfall Event - 6 Hours



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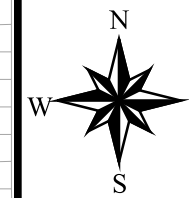
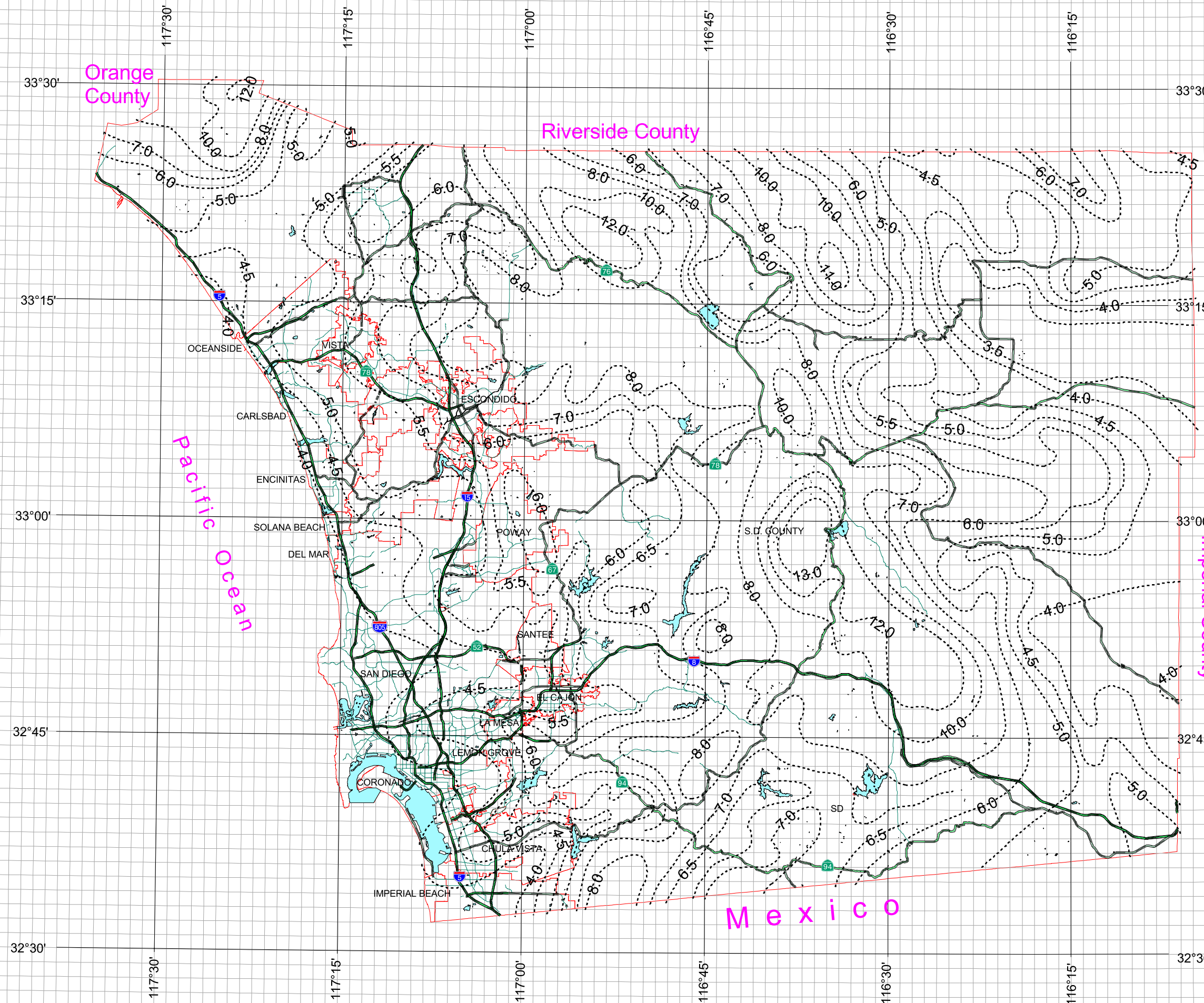
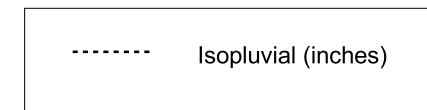
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County of San Diego Hydrology Manual



