



Addendum No. 1

University of California San Diego Hillcrest Campus 2019 Long Range Development Plan Outpatient Pavilion and Parking Structure Project

August 31, 2021

Prepared for:



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Section 1 Introduction

1.1 Project Summary

The following project is addressed in this Addendum for consistency with the 2019 Long Range Development Plan (2019 LRDP) for the University of California, San Diego (UC San Diego) and the certified Program Environmental Impact Report (2019 LRDP EIR) assessing the environmental impacts of implementing the plan (SCH No. 2018031003).

Project name: Hillcrest Outpatient Pavilion and Parking Structure 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

Project sponsor's name and address: UC San Diego Campus Planning
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Location of administrative record: UC San Diego Campus Planning
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Previously Certified 2019 LRDP Program EIR: The 2019 LRDP is a comprehensive land use plan that guides the redevelopment of the Hillcrest Campus to achieve its academic, clinical research, and community health goals, and ultimately guide the physical transformation of the campus toward a more efficient, environmentally sensitive, and socially minded result. The 2019 LRDP and its EIR are available for viewing online at <https://plandesignbuild.ucsd.edu/planning/lrdp/hillcrest.html#Environmental-Impact-Report> or at the following location:

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1.2 Purpose of Consistency Review

This document provides a project-level review of whether the Hillcrest Outpatient Pavilion and Parking Structure Project (project) is consistent with the framework identified in the 2019 LRDP for the Hillcrest Campus (2019 LRDP) and within the scope of activities covered in the environmental impact evaluation in the Hillcrest Campus 2019 LRDP EIR. This document will also serve as the project's EIR Addendum, as described in Section 1.3, CEQA Determination.

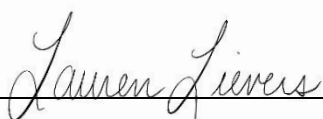
The 2019 LRDP is a comprehensive land use plan that guides the redevelopment of the Hillcrest Campus to achieve its academic, clinical research, and community health goals, and ultimately guide the physical transformation of the campus toward a more efficient, environmentally sensitive, and socially minded result (UC San Diego 2019a). The 2019 LRDP EIR was prepared in accordance with Section 15168 of the California Environmental Quality Act (CEQA) Guidelines and California Public Resources Code, Section 21094, and analyzed the environmental impacts of the 2019 LRDP (UC San Diego 2019b). The 2019 LRDP EIR (Volume I) analyzes full implementation of uses and physical development proposed under the 2019 LRDP and identifies measures to mitigate the significant adverse program-level and cumulative impacts associated with that growth.

This EIR Addendum 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 2019 LRDP and is covered by the 2019 LRDP EIR pursuant to Section 15168(c) of the 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 Section 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 EIR Addendum also documents that none of the conditions described in the CEQA Guidelines, Section 15162, calling for the preparation of a subsequent EIR have occurred and an Addendum to the 2019 LRDP EIR may be prepared (per CEQA Guidelines, Section 15164).

1.3 CEQA Determination

UC San Diego prepared the 2019 LRDP EIR and on the basis of this evaluation and pursuant to the CEQA Guidelines:

- ☒ I find that the Project **WOULD NOT** have new significant effects on the environment that have not already been addressed by the 2019 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 Section 15164 of the CEQA Guidelines, an **ADDENDUM** has been prepared.
- ☐ I find 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 Section 15162 of the CEQA Guidelines, a **TIERED MITIGATED NEGATIVE DECLARATION** has been prepared.
- ☐ I find 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 Section 15162 of the CEQA Guidelines, a **TIERED ENVIRONMENTAL IMPACT REPORT** is required.



Signature of Project Sponsor

August 27, 2021

Date

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Section 2 Project Description

2.1 Project Location and Setting

The University California, San Diego (UC San Diego), Hillcrest Campus is in the central part of the City of San Diego (City), California (Figure 2-1, Regional Location). More specifically, the Hillcrest Campus is in the City's Uptown Community in the Medical Complex neighborhood, atop a mesa that overlooks Interstate 8 (I-8) and Mission Valley to the north (Figure 2-2, Project Location). The Hillcrest Campus occupies 62 acres along the northern edge of the Uptown Community, approximately 2.5 miles north of Downtown San Diego, and approximately 13 miles south of the UC San Diego La Jolla Campus. The property boundaries are generally defined on the northern, western, and most of the eastern sides of the campus by undeveloped, steep-sloped canyons, with slopes east of Bachman Place generally composing the remainder of the eastern property line. The southern boundary is generally defined by West Arbor Drive except for a portion of one City block bounded by First Avenue, Front Street, Montecito Way, and West Arbor Drive and a parcel in the southwestern corner of Front Street and Albatross Drive. The proposed project, or Phase 1A of the 2019 LRDP for the UC San Diego Hillcrest Campus, is located in the southeastern portion of the Hillcrest Campus adjacent to and including portions of Arbor Drive, First Avenue and Bachman Place.

2.2 Project Background

The 2019 LRDP was approved and the Program EIR was certified in November 2019 by the UC Board of Regents. The 2019 LRDP allows for the redevelopment of approximately 34 acres of the 62-acre property, resulting in the removal of all but two of the existing buildings. The total development anticipated by the 2019 LRDP is up to 300 hospital beds, healthcare and research facilities (including 1,440,00 gross square feet (gsf) of outpatient services), up to 1,000 multi-family residential units (979 net new units), approximately 40,000 gross square feet of Wellbeing Center facilities, approximately 4,000 gross square feet of freestanding retail, up to 3,900 parking spaces, a new Central Utility Plant (CUP), and additional amenities encompassing approximately 2.7 million gross square feet. Overall redevelopment of the Hillcrest Campus would be divided into five phases (1A/1B, 2A/2B, 3, 4, and 5) and would require demolition, including the export of demolition materials for recycling or disposal, grading activities, building construction, and installation of underground utilities.

The strategic redevelopment of the Hillcrest Campus called for by the 2019 LRDP requires a multi-phase construction effort spanning over approximately 15 years, including construction of replacement space for hospital/inpatient services, and consolidation of fragmented outpatient services, offices, and support activities. As the first development project in the redevelopment plan, the proposed project establishes the framework for the Health Care District by strategically positioning outpatient services and parking next to existing and future hospital parcels, constructing the first phase of the CUP, and adding circulation enhancements that immediately

improve the patient experience and provide community benefit. The Outpatient Pavilion would serve as the centralized home for existing clinical services and would house services complementary to those offered in future healthcare facilities and other surrounding buildings on the campus. The facility would include necessary space for continuity and planned growth of these clinical services as well as space for multidisciplinary oncology clinics, infusion, and treatments currently not offered at the Hillcrest Campus. The key project drivers are:

1. Replacement and consolidation of dispersed clinical facilities that are aged, outdated, and/or physically connected to buildings that will no longer be seismically compliant, and require modernization to provide flexibility and meet UC San Diego's commitment to the communities it serves;
2. Strategic first phase of the reorganization and physical redesign of Hillcrest Campus to promote multidisciplinary collaboration, improve patient access, enhance patient experience, increase financial performance and grow market share, and respectfully integrate with the surrounding community; and
3. Adoption of industry trends that emphasize care delivery in outpatient settings.

Since certification of the 2019 LRDP EIR in November 2019, a more detailed design and construction plan was completed for Phase 1A of the project, resulting in minor changes to what was previously described for Phase 1A in the 2019 LRDP EIR. The following sections provide a comparison between what was described in the approved 2019 LRDP Phase 1A and EIR and what is proposed for the Outpatient and Pavilion Project (proposed Phase 1A).

2.2.1 2019 LRDP Phase 1A Project Description

Development pursuant to the 2019 LRDP Phase 1A was described in the 2019 LRDP EIR to occur between Front Street and Bachman Place north of Arbor Drive within the 2019 LRDP's Health Care District (Figure 2-3, 2019 LRDP Phase 1A Site Plan). Construction of this phase was anticipated to include an Outpatient Pavilion, an Outpatient Pavilion Annex, a new internal access road, and two parking structures. First Avenue would be extended northward with a new subgrade Canyon Parking Structure under the street extension. The second parking structure, the Main Parking Structure, would be southeast of the Canyon Parking Structure and future hospital. Together, the Main and Canyon Parking Structures would provide approximately 2,000 parking spaces.

2.2.1.1 Demolition

Demolition pursuant to the Hillcrest Campus 2019 LRDP Phase 1A was described as approximately 15 structures and 5 parking lots. Facilities to be demolished in the Hillcrest Campus 2019 LRDP Phase 1A are described in Table 2-1.

Table 2-1. 2019 LRDP Phase 1A Demolition and Construction

Phasing Stage	Demolition	Construction
2019 LRDP Phase 1A	Mail Services, 138 Dickinson Street (2,100 gsf) 136 Dickinson Street (2,900 gsf) 134 Dickinson Street (1,800 gsf) 150 Dickinson Street (800 gsf) Camelot (1,700 gsf) 135 Dickinson Street (3,800 gsf) 125 Dickinson Street (2,600 gsf) Dickinson Housing Cluster (10,500 gsf) 4235 Front Street (3,500 gsf) Crest Chateau (5,500 gsf) Crest Trailer (900 gsf) 112 Arbor Drive (7,700 gsf) 140 Arbor Drive (27,700 gsf) 114 Arbor Drive (6,400 gsf) 140 Arbor Parking Structure (80 parking spaces) 4194 First Avenue (3,800 gsf for both units) Surface Parking Lot (23 parking spaces) Valet Parking Lot (50 parking spaces) Bachman East Surface Lot (118 parking spaces) First Avenue End Parking Lot (7 parking spaces)	Outpatient Pavilion (272,000 gsf) Outpatient Pavilion Annex (25,000 gsf) Canyon Parking Structure (subgrade) (675 parking spaces) Main Parking Structure (1,325 parking spaces)

Notes: 2019 LRDP = 2019 Long Range Development Plan; gsf = gross square feet

2.2.1.2 Construction

The 2019 LRDP Phase 1A was described in the 2019 LRDP to consist of the construction of the Outpatient Pavilion and Outpatient Pavilion Annex (total of 297,000 gsf), a new internal access road, and two parking structures as shown in Table 2-1. First Avenue would be extended northward with a new subgrade Canyon Parking Structure located under the street extension. The second parking structure, referred to as the Main Parking Structure, would be located southeast of the Canyon Parking Structure and future hospital.

The 2019 LRDP Phase 1A also described the widening of Arbor Drive from Front Street to First Avenue and modification of this segment of Arbor Drive from a one-way to a two-way street. It also included a new roadway connection between Arbor Drive and Bachman Place and widening Bachman Place from the new Arbor Drive connection to the existing Bachman Parking Structure to provide two southbound lanes and one northbound lane. The 2019 LRDP also proposed the construction of a permanent internal access road between Bachman Place to the Canyon Parking Structure below First Avenue.

2.2.1.3 Grading

The 2019 LRDP EIR expected total earthwork for the 2019 LRDP Phase 1A to generate approximately 285,000 cubic yards of cut and 35,000 cubic yards of fill primarily due to the proposed building locations and the fact that the Canyon Parking Structure, Main Parking Structure, and Outpatient Pavilion would have basement levels.

2.2.1.4 Storm Water Management

The 2019 LRDP Phase 1A storm water improvements were described in the 2019 LRDP EIR to include a 24-inch underground storm drain construction and localized inlets with connector pipes to the Bachman Place storm drain within Arbor Drive and Bachman Place. Two biofiltration basins satisfying water quality treatment requirements were anticipated to be installed: one located just east of Bachman Drive and one located at the existing bus turnaround. Treated runoff would have been discharged to an existing concrete swale north of Bachman Place. The 2019 LRDP Phase 1A storm water improvements were also expected to include the construction of a new 24-inch storm drain pipe along the frontage of the Outpatient Pavilion, ultimately tying into the new 24-inch storm drain within Arbor Drive.

2.3 Hillcrest Outpatient Pavilion and Parking Structure Project (Proposed Phase 1A)

2.3.1 Purpose and Need for Project Modifications

Following certification of the 2019 LRDP EIR, a more detailed design and construction planning for the Phase 1A project was completed resulting in minor differences from what was described previously. As part of designing the proposed project, it was determined that construction constraints would make it difficult to fully construct the subgrade Canyon Parking Structure, referred to as, the Spine as proposed in the 2019 LRDP. In order to accommodate the necessary parking spaces, more parking stalls were added to the Main Parking Structure. The Spine parking lot was reduced in size compared to the originally proposed canyon Parking Structure. A single level (B1) was maintained in the Spine in order to provide the desired below-grade connectivity to the Outpatient Pavilion. In addition, due to elevation differences along Bachman Place, grading constraints made it difficult to provide a service drive connection to the Spine. As a result, the Loading Dock/Materials Management program area was added at the B2 level below the Spine and the service road would be used as a back-of-house service point with no thru-connection.

In order to fully implement the intent of the 2019 LRDP to serve the future Health Care District from a central CUP, it was determined that the proposed buildings in Phase 1A should be served from one CUP. In order to accomplish this goal, part of the CUP needed to be designed and sited to accommodate future expansion into a larger CUP that could serve the future whole Health Care

District. In order to allow for the complete construction of the CUP, the Bachman Parking Structure needed to be demolished in this phase as well, providing access to the CUP project site.

Mitigation Measure TRA-1 is considered not “feasible” as defined under CEQA Guidelines, Section 15126.4, as it is designed specifically to reduce automobile delay at roadway segments which is no longer considered a significant impact on the environment under CEQA. As stated above, consistent with Senate Bill (SB) 743, CEQA now requires that transportation impacts be evaluated based on vehicle miles traveled (VMT), rather than LOS. Therefore, Mitigation Measure TRA-1 is incapable of reducing or avoiding any significant impact to the environment, is no longer applicable to the Hillcrest Outpatient Pavilion and Parking Structure Project, and will not be implemented by UC San Diego. Based on the analysis in the 2019 LRDP EIR, implementation of the 2019 LRDP would not exceed an applicable VMT threshold, and no mitigation is required. Furthermore, the abandoned mitigation measure (TRA-1) would not further reduce the 2019 LRDP’s less than significant transportation impacts to the environment as CEQA now defines them (e.g., VMT impacts).

In addition, a current San Diego Association of Governments project would result in only 32 feet of pavement being available on Hotel Circle South on the portion proposed to be restriped. The proposed width would not provide enough space to provide three appropriately sized travel lanes.

2.3.2 Project Objectives

The project objectives are the same as those described in the 2019 LRDP EIR, which are provided in Section 3.1, 2019 LRDP Objectives, of this Addendum.

2.3.3 Hillcrest Outpatient Pavilion and Parking Structure Project Features

The proposed project would include the 2019 LRDP Phase 1A boundary plus the area that includes the existing Bachman Parking Structure and the adjacent segment of Bachman Place south of Arbor Drive (Figure 2-4, Outpatient Pavilion and Parking Structure Site Plan). The proposed project would construct the Outpatient Pavilion, the Main Parking Structure, the non-Office of Statewide Health Planning Department (OSHDP) portion of the CUP, the Spine (First Avenue extension), associated circulation improvements including the partial widening of Bachman Place, a new intersection at Arbor Drive and Bachman Place and the widening of Arbor Drive (Figure 2-5, Outpatient Pavilion and Parking Structure Grading Plan). The proposed project would include demolition of approximately five structures and four surface parking lots. Table 2-2 shows a summary of the proposed demolition and construction associated with the Hillcrest Outpatient Pavilion and Parking Structure Project.

Table 2-2. Proposed Demolition and Construction for the Hillcrest Outpatient Pavilion and Parking Structure Project

Phasing Stage	Demolition	Construction
Proposed Phase 1A	Existing Bachman Parking Structure (1,034 parking spaces) 112 Arbor Drive (7,700 gsf) 140 Arbor Drive (27,700 gsf) and (80 parking spaces) 114 Arbor Drive (6,400 gsf) Surface Parking Lot (23 parking spaces) First Avenue End Parking Lot (7 parking spaces) Valet Parking Lot (50 parking spaces) Bachman East Surface Lot (118 parking spaces)	Outpatient Pavilion (251,000 gsf) The Spine (First Avenue extension, 70 parking spaces) Main Parking Structure (approximately 1,780 parking spaces with security and parking services program area) CUP – Non-OSHPD portion (12,000 gsf)

Notes: CUP = Central Utility Plant; gsf = gross square feet; OSHPD = Office of Statewide Health Planning Department

Table 2-3 shows the comparison of the 2019 LRDP Phase 1A project features with the proposed Hillcrest Outpatient Pavilion and Parking Structure Project features. The 2019 LRDP Phase 1A project assumed construction of up to 297,000 gsf and 2,000 parking spaces while the proposed Hillcrest Outpatient Pavilion and Parking Structure Project would construct 265,000 gsf and 1,850 parking spaces.

Table 2-3. Comparison of 2019 LRDP Phase 1A Project Components with Proposed Hillcrest Outpatient Pavilion and Parking Structure Project Components – Construction

2019 LRDP EIR Phase 1A Construction	Proposed Phase 1A Construction
Outpatient Pavilion (272,000 gsf)	Outpatient Pavilion (251,000 gsf)
Outpatient Pavilion Annex (25,000 gsf)	No longer proposed
First Avenue extension/Canyon Parking Structure (subgrade) (675 parking spaces)	First Avenue extension/Canyon Parking Structure ("The Spine," 70 parking spaces and a 2,417 square foot parking and security office)
Main Parking Structure (1,325 parking spaces)	Main Parking Structure (approximately 1,780 parking spaces)
	CUP – Non-OSHPD portion (9,500 gsf)

Notes: 2019 LRDP = 2019 Long Range Development Plan; CUP = Central Utility Plant; gsf = gross square feet

Table 2-4 shows the comparison of the proposed demolition of existing buildings for the 2019 LRDP Phase 1A compared with the proposed project.

Table 2-4. Comparison of 2019 LRDP Phase 1A Project Components with Proposed Hillcrest Outpatient Pavilion and Parking Structure Project Components – Existing Buildings to be Demolished

2019 LRDP EIR Phase 1A Demolition	Proposed Phase 1A Demolition
Mail Services, 138 Dickinson Street (2,100 gsf)	Not included in Phase 1A scope
136 Dickinson Street (2,900 gsf)	Not included in Phase 1A scope
134 Dickinson Street (1,800 gsf)	Not included in Phase 1A scope
150 Dickinson Street (800 gsf) ¹	Not included in Phase 1A scope
Camelot (1,700 gsf)	Not included in Phase 1A scope
135 Dickinson Street (3,800 gsf) ¹	Not included in Phase 1A scope
125 Dickinson Street (2,600 gsf) ¹	Not included in Phase 1A scope
Dickinson Housing Cluster (10,500 gsf)	Not included in Phase 1A scope
4235 Front Street (3,500 gsf)	Not included in Phase 1A scope
Crest Chateau (5,500 gsf) ¹	Not included in Phase 1A scope
Crest Trailer (900 gsf) ¹	Not included in Phase 1A scope
112 Arbor Drive (7,700 gsf)	112 Arbor Drive (7,700 gsf)
140 Arbor Drive (27,700 gsf)	140 Arbor Drive (27,700 gsf)
114 Arbor Drive (6,400 gsf)	114 Arbor Drive (6,400 gsf)
140 Arbor Parking Structure (80 parking spaces)	140 Arbor Parking Structure (80 parking spaces)
4194 First Avenue (3,800 gsf for both units)	Not included in Phase 1A scope
Surface Parking Lot (23 parking spaces)	Surface Parking Lot (23 parking spaces)
Valet Parking Lot (50 parking spaces)	Valet Parking Lot (50 parking spaces)
Bachman East Surface Lot (118 parking spaces)	Bachman East Surface Lot (118 parking spaces)
First Avenue End Parking Lot (7 parking spaces)	First Avenue End Parking Lot (7 parking spaces)
	Existing Bachman Parking Structure (1,032 parking spaces)

Notes: 2019 LRDP = 2019 Long Range Development Plan; EIR = Environmental Impact Report; gsf = gross square feet

¹ The building has been demolished/removed as a separate project in accordance with the approved 2019 LRDP and 2019 LRDP EIR.

2.3.3.1 Outpatient Pavilion

The Outpatient Pavilion would be an approximately 251,000-square-foot building consisting of four stories above ground (approximately 83-feet tall) and two stories below grade sited at the heart of the Health Care District, between First Avenue and the existing Front Street. It would include the following programs: Outpatient Clinics; Radiology and Diagnostics Imaging; Outpatient Surgery, Procedure, and Preparation/Recovery Suites; Multispecialty Cancer Clinic and Infusion; Breast Center; Central Sterile Processing; Laboratory and Retail Pharmacies; Café; Patient Guest Services; Security Services; and Building Support Services.

The primary access to the building would be from First Avenue at Level 1 (L1) via a pick-up/drop-off zone adjacent to the main entry or via an at-grade pedestrian crossing near the adjacent Main Parking Structure. For repeat or more critically ill patients, the Outpatient Pavilion would also be

accessed at Basement Level 1 (B1), where a secondary pick-up/drop-off zone and adjacent parking would be provided.

The Outpatient Pavilion would be divided into three massing volumes: the southern wing, the glazed wedge, and the northern wing (see Figures 2-6a and 2-6b for building elevations). The southern wing would orient to the southeast, creating an icon for the entrance to the campus on First Avenue while opening the sightlines west toward the planned Central Green (currently occupied by the Main Hospital). The southern facade includes horizontal fin elements to provide shading and reduce heat gain/glare.

The building would be designed to create a unified architectural language, reinforcing a connection back to nature through a natural color palette while grounding the building into the landscape. A diverse material palette would include the use of low-E coated insulated glass units, porcelain panels, and wood printed aluminum fins. A layer of vertical fins would be constructed on the eastern and western facades, and the deep edge frames and horizontal fin elements to the south would provide shade. Mechanical equipment would be located on the roof and contained within a roof screen to be blocked from public view. The front entrance would include painted steel with a fritted glass canopy. The proposed building's skin is designed to optimize energy performance. The proposed Outpatient Pavilion would comply with applicable portions of the UC Sustainable Practices Policy, as well as acquire Leadership in Energy and Environmental Design (LEED) Silver (minimum) by implementing energy efficiency, water conservation, and general sustainability goals as described in Section 2.3.5, Sustainability Features.

2.3.3.2 Main Parking Structure

The Main Parking Structure would consist of six decks above grade and four decks below grade at Arbor Drive and would accommodate approximately 1,780 parking spaces and may accommodate programmed area for security and parking services program (see Figure 2-7, Outpatient Pavilion and Parking Structure – Loading Dock Elevation, for the loading dock elevation). The necessary number of parking spaces is based on peak parking demand calculated from 2019 parking usage counts at the Hillcrest Campus (Horton, pers comm. 2020). In addition, the Hillcrest Campus parking capacity was compared to the San Diego Municipal Code parking requirements for City of San Diego land uses comparable to those included in the Hillcrest Campus 2019 LRDP. An adjustment factor was created to convert Municipal Code parking ratios into Hillcrest Campus site-specific ratios, and those ratios were applied to the proposed development at the Hillcrest Campus to calculate parking space demand (Horton, pers comm. 2020). The parking structure would be located to the east and across First Avenue from the Outpatient Pavilion and would directly connect to the Spine at the Basement Level (B1), allowing both vehicular and pedestrian connections. The parking structure would have three points of ingress and/or egress to adjacent roadways. Patient access would be provided from First Avenue at Level 1 (L1). Staff and patient egress would be provided at Basement Level 1 Mezzanine (B1 Mezz) from the intersection

of Bachman Place and Arbor Drive. Staff access would be provided at Basement Level 2 Mezzanine (B2 Mezz) from Bachman Place near the service drive.

The architectural design of the Main Parking Structure would be consistent with the Outpatient Pavilion design, using the same natural tones and including a layer of vertically expressed fins on the parking structure. The Main Parking Structure would have an elevator and stairs to access First Avenue. To minimize the massing of the parking structure at Arbor Drive, the top two levels would be stepped back along Arbor Drive to the south, with the main structure core set back slightly from the corner. Along the west, south and east edges, screening would be provided in the form of trees and other landscape features; at these same edges, solid vehicle barrier walls would be provided to limit the transmission of light trespass from vehicle headlights at night. The proposed Main Parking Structure would comply with the applicable portions of the UC Sustainable Practices Policy, and would be designed to achieve a Parksmart Silver certification.

2.3.3.3 Central Utility Plant

The proposed Hillcrest Outpatient Pavilion and Parking Structure Project would include the construction of the non-OSHPD portion of the CUP. The CUP would be a 9,500-square-foot building consisting of two stories, located north of the Main Parking Structure and service drive. The remaining portion of the CUP (OSHPD compliant) would be constructed as part of a later phase under the Hillcrest Campus 2019 LRDP and associated EIR.

The non-OSHPD CUP would include traditional chillers and boilers with a heat recovery chiller. The proposed 280-ton heat recovery chiller would produce 130 degrees Fahrenheit (°F) hot water for heating while simultaneously producing a portion of chilled water. The heat recovery chiller would run on electricity and provide the first stage of cooling and heating. The remainder of the chilled water load would be met by cooling-only chillers sized up to 600 tons with a connection to a future 600-ton chiller. Supplemental heating would be provided by one 6,000 British-thermal unit-per-hour natural gas-fired boiler when the heat recovery chiller cannot meet the total heating load. The CUP would also house two 750-ton cooling towers to reject excess heat (Figure 2-8, Outpatient Pavilion and Parking Structure – Central Utility Plant Components and Process). This cooling tower would be located in an equipment yard adjacent to and west of the CUP, allowing the CUP to provide noise attenuation for the residential units to the east and to block views of the cooling towers and other service yard equipment.

The CUP has been designed to minimize natural gas usage, and the natural gas boilers are only anticipated to be utilized for approximately 30 percent of the heating load and for the steam system. Natural gas usage would be offset by utilizing directed biogas, meaning UC-owned biogas plants would provide pipeline-quality biogas to natural gas systems. The future buildout condition of the campus is anticipated to produce adequate loads that allow for efficient operation of an all-electric plant, and therefore, the proposed CUP is designed to be back-fed from the future OSHPD portion

of the CUP (once built with the replacement hospital) and would be able to run almost all-electric. By the end of the full campus buildout, the heat recovery chillers at the completed CUP are expected to meet up to 96 percent of the campus's space heating load without natural gas combustion, due to the overlapping heating and cooling load. The minimal natural gas usage would continue to utilize directed biogas offsets.

Walls surrounding the CUP equipment yard would extend 1 foot above the height of the cooling tower to maximize noise attenuation. The walls would be lined with exterior sound absorptive panels as noise reduction design measures. The CUP would also include a 1,500-kilowatt emergency generator to provide backup power. The generator would use diesel fuel that would be stored above ground in a belly tank under the generator in the CUP service yard. The generator would be exercised for approximately 0.5 hour each month to maintain its functionality and reliability.

The CUP main entrance and the side-facing Bachman Place would complement and be consistent with the Outpatient Pavilion design, with a modified version on service elevations containing mainly louvers and roller-shutter door entrances (see Figure 2-9, Central Utility Plant Elevations, for the CUP building elevation). The CUP building has been sited to shield direct line-of-sight from the towers to the existing residential neighborhood to the east. A singular exhaust fan and small-diameter vent pipes would be on the roof. A service road connection would be provided from Bachman Place to the CUP, which would also provide access for the Outpatient Pavilion service vehicles where the road terminates at the Outpatient Pavilion's loading dock.

2.3.3.4 Transportation Improvements

The Hillcrest Outpatient Pavilion and Parking Structure Project would include roadway improvements to internal campus roads and to the off-site intersection at Hotel Circle South, as well as the widening of Bachman Place and Arbor Drive and the extension of First Avenue. Proposed roadway improvements are shown on Figure 2-5. Figure 2-10, Site Rendering, depicts the arrival at First Avenue and Arbor Drive and arrival from Front Street looking north.

First Avenue

The proposed project includes realignment, redevelopment, and extension of the northern section of First Avenue between Arbor Drive and Dickinson Street. The redeveloped and extended section of First Avenue would be a roadway over structure below. This area (First Avenue and structure below) is being called "the Spine." Below grade, the Spine would include vehicular circulation, approximately 70 parking stalls, and space that may be used for parking and a security office. The Spine would have direct connection to both the Outpatient Pavilion and the Main Parking Structure. It also includes pedestrian sidewalks on both sides of the street.

Arbor Drive

The Hillcrest Outpatient Pavilion and Parking Structure Project would widen Arbor Drive between Front Street and its new point of connection with Bachman Place. Arbor Drive (between Front Street and First Avenue) would be changed from a one-way to a two-way street. New traffic signals would be constructed at the intersection of Arbor Drive and Bachman Place, at Arbor Drive and First Avenue, and at Arbor Drive and Front Street. It would also provide a buffered two-way cycle track (for bicycles) on the northern side of Arbor Drive and pedestrian sidewalks on the northern and southern sides of the street. The primary exit from the Main Parking Structure would be southbound at the Arbor Drive and Bachman Place intersection (see Figure 2-5).

Bachman Place

The proposed project would redevelop, reroute, and regrade Bachman Place from the existing vehicular turnout located north of the Bachman Parking Structure along the eastern Campus Boundary to its new point of connection at Arbor Drive. Bachman Place would be widened to provide two southbound lanes and one northbound lane. A secondary ingress and egress access to the Main Parking Structure (primarily for staff use) would be provided as a right-turn in and right-turn out only from Bachman Place (see Figure 2-5). It would also provide dedicated bike lanes along the northbound and southbound sides of the roadway and a sidewalk (approximately 5 feet wide) for pedestrians on the western side of the street.

Service Driveway

The proposed project would include a new service road that would be constructed to provide access to the Outpatient Pavilion materials management area, service docks, and CUP. The service road would run in an east–west direction, between Bachman Place and the Spine. This service road provides access to Outpatient Pavilion’s loading docks at Basement Level 2 (B2).

2.3.3.5 Multi-Modal Improvements

The proposed Phase 1A improvements would provide a curb-separated, two-way cycle track along Arbor Drive. A one-way, grade-separated southbound/uphill cycle track and a one-way, buffered northbound/downhill bike lane would be provided along Bachman Place. The Outpatient Pavilion would provide bike racks, and the Main Parking Structure would include a secure bike storage room at the southwestern corner of the building. The project would also provide future accommodation for both UC San Diego shuttles and city bus service (MTS). A turnout lane would be constructed for a shuttle stop to serve the Hillcrest Health Care District along the eastern edge of the First Avenue extension, just north of the new Parking Structure. In addition, a transit island to serve the city bus service would be constructed along Arbor Drive, just south of the Outpatient Pavilion Building. The transit island would not be utilized for city bus service until a later phase.

2.3.3.6 2.3.3.6 Utility and Service System Improvements

Utility improvements and extensions would be required to provide electricity, natural gas; potable, chilled, sewer and wastewater, storm drains, and telecommunications services for the proposed Hillcrest Outpatient Pavilion and Parking Structure Project. The existing power lines and telecommunication lines are on poles above ground, while the remaining existing utilities are underground connections from the existing utility lines buried under the roadways. Proposed points of connection to existing utilities are shown on Figure 2-11a, Outpatient Pavilion and Parking Structure – Overall Utility Plan, and Figure 2-11b, Outpatient Pavilion and Parking Structure – CUP/Service Yard Utility Plan.

Electricity

Existing buildings that would be demolished as part of the project would be disconnected from the existing electrical supply system prior to demolition. The proposed Hillcrest Outpatient Pavilion and Parking Structure Project electrical power demand would be provided via the direct access wholesale power program (100 percent clean energy) and by the proposed CUP described previously. Emergency and standby power would be provided by an on-site diesel engine generator described in Section 2.3.3.3.

Natural Gas

Natural gas lines would be provided in an accessible location under existing and proposed roadways.

Water

The Hillcrest Outpatient Pavilion and Parking Structure Project envisions privatizing the City of San Diego water infrastructure within Front Street and Dickinson Street for use solely by UC San Diego. This effort would move the City of San Diego water meter to the corner of Arbor Drive and Front Street. Furthermore, the project would install a new 12-inch domestic water main to connect the existing 12-inch main within Arbor Drive to the existing 8-inch main in Third Avenue, creating water supply redundancy for the project. Water supply from these two new mains would be provided to the parking structure, CUP, and the Outpatient Pavilion; under Bachman Place and the access road service yard.

Wastewater

The Hillcrest Outpatient Pavilion and Parking Structure Project would install a new 8-inch wastewater lateral to collect flows from the Outpatient Pavilion, CUP, and the Main Parking Structure within the service yard. This 8-inch lateral would connect to the existing 8-inch sewer main within Bachman Place; ultimately flowing north to the City of San Diego Mission Valley trunk main.

Telecommunication

Telecommunication lines would be provided in an accessible location under existing and proposed roadways.

Fire Protection

The Hillcrest Campus does not have its own fire department and therefore relies on the City of San Diego Fire-Rescue Department (SDFR) to respond to all applicable emergencies. However, the Hillcrest Campus does employ a Fire Marshal and staff who are responsible for campus-wide fire prevention. The Hillcrest Campus Fire Marshal and staff provide services, such as plan review and construction inspections of new construction, as well as alterations or renovations to existing buildings and facilities and can act as the campus liaison to the SDFR and other city and regional emergency services. The Outpatient Pavilion, Parking Structure, and CUP would be constructed of ignition-resistant materials and built to current building codes with state-of-the-art fire suppression infrastructure to lessen fire risk.

2.3.3.7 Landscape/Hardscape Improvements and Storm Water Management

Landscape Improvements

The landscape concept for the proposed Hillcrest Outpatient Pavilion and Parking Structure Project includes landscaping improvements throughout the site (Figure 2-12, Outpatient Pavilion and Parking Structure – Landscaping Plan). Landscape guidelines and campus plans emphasize a drought-tolerant and sustainable plant palette. Several different plant palettes, including an urban ornamental, urban streetscape, and discrete garden palette, would be used throughout the site. The urban streetscape palette on Figure 2-12 would be used along the edge of the Hillcrest Campus along Bachman Place, and the urban ornamental planting would be found along the internal campus streets.

Hardscape Improvements

A south plaza outdoor space is proposed at the entrance of the Outpatient Pavilion along Arbor Drive. Outdoor areas would be equipped with outdoor seating areas.

As discussed above under Multi-Modal Improvements, a turnout lane large enough to accommodate a shuttle to serve the Health Care District would be constructed along the eastern edge of the First Avenue extension, just north of the Main Parking Structure. In addition, a transit island enhancement to accommodate future anticipated bus service would be constructed along Arbor Drive, just south of the Outpatient Pavilion building.

Storm Water Management

The Hillcrest Outpatient Pavilion and Parking Structure Project storm water improvements would include a new 24-inch underground storm drain and localized inlets with connector pipes to the Bachman Place storm drain within Arbor Drive and Bachman Place. Two biofiltration basins satisfying water quality treatment requirements would be installed: one basin is proposed at the southeastern corner of the project site adjacent to Bachman Place and the second basin would be east of Bachman Place in the northeastern area of the campus and east of Bachman Place. A temporary basin is proposed on the eastern side of the graded unbuilt pad, where the Bachman Parking Structure currently exists. Treated runoff would discharge to the existing concrete swale north of Bachman Place. Phase 1A storm water improvements would also include the construction of a new 24-inch storm drain pipe along the frontage of the Outpatient Pavilion, ultimately tying into the new 24-inch storm drain within Arbor Drive.

2.3.4 Project Construction

Project construction would begin with the demolition of the existing 5 buildings identified in Table 2-2. Earthwork for the proposed Hillcrest Outpatient Pavilion and Parking Structure Project would generate approximately 138,000 cubic yards of cut and 90,000 cubic yards of fill (as compared to 285,000 of cut and 35,000 of fill as assumed in the 2019 LRDP EIR). Approximately 48,700 cubic yards of dirt would be exported utilizing First Avenue, Arbor Drive, and Front Street. The area of grading disturbance would be approximately 11 acres.

The project would provide five construction staging areas located within the project site area. The staging locations would also store construction materials. The construction personnel parking areas would be located adjacent to the trailers and staging areas. During peak periods, off-site parking may be necessary. Construction would utilize major types of construction equipment including but not limited to cranes, concrete pumps, fireproofing and plaster spray machines, material lifts, bobcats, loaders, backhoes, and asphalt paving machines.

Construction Schedule

Construction is estimated to begin in November 2021 and take approximately 40 months to complete. Construction activities would be phased beginning with the construction of Bachman Drive and Arbor Drive improvements and site excavating and grading which is estimated to last 10 months. Following the first 5 months of excavation and grading activities, the construction of the Outpatient Pavilion and Spine foundation and basement is anticipated to take approximately 7 months. Following completion of site excavation and grading, construction of the Main Parking Structure would begin and is estimated to last 16 months. Once the Main Parking Structure is constructed the existing Bachman Parking Structure would be demolished followed by the construction of the CUP. Construction of the entire project is estimated to be completed in 2025.

Temporary Road Closure

Construction of the proposed project components would require the closure of a portion of Bachman Drive to through traffic for up to 23 months. The closure would occur from the proposed Arbor Drive/Bachman Place intersection to just south of the existing Bachman Parking Structure in order to allow for the roadway improvements required by the 2019 LRDP and construction of the proposed project. One entrance and one exit driveway to the existing Bachman Parking Structure would remain open to provide vehicular access to parking. A temporary turnaround would be constructed for those who missed the closure signage and do not want to use the parking structure. At the proposed Arbor Drive/Bachman Place intersection, access to the apartment building located south of the intersection would be maintained. During the Bachman Place closure, traffic control plans would be implemented that include signage, striping, cones, etc. for each of the construction phases. An alternative route would remain accessible to vehicular traffic via I-8 and SR-163. Construction truck and construction vehicle access to northbound Bachman Drive would be maintained from the project site. Once the new Main Parking Structure construction is completed, the Bachman Parking Structure would be demolished. Bachman Place will reopen once the Bachman Place and Arbor Drive improvements are completed.

2.3.5 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 food services, and sustainable water systems. The UC Sustainable Practices Policy establishes guidelines and includes climate change goals for the campus.

The proposed Hillcrest Outpatient Pavilion and Parking Structure Project would comply with the UC Sustainable Practices Policy by implementing the following energy efficiency, water conservation, and general sustainability goals:

- Provide a healthy building environment that promotes wellness through access to quality daylight, thermal comfort, good acoustics, and fresh air
- Acquire Leadership in Energy and Environmental Design (LEED) Silver (minimum)
- Use cost effective, energy-efficient building design targeting over 30 percent savings versus an American Society of Heating, Refrigerating, and Air-Conditioning Engineers 90.1-2010 baseline
- Reduce natural gas use as much as operationally and economically feasible with the goal to have no on-site natural gas combustion in the future buildout
- Prioritize on-site renewable energy and distributed energy resources when financially viable
- Procure off-site renewable energy through the UC's wholesale power procurement

- Use of directed biogas to account for the campus's natural gas usage, which adds biogas directly to the pipeline system
- Prioritize water conservation and reclamation when financially viable
- Ensure the Hillcrest Campus is designed to meet UC San Diego's sustainable operational requirements

In addition, the 2019 LRDP includes a Greenhouse Gas (GHG) Reduction Strategy that identifies a Screening Table to be used for each project developed as part of implementation of the 2019 LRDP. The purpose of the Screening Table is to specify the reduction of GHG emissions that are attributable to the design and construction of the development projects. The GHG reduction measures incorporated into the proposed project is provided as an appendix to the GHG Memorandum, which is Appendix A to this EIR Addendum. Some of the key project GHG reduction strategies include (LSA 2019):

- Enhanced cool roof
- Very high-efficiency lights
- Very high-efficiency water heater
- Only low-water landscape plants
- Weather-based irrigation control systems
- Public electric vehicle charging station
- Car/vanpool preferred parking
- Local bus stop at medical facility
- Subsidized transit passes
- Guaranteed ride home program
- Bike lockers and secure bike racks
- Showers and changing facilities
- Subsidized employee walk/bike program

2.4 Project Approval and Schedule

The proposed Phase 1A demolition, site improvements, and construction is anticipated to begin in the fall of 2021 and take approximately 45 months (3 years and 9 months) to complete. As a public agency principally responsible for approving or carrying out the proposed project, the UC Regents is considered the lead agency under CEQA. This addendum for the proposed Hillcrest Outpatient Pavilion and Parking Structure Project would be considered by the UC Regents, and the proposed project may be approved at the UC Regents' discretion and only if the UC Regents determine that such approval complies with CEQA. Table 2-5 summarizes the required permits for the proposed project.

Table 2-5. Required Permits

Action	Approving Agency	Status
Section 1602 Streambed Alteration Agreement	California Department of Fish and Wildlife	Received
401 Water Quality Certification	San Diego RWQCB	Received
Clean Water Act 401 and 404 and Rivers and Harbors Act Section 10 Permit	U.S. Army Corps of Engineers	Received
City of San Diego Right of Way Permit	City of San Diego	Pending
City of San Diego Road Vacation	City of San Diego	Pending

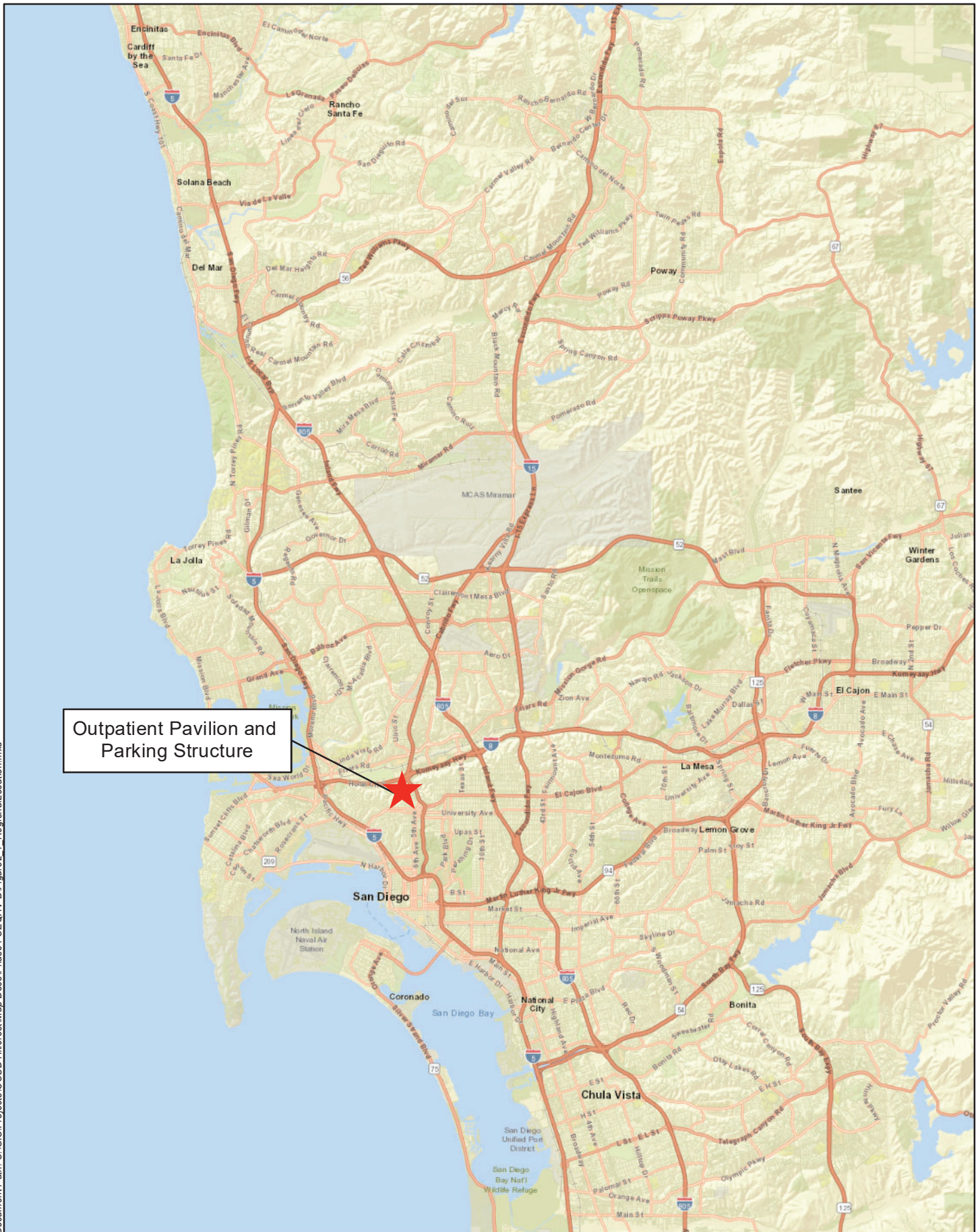
Notes: RWQCB = Regional Water Quality Control Board

2.5 Community Outreach

The proposed project was envisioned and planned for in the 2019 LRDP, with internal and external outreach conducted as described in Section 1.5, Campus, Public, and Agency Outreach, of the 2019 LRDP EIR. In addition, project-specific outreach efforts were conducted in spring and summer 2021 to share information on the status of the redevelopment plan and details of the upcoming Phase 1A project. Outreach conducted in 2021 included extensive outreach and coordination with UC San Diego internal user groups, as well as outreach and briefings with the City of San Diego, County of San Diego, San Diego Association of Governments, Metropolitan Transit System, Scripps Health (also located within the Hillcrest community), and state and federal elected officials. In addition, regular updates in the form of presentations and verbal or written updates were provided to the neighbors within the project vicinity, as well as to the following local community groups:

- Uptown Planners – March 2, 2021
- UC San Diego Hillcrest Street Vacation and Community Plan Amendment Presentation – June 2, 2021
- Mission Valley Planning Group – March 3, 2021
- Middletown Community Group – March 8, 2021
- Hillcrest Business Association – March 9, 2021
- Hillcrest Town Council – March 9, 2021
- Mission Hills Town Council Quarterly Meeting – March 11, 2021
- Bankers Hill Community Group – May 17, 2021

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Source: ESRI 2020.

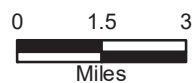


Figure 2-1
Regional Location

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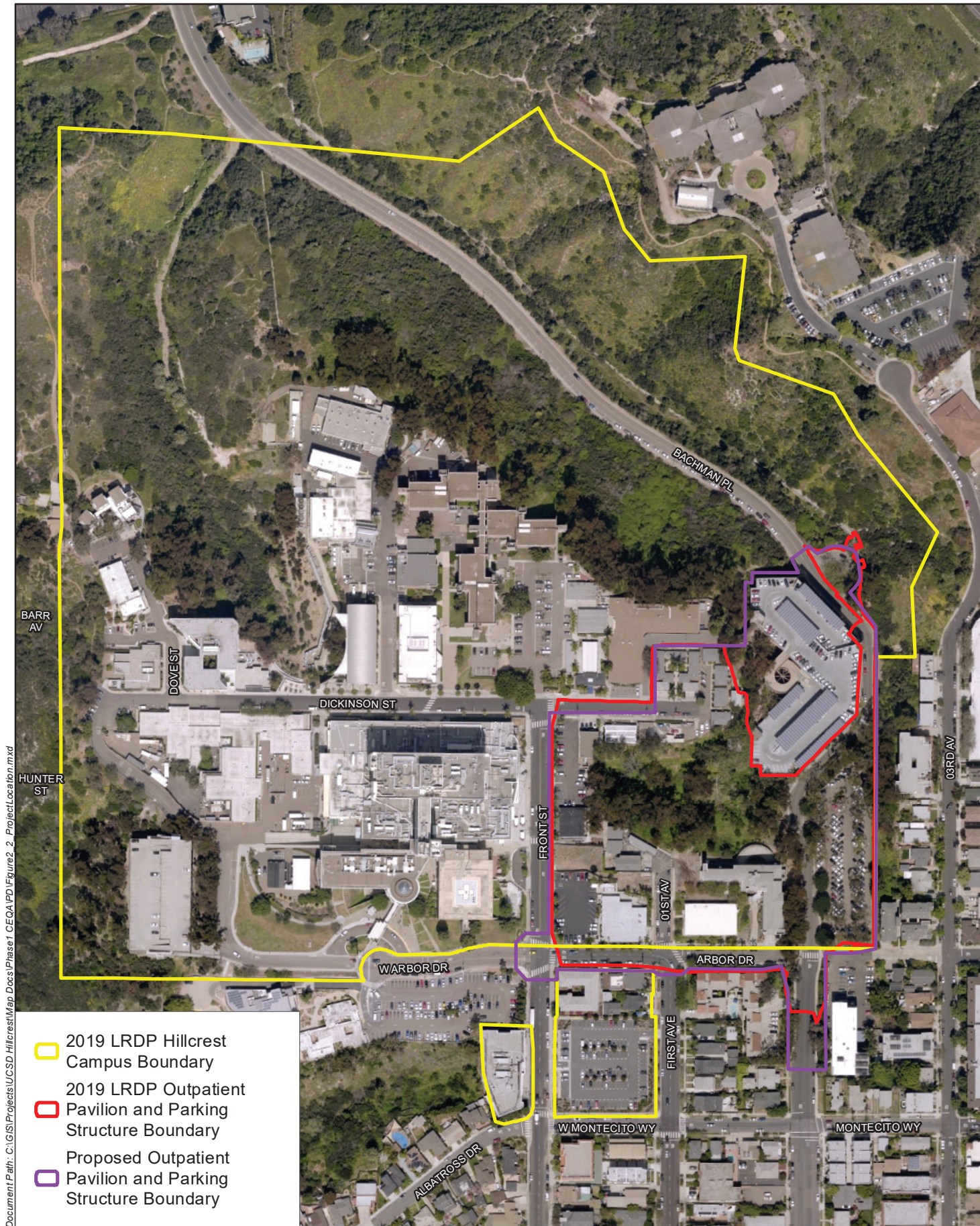
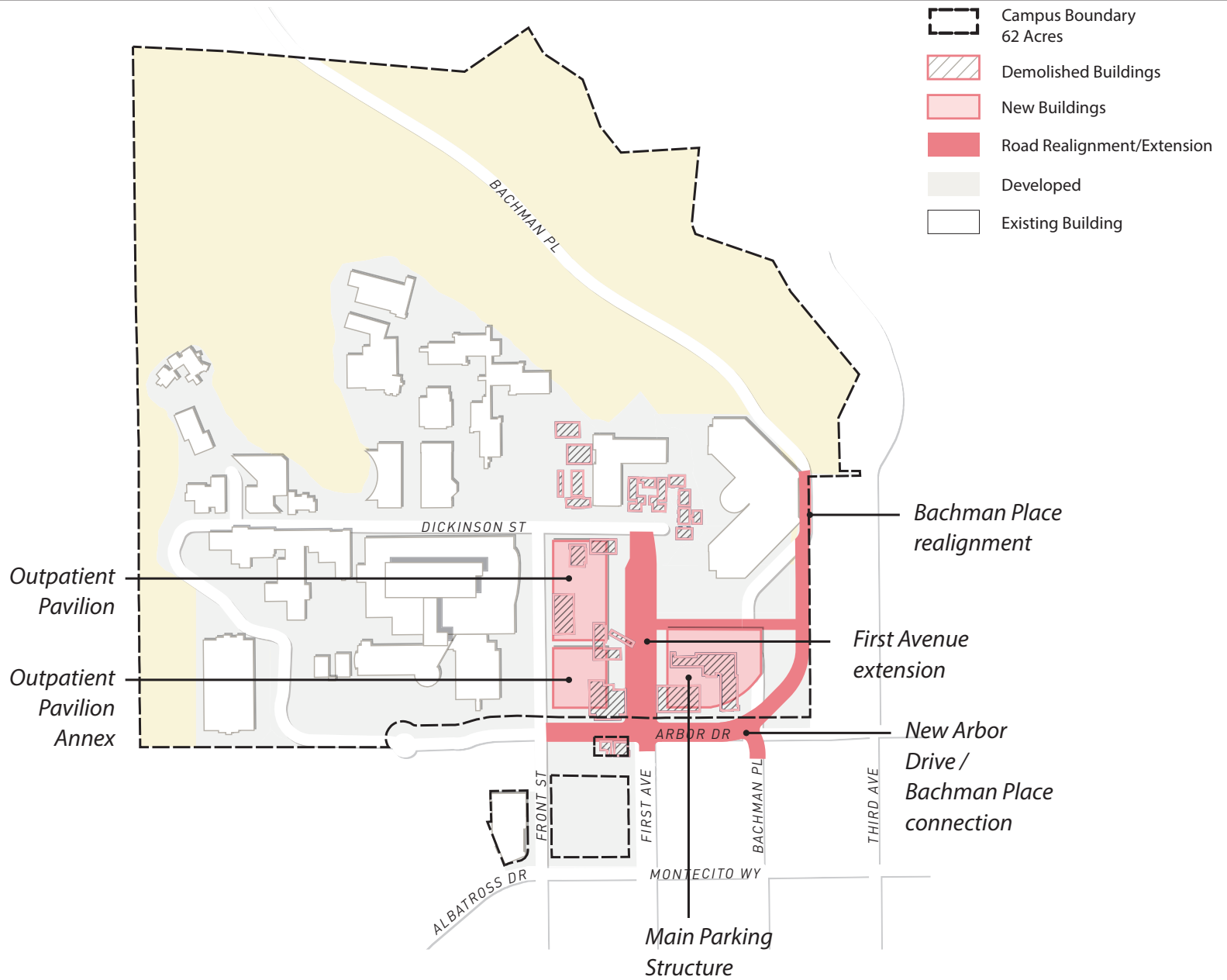


Figure 2-2
Project Location

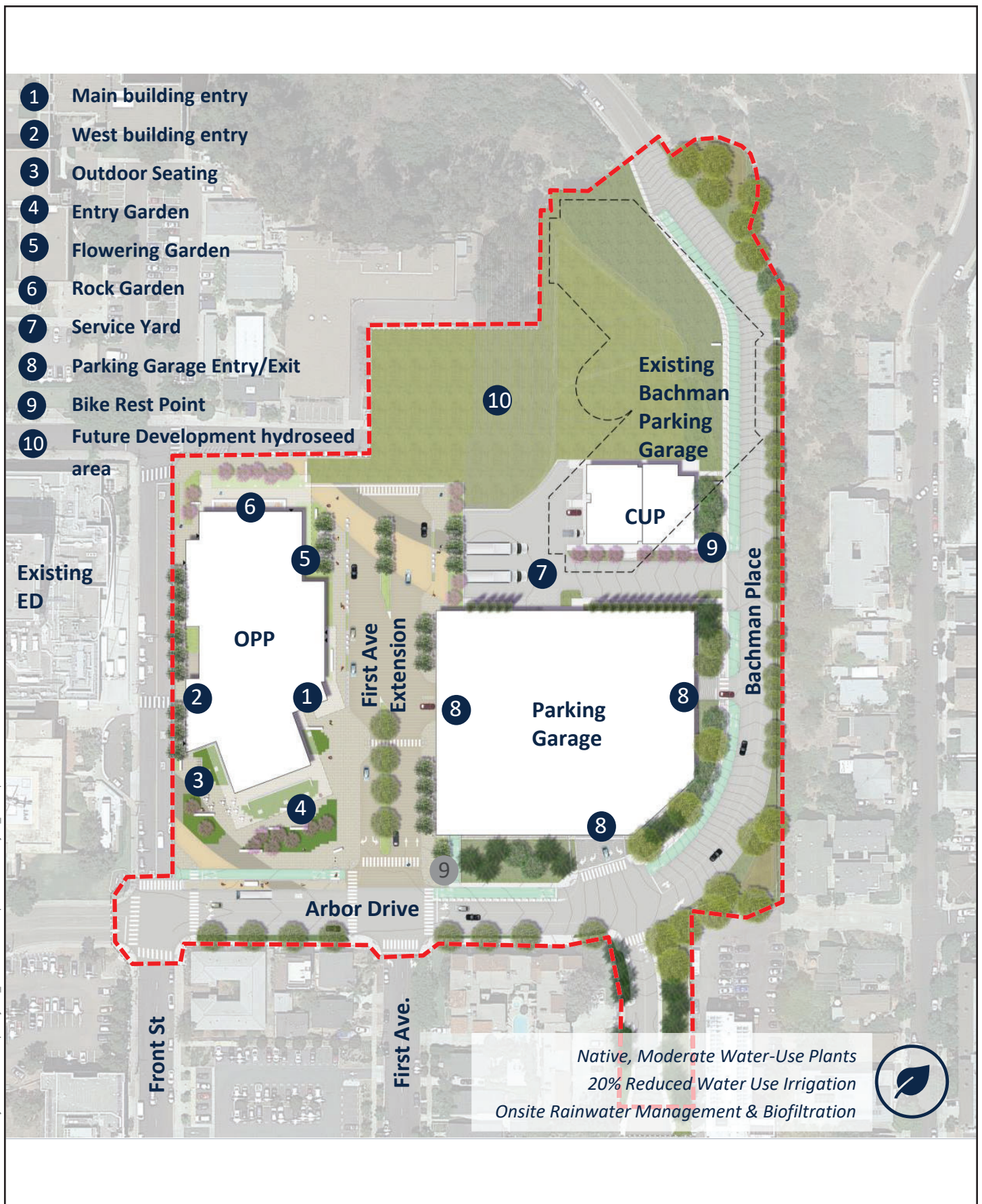
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Source: UC San Diego 2019.

Figure 2-3
2019 LRDP Phase 1A Site Plan

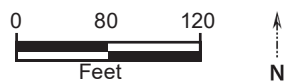
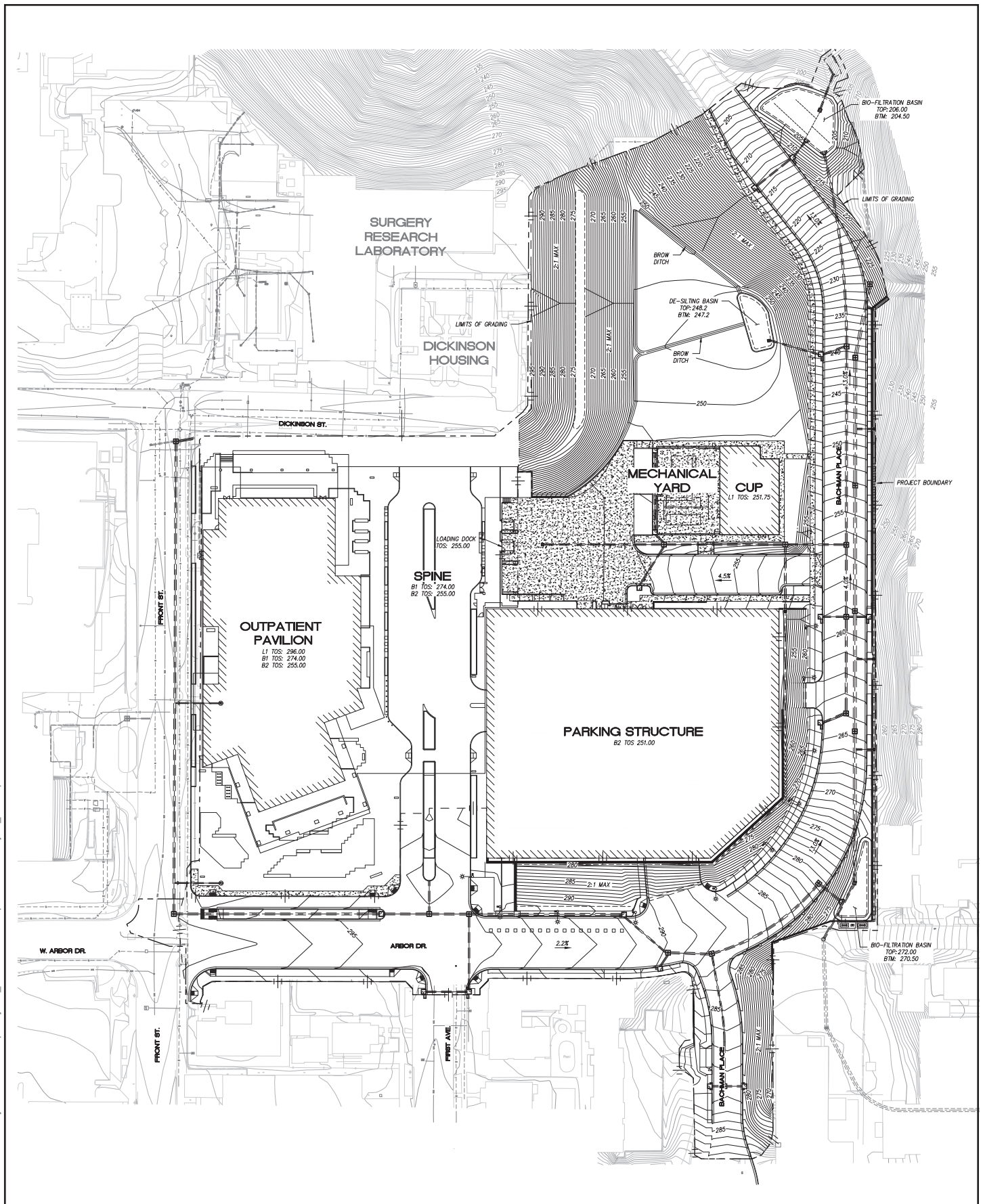
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Source: Callisonrtkl Inc. 2020.

Figure 2-4
Outpatient Pavilion and Parking Structure Site Plan

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Source: Latitude 33 2021.

Figure 2-5
Outpatient Pavilion and Parking Structure Grading Plan

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Figure 2-6a
Outpatient Pavilion East and West Building Elevations

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Top: View from future arrival court looking SW



Right: Parking Structure West Elevation

Source: UC San Diego 2021.

Figure 2-6b
Outpatient Pavilion Southwest and West Building Elevations

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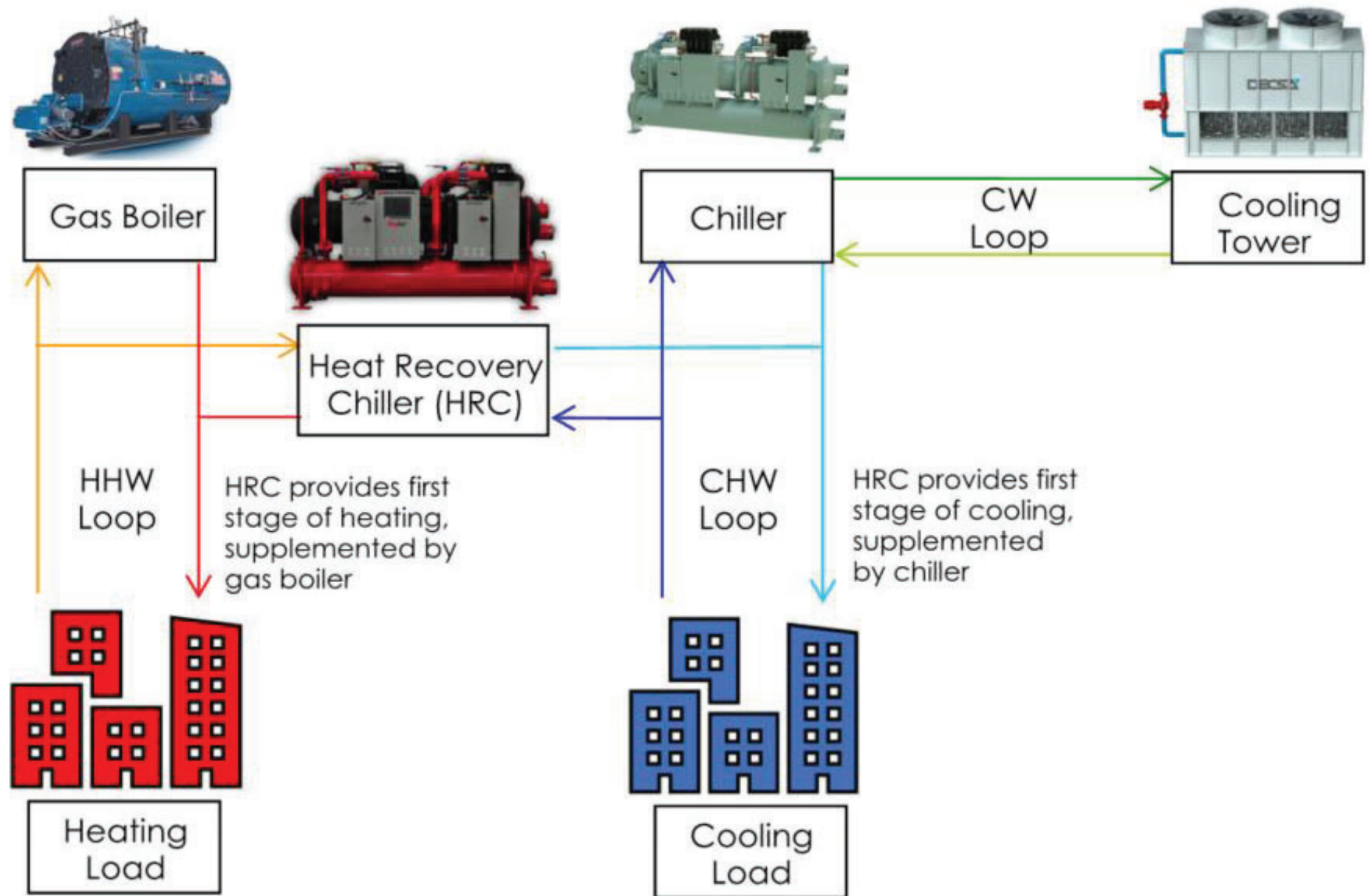
LOADING DOCK



Source: UC San Diego 2021.

Figure 2-7
Outpatient Pavilion and Parking
Structure – Loading Dock Elevation

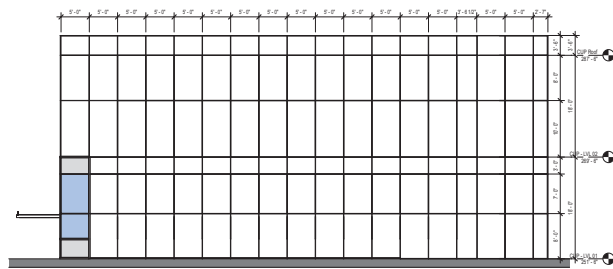
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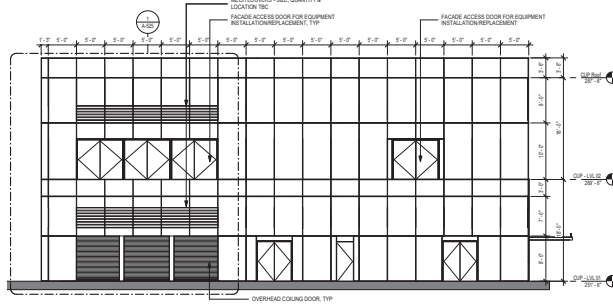
Source: GLUMAC 2020.

Figure 2-8
Outpatient Pavilion and Parking Structure -
Central Utility Plant Components and Process

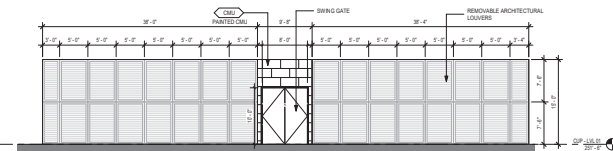
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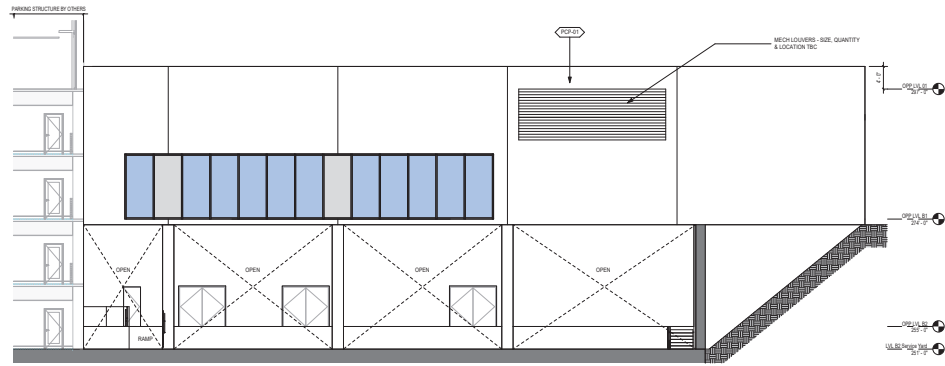
4 ELEVATION EAST, CUP
SCALE: 1/8" = 1'-0"



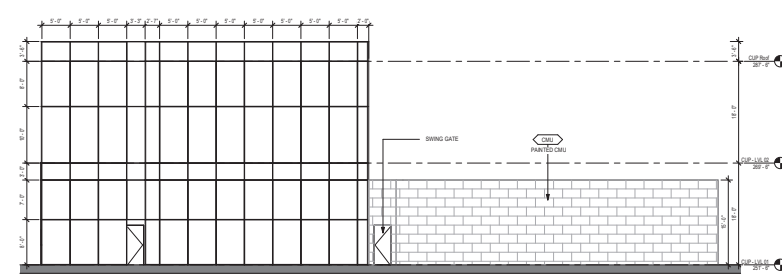
5 ELEVATION WEST, CUP
SCALE: 1/8" = 1'-0"



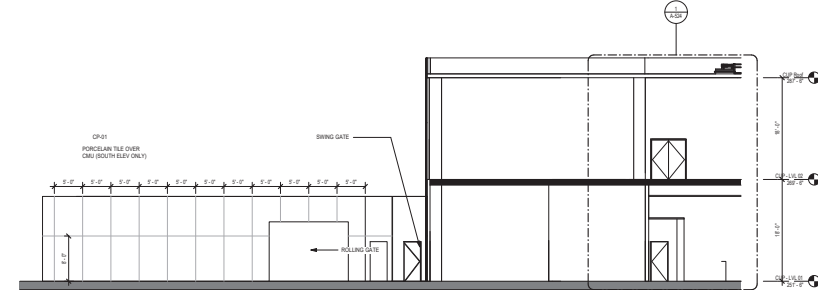
6 ELEVATION WEST, SERVICE YARD WALL
SCALE: 1/8" = 1'-0"



1 ELEVATION EAST, OPP LOADING DOCK
SCALE: 1/8" = 1'-0"



2 ELEVATION NORTH, CUP
SCALE: 1/8" = 1'-0"



3 ELEVATION SOUTH, CUP
SCALE: 1/8" = 1'-0"

Source: Callisonrtkl Inc. 2021.

Figure 2-9
Central Utility Plant Elevations

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Top: Arrival at First and Arbor, looking northward to new Campus Gateway



Enhanced Commissioning Program
Construction Waste Diversion Program

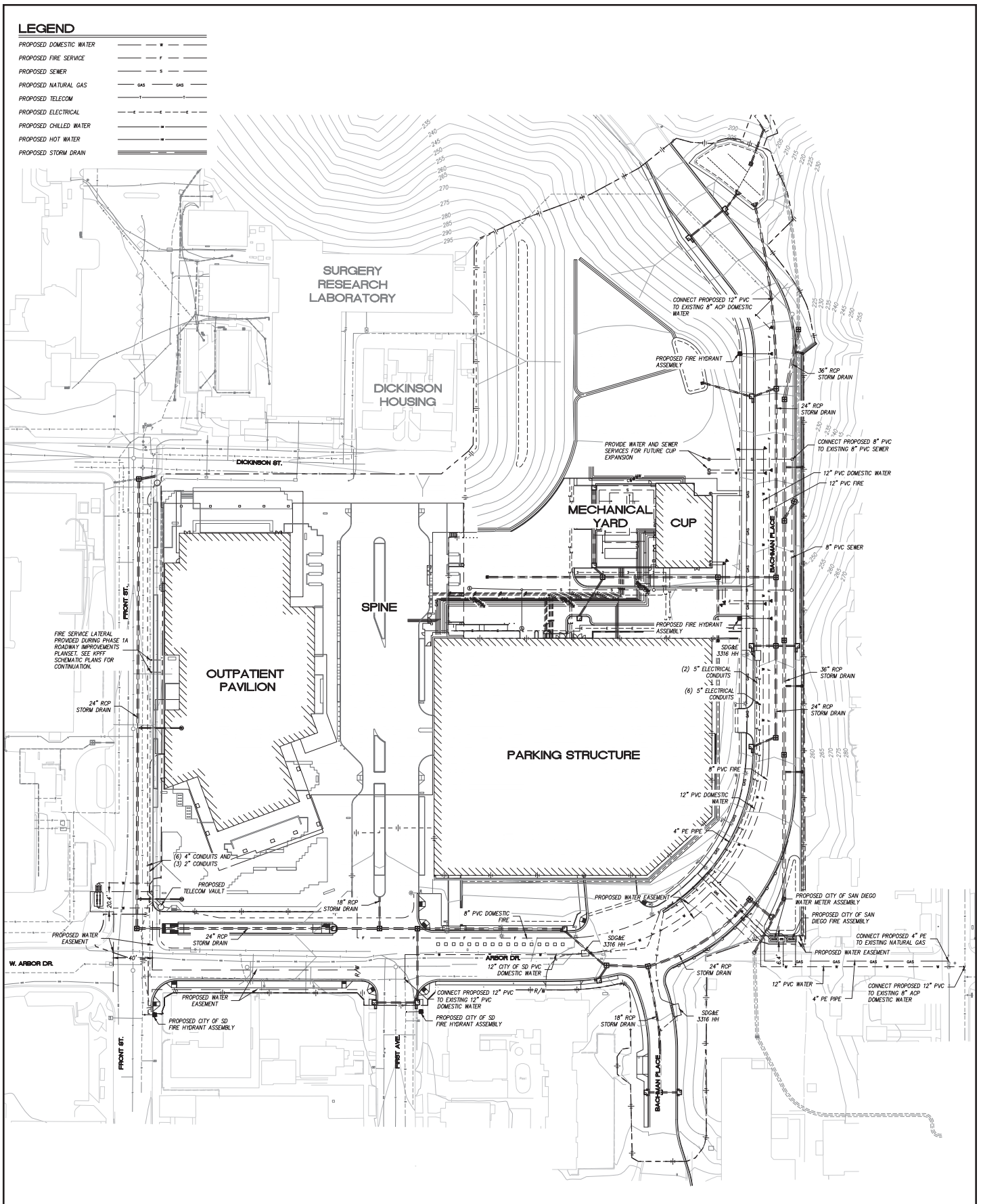


Right: Arrival from Front, looking NE towards Plaza

Source: UC San Diego 2021.

Figure 2-10
Site Rendering

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Source: Callisonrtkl Inc. 2021.

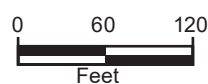
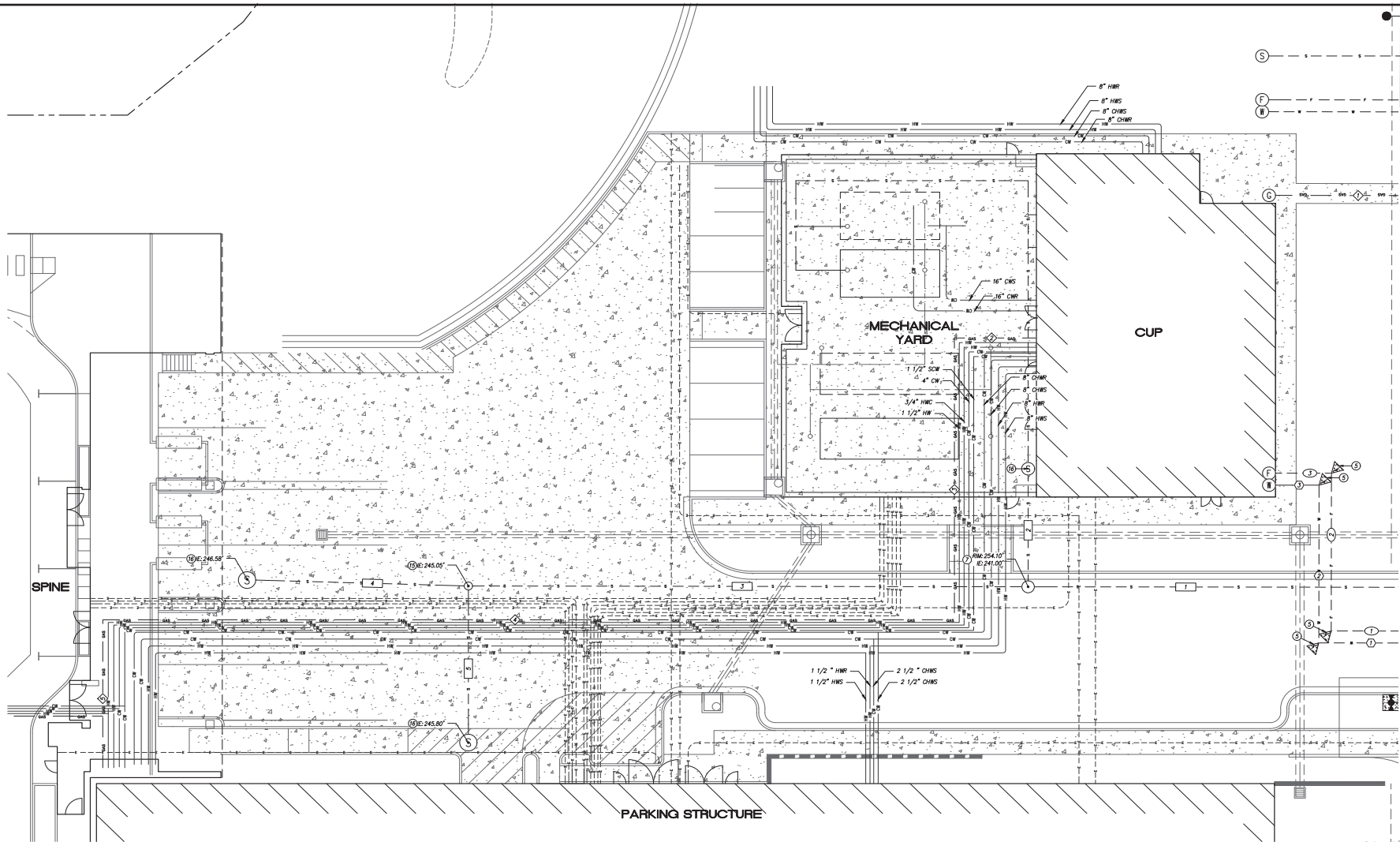


Figure 2-11a
Outpatient Pavilion and Parking
Structure – Overall Utility Plan

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NATURAL GAS DATA				
⑦ LENGTH	BEARING/DELTA	RADIUS	NOTE	
1 35.70'	N89°55'04"W	-	2" PE PIPE	
2 19.87'	N90°00'00"E	-	2" PE PIPE	
3 70.82'	N90°00'00"E	-	2" PE PIPE	
4 206.41'	N90°00'00"E	-	2" PE PIPE	
5 37.18'	N0°00'00"E	-	2" PE PIPE	

WATER DATA				
⑦ LENGTH	BEARING/DELTA	RADIUS	NOTE	
1 42.04'	N89°55'04"W	-	4" PVC C900	
2 39.64'	N0°04'56"E	-	4" PVC C900	
3 10.55'	N90°00'00"W	-	4" PVC C900	

FIRE SERVICE DATA				
⑦ LENGTH	BEARING/DELTA	RADIUS	NOTE	
1 45.04'	N89°55'04"W	-	12" PVC C900	
2 39.64'	N0°04'56"E	-	8" PVC C900	
3 13.56'	N90°00'00"W	-	8" PVC C900	

SEWER DATA				
⑦ LENGTH	BEARING/DELTA	RADIUS	NOTE	
1 138.60'	N89°55'04"W	-	8" SDR-35	
2 26.58'	N0°00'00"E	-	8" SDR-35	
3 133.15'	N89°54'59"W	-	8" SDR-35	
4 50.57'	N88°30'28"W	-	8" SDR-35	
5 36.15'	N0°00'00"E	-	4" SDR-35	

CONSTRUCTION NOTES

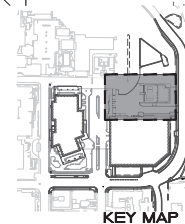
- ① INSTALL THRUST BLOCK PER DETAIL 14, SHEET C-501-6.
- ② INSTALL FIRE HYDRANT ASSEMBLY PER DETAIL 12, SHEET C-501-6.
- ③ INSTALL SEWER MANHOLE PER DETAIL 10, SHEET C-501-6.
- ④ INSTALL SEWER CLEANOUT PER DETAIL 11, SHEET C-501-6.
- ⑤ SEWER POINT OF CONNECTION. SEE PLUMBING PLANS FOR CONTINUATION.

NOTE

FOR GRADING AND STORM DRAIN IMPROVEMENTS
SEE SHEET C-105-6

NOTE

FOR SURFACE IMPROVEMENTS C-404-6

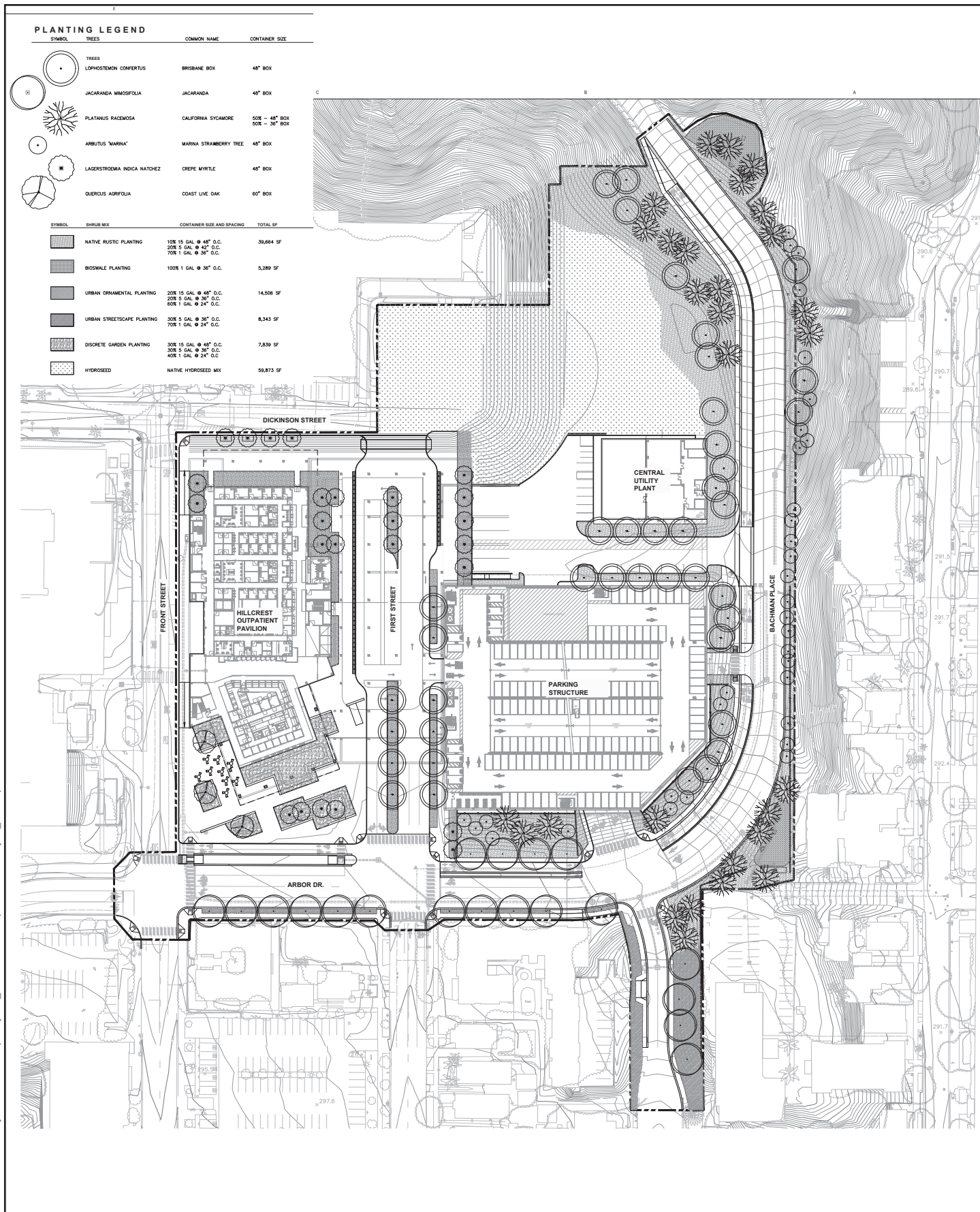


Source: Callisonrtkl Inc. 2020.



Figure 2-11b
Outpatient Pavilion and Parking
Structure - CUP/Service Yard Utility Plan

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Source: Callisonrtkl Inc. 2020.

Figure 2-12
Outpatient Pavilion and Parking
Structure – Landscaping Plan

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Section 3 Consistency with 2019 LRDP

To determine whether the project is covered by the 2019 LRDP and EIR, the following questions must be answered:

- Are the objectives of the project consistent with the objectives adopted for the 2019 LRDP?
- Are the changes to campus population associated with the project included within the scope of the 2019 LRDP's population projections?
- Is the proposed location of the project in an area designated for this type of use in the 2019 LRDP?
- Is the project included in the amount of the development projected in the 2019 LRDP?
- Are the project activities within the scope of the environmental analysis in the 2019 LRDP EIR?
- Have the conditions described in CEQA Guidelines, Section 15162, calling for the preparation of a subsequent EIR occurred?

Section 3.1, 2019 LRDP Objectives, documents the project's consistency with the 2019 LRDP project objectives. Section 4, Consistency with 2019 LRDP EIR, contains a detailed examination of environmental topics with the potential for significant impacts addressed in the 2019 LRDP EIR and documents whether the project is consistent with and within the scope of the environmental impact analysis of the 2019 LRDP EIR.

3.1 2019 LRDP Objectives

Key applicable objectives of the 2019 LRDP, as outlined in the 2019 LRDP EIR, are provided below. Only the applicable objectives are listed, and numbering is based on the 2019 LRDP EIR.

1. Replace aging and obsolete buildings and redevelop the UC San Diego Hillcrest Campus to create a modern, patient-centered environment that leverages UC San Diego Health's capabilities as an academic medical institution while also providing live-work-learn housing for UC San Diego affiliates, wellness-driven programing and accessible open spaces.
4. Create a campus that promotes community wellness and health care in both its facilities and its site development.
5. Implement a mix of land uses including residential, retail and office space that support the financial feasibility of the health care campus's development and operations into the future.
7. Improve the roadway circulation network adjacent to and within the campus while minimizing traffic impacts to adjoining neighborhoods.

8. Improve transportation-related facilities including parking structures, transit stops, and passenger drop-off and pick-up areas in a way that allows for intuitive vehicular, biking and patient-oriented access and multimodal improvements for wayfinding.
9. Enhance campus open space context as a resource for campus patients, visitors, and employees, as well as the surrounding community.
10. Provide on-site energy infrastructure that is cost effective, redundant, and energy efficient and is in compliance with regulations for acute care hospital and related facilities.
11. Site the CUP in a location on the campus such that it does not impair construction sequencing, impact existing utilities that serve current facilities that must remain online or impact the efficient replacement of facilities under the 2019 LRDP.

The project would support the following 2019 LRDP objectives:

1. Replace aging and obsolete structures and redevelop the UC San Diego Hillcrest Campus: The project proposes to construct the Outpatient Pavilion, the CUP and the Main Parking Structure, within the 2019 LRDP Health Care District following demolition and deconstruction of facilities that are aging, inefficient, and beyond their useful life. As described in Section 2.3.3.1, the Outpatient Pavilion would provide the following health and wellness programs to the community: Materials Management, Central Sterile, Diagnostic Imaging, Radiation Oncology, Outpatient Surgery Center, Infusion Therapy, multiple Specialty Clinics and supporting Pharmacy, Retail Pharmacy and Blood Draw Lab, which are consistent with the uses identified in the Health Care District.
4. Create a campus that promotes community wellness: The proposed project includes an Outpatient Pavilion that would provide the following health and wellness programs to the community: Materials Management, Central Sterile, Diagnostic Imaging, Radiation Oncology, Outpatient Surgery Center, Infusion Therapy, multiple Specialty Clinics and supporting Pharmacy, Retail Pharmacy and Blood Draw Lab.
5. Implement a mix of land uses: The proposed project would construct the Outpatient Pavilion, the CUP and the Main Parking Structure within the proposed Health Care District. The proposed CUP and the Main Parking Structure would provide campus support, and circulation and parking facilities. These land uses are consistent with what was planned for the site by the 2019 LRDP and contribute to the overall mix of land uses in the future redeveloped campus that allow for more efficient and patient-centric site development.
7. Improve the roadway circulation network: As discussed in Section 2.3.3.4, the project proposes improvements to several internal campus roadways. Arbor Drive would be widened to provide a new point of connection with Bachman Place and a new Arbor Drive/Bachman Place intersection would be constructed. In addition, the project includes a dedicated cycle track along Arbor Drive and dedicated bike facilities along

Bachman Place. Finally, pedestrian travel would be accommodated via sidewalks along Bachman Place, Arbor Drive and the First Avenue extension. These improvements will help make the campus circulation system more user-friendly for both vehicle and pedestrian use.

8. Improve transportation-related facilities: As discussed in Section 2.3.3.4, the project proposes parking in the Spine and the Main Parking Structure, as well as passenger drop-off and pick-up areas associated with the Outpatient Pavilion and shuttle turnaround and stop improvements. It also includes a cycle track along Arbor Drive, dedicated bike lanes along Bachman Place, and pedestrian facilities along these roads and the on-campus portion of the new First Avenue.
9. Enhance campus open space: The proposed project would provide a south plaza outdoor space at the entrance of the Outpatient Pavilion along Arbor Drive that would provide more opportunities for open space usage through outdoor seating areas and associated infrastructure. This will improve the open space available to the campus user compared to the existing site, which does not contain any developed open space. While the current site does contain a small, vegetated canyon, its steep slopes prevent safe access.
10. Provide on-site energy infrastructure: The proposed project includes a CUP along with an emergency electrical supply that would be more efficient than the cogeneration plant described in the 2019 LRDP EIR.
11. Site the CUP in a location on the campus: The CUP accomplishes this objective by its location in an area that would not affect construction sequencing and is designed to be expandable as subsequent phases of the 2019 LRDP are constructed.

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Section 4 Consistency with 2019 LRDP EIR

The evaluation contained in this consistency review was conducted in accordance with Section 15152 and Section 15183.5(a) of the CEQA Guidelines, which allow for tiered CEQA review provided the project's effects have been addressed in a prior (or earlier) programmatic analysis. The 2019 LRDP EIR comprehensively addressed the potential environmental effects of campus growth and development due to implementation of future projects and activities proposed under the 2019 LRDP EIR.

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. Both headings rely on the relevant analyses in the 2019 LRDP EIR:

Impacts Adequately Examined in the 2019 LRDP EIR: This column is checked where the potential impacts of the project were adequately examined in the certified 2019 LRDP EIR. Where applicable, mitigation measures identified in the 2019 LRDP EIR would mitigate the impacts of the project. All applicable mitigation measures from the 2019 LRDP are incorporated into the project as noted in Section 5, Applicable Mitigation Measures, of this Addendum. The project is consistent with the analysis evaluated in the 2019 LRDP EIR.

Impacts Not Examined in the 2019 LRDP EIR: If a column is checked in this section, this indicates potential effects of the proposed project were not adequately evaluated in the certified 2019 LRDP EIR. However, the potential effects of the project could: a) result in no impact in the category, b) result in less than significant effects in the category, or c) result in a new potentially significant impact. In the instances 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 (2019 LRDP EIR and/or project-specific) would be incorporated into the project as noted in Section 5 of this environmental document.

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 2019 LRDP EIR, as discussed in Sections 4.1.1 through 4.1.18 of the Addendum. Agriculture and Forestry and Mineral Resources are discussed in Section 4.1, Other Effects Found Not to Be Significant, of the 2019 LRDP EIR. As noted in those discussions, no potential for significant impacts to those topics

would occur due to the lack of such resources on the Hillcrest Campus. As such, those topics are not discussed in this Addendum.

If “None” is checked below, this project is deemed entirely consistent with and covered by the environmental analysis contained in the 2019 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 |
| <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 2019 LRDP EIR evaluates potential impacts as a result of implementing the proposed 2019 LRDP at the Hillcrest Campus. The 2019 LRDP EIR concluded that implementation of the 2019 LRDP would result in less than significant impacts to scenic vistas and lighting and glare (Sections 3.1.3.1 and 3.1.3.3) and no impact to scenic resources (Section 3.1.5). Implementation of the 2019 LRDP could result in a potentially significant impact to community character (Section 3.1.5). Mitigation Measures AES-2A required any proposed structure or phase that would have the potential to substantially degrade community character to undergo design review by the UC San Diego Design Review Board to ensure that the design is consistent with the visual landscape and/or the character of the surrounding development. Mitigation Measure AES-2B required proposed structures located along the southern and eastern Hillcrest Campus Boundaries to be reviewed by the UC San Diego Design Review Board (DRB), Campus Architect, and other relevant campus committees at the conceptual design stage to ensure structures are designed to incorporate pedestrian-scale features along facades facing the public realm. Implementation of Mitigation Measures AES-2A and AES-2B would reduce these impacts to less than significant.

AESTHETICS Would the Project...	Impact Examined in 2019 LRDP EIR	Impact Not Examined in 2019 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) Substantially degrade the existing visual character or quality of the site and its surroundings?	<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) The 2019 LRDP EIR addressed three key vantage points (KVPs) pertaining to this issue question. These were KVPs 5, 6, and 7. According to the 2019 LRDP EIR, the Uptown Community Plan identifies a public viewshed looking north from the northern part of Bachman Place on the Hillcrest Campus near the northern Campus Boundary, which is identified as KVP 5. The proposed project would be south of KVP 5 and, therefore, would not be visible from KVP 5. KVP 6 is at the northern mesa edge with a northerly viewshed of Mission Valley and beyond. The proposed project is also south of this viewshed and, therefore, would not impact KVP 6. KVP 7 is adjacent to the Bannister Family House in the northwestern part of the campus approximately 600 feet northwest and below the proposed project with a north-easterly viewshed. The proposed project is not in the KVP 7 viewshed. No significant impact to KVPs 5, 6 and 7 were identified as a result of the implementation of the 2019 LRDP, and none would

occur upon implementation of the proposed project because the proposed project is not in the viewsheds of these KVPs. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding scenic vistas.

- b) Implementation of the proposed project would not result in substantial damage to scenic resources within a state scenic highway. The scenic highway designation occurs for approximately one mile where SR-163 is located in Balboa Park in a topographic low area and is generally visually isolated from the surrounding developed communities. Because of its distance, intervening buildings and topography, the Hillcrest Campus is not visible from this location. Therefore, the project would result in less than significant impacts and would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding scenic resources.
- c) The 2019 LRDP EIR addressed five KVPs pertaining to this issue question: KVPs 1, 2, 3, 4, and 8. KVP 1 is off site and west of the 2019 LRDP boundary at the eastern end of Arbor Drive approximately 1,500 feet from the project site. The proposed project would not be visible from this location because of intervening canyon vegetation and structures. Consistent with the 2019 LRDP EIR, the proposed project would have the potential for a significant impact to visual character to KVP 2. KVP 2 is a northerly view along First Avenue from the intersection of First Avenue and Arbor Drive taken along the southern Campus Boundary. Pursuant to Mitigation Measure AES-2A from the 2019 LRDP EIR, the project has undergone design review by the UC San Diego Design Review Board to ensure that the design is consistent with the visual landscape and/or the character of the surrounding development, as described in the following paragraphs. In addition, pursuant to Mitigation Measure AES-2B, the project has been designed to incorporate the pedestrian-scale features along the facades facing the public realm as described below.

The Outpatient Pavilion and Main Parking Structure would be visible from the southern Campus Boundary. The Outpatient Pavilion would be an approximately 251,000-square-foot building consisting of four stories above (approximately 83-feet tall) and two stories below grade. The Main Parking Structure would be six decks above grade (approximately 85 feet tall) and four decks below grade at Arbor Drive. This is consistent, though slightly smaller, than the building sizes described in the 2019 LRDP and 2019 LRDP EIR, and both structures are well beneath the maximum allowed height for the Health Care District (200 feet). The Main Parking Structure would also be stepped down to four deck levels at its southern elevation along Arbor Drive.

Similar to the description in the 2019 LRDP and 2019 LRDP EIR, the Outpatient Pavilion would be divided into three massing volumes: the southern wing, the glazed wedge, and the northern wing (see Figures 2-6a, 2-6b, and 2-10). The southern wing would orient to the

southeast, creating an icon for the entrance to the campus on First Avenue while opening the sightlines west toward the planned Central Green. The southern facade includes horizontal fin elements to provide shading and to reduce heat gain/glare and would also serve aesthetic purposes. This proposed design aims to create an interior space at a more human scale for the clinics and surgical floor to function efficiently and to articulate the massing to help reduce the overall size. Distinguishing the base, body, and top of the building will also help reduce the massing to a more personal scale. The building would be designed to create a unified architectural language, reinforcing a connection back to nature through a natural color palette while grounding the building into the landscape. A south plaza outdoor gathering space is proposed at the entrance of the Outpatient Pavilion along Arbor Drive. Outdoor areas would be equipped with seating areas and associated infrastructure along with trees and discrete landscape plantings.

Similar to the description in the 2019 LRDP and 2019 LRDP EIR, the proposed Main Parking Structure would be taller than the existing structures that would be removed and result in a more noticeable transition from the single- and multi-family residential neighborhood south of and adjacent to the campus. As discussed in Section 2.3.1, Purpose and Need for Project Modifications, additional parking stalls were added to the Main Parking Structure. Although the Main Parking Structure would be larger in bulk and scale compared to the conceptual design identified in the 2019 LRDP EIR (as a result of additional parking spaces being added to this structure), it has been designed to respect the surrounding community character and be generally consistent with what was described in the 2019 LRDP. To minimize the massing of the parking structure as it appears from Arbor Drive, the top two levels along Arbor Drive would be stepped back, (resulting in four deck levels at this elevation, or approximately 85-feet tall) with the main cores set back slightly from the corner. Landscaping along the portion of the structure fronting Arbor Drive would also include tall, quickly growing trees that would act as vegetated screening. Along the western, southern, and eastern edges, screening would be provided with varying trees and native rustic landscaping. The architectural design of the Main Parking Structure would be consistent with the Outpatient Pavilion design, using the same natural tones and including a layer of vertically expressed fins on the parking structure. Pedestrian connections and pathways would be provided along Arbor Drive, Bachman Place, and First Avenue.

The CUP main entrance and the side-facing Bachman Place would complement and be consistent with the Outpatient Pavilion and Main Parking Structure design, with a modified version on service elevations containing mainly louvers and roller-shutter door entrances. A singular exhaust fan and small-diameter vent pipes would be on the roof. A service road connection would be provided from Bachman Place to the CUP, which would also provide access for the Outpatient Pavilion service vehicles where the road terminates at the Outpatient Pavilion's loading dock.

KVP 3 is east of the campus on Arbor Drive with a westerly view of the campus that would include the proposed project. The 2019 LRDP EIR identifies a significant impact in this location due to the visual impact associated with the Main Parking Structure and a future mixed-use building. The Outpatient Pavilion is west of the Main Parking Structure, and its visibility would be screened by the Main Parking Structure. The proposed project is consistent with this analysis regarding the Main Parking Structure and, therefore, would result in the same significant impact identified in the 2019 LRDP EIR.

KVP 4 is just north of the northern Third Avenue cul-de-sac on a private road and provides a southwesterly view that includes the Bachman Parking Structure. The 2019 LRDP EIR identified a significant impact from this location due to the demolition and replacement of the Bachman Parking Structure with a vegetated, flat, graded pad with steep slopes, as well as development of a future Multi-Use Building and a Replacement Hospital. The proposed project includes the demolition of the Bachman Parking Structure and a vegetated, graded pad with steep slopes and is consistent with the analysis provided in the 2019 LRDP EIR.

KVP 8 provides a southeasterly view taken from eastbound I-8 in the vicinity of Hotel Circle South in Mission Valley. The 2019 LRDP EIR did not identify a significant impact to this KVP. Furthermore, the proposed project would not be visible from this location due to intervening buildings and topography. No change in the impact significance determination would occur as a result of the proposed project.

Consistent with the 2019 LRDP EIR, impacts from the proposed project to KVPs 2, 3, and 4 are considered significant. Pursuant to Mitigation Measures AES-2A and AES-1B from the 2019 LRDP EIR, the project underwent design review by the UC San Diego DRB on October 7, 2020. The DRB concluded that the design is consistent with the visual landscape of the surrounding development, incorporated appropriate pedestrian-scale features along facades facing the public realm, and would not conflict with the UC San Diego Design Review Guidelines. The DRB influenced the exterior skin design to minimize heat gain and glare to the interior spaces. It also helped select plant and tree species along Bachman Place and at the mesa level for consistency with local vegetation. In addition, the DRB aided in parking structure massing and exterior skin design to be more consistent with community character.

Therefore, the project would result in less than significant impacts and would not create any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding visual character and quality.

- d) As with all projects at UC San Diego, the proposed project has been designed to comply with the UC San Diego Design Guidelines (2018), which include an Outdoor Lighting Policy. Compliance with these policies would require building materials that 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.

As described in the 2019 LRDP EIR, the Main Parking Structure has the potential to result in vehicle headlights affecting nighttime views from nearby properties. However, the structure’s design includes solid vehicle barrier walls at its western, southern, and eastern edges to limit the transmission of light trespass from vehicle headlights at night. Therefore, the proposed project would result in less than significant impacts and would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding the light and glare analysis.

4.1.2 Air Quality

Section 3.2 of the 2019 LRDP EIR evaluates the air quality effects from the implementation of the 2019 LRDP for the Hillcrest Campus. The 2019 LRDP EIR concluded that implementation of the 2019 LRDP would not conflict with or obstruct implementation of the applicable air quality plan (Section 3.2.3.1). Cumulative construction significant impacts were identified due to the exceedance of the significance thresholds for volatile organic compound (VOC) emissions during simultaneous construction of Phases 2