Rainfall Isopluvials

100 Year Rainfall Event - 24 Hours

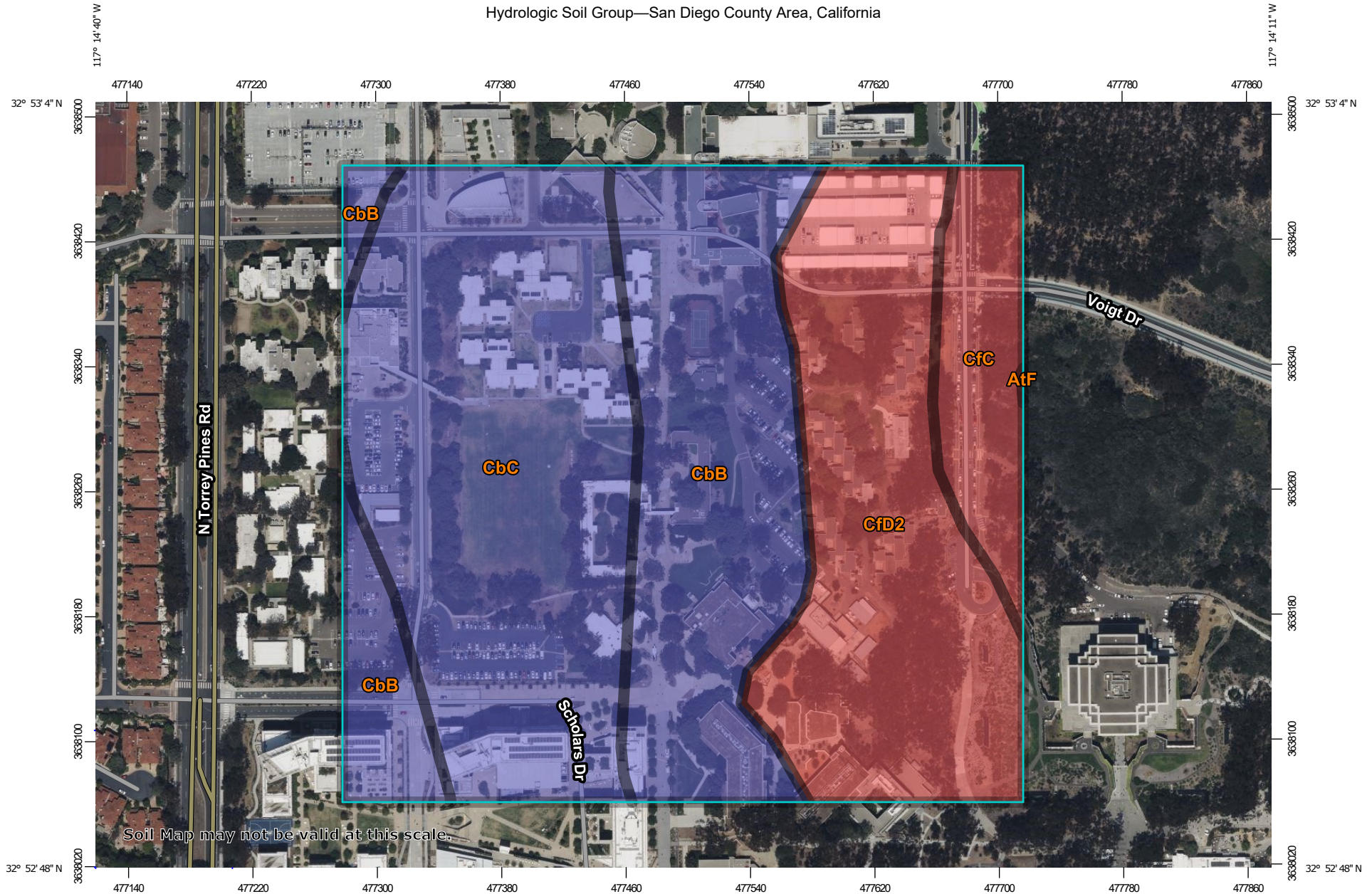


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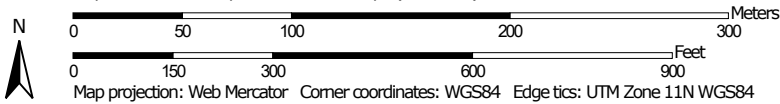
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Hydrologic Soil Group—San Diego County Area, California



Map Scale: 1:3,460 if printed on A landscape (11" x 8.5") sheet.




Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84



MAP LEGEND

Area of Interest (AOI)









 Area of Interest (AOI)

Soils

Soil Rating Polygons





 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines


 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points






 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Diego County Area, California
 Survey Area Data: Version 16, Sep 13, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 24, 2022—Apr 29, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AtF	Altamont clay, 30 to 50 percent slopes, warm MAAT, MLRA 20	C	0.0	0.0%
CbB	Carlsbad gravelly loamy sand, 2 to 5 percent slopes	B	13.1	29.6%
CbC	Carlsbad gravelly loamy sand, 5 to 9 percent slopes	B	16.0	36.2%
CfC	Chesterton fine sandy loam, 5 to 9 percent slopes	D	3.4	7.6%
CfD2	Chesterton fine sandy loam, 9 to 15 percent slopes, eroded	D	11.8	26.6%
Totals for Area of Interest			44.3	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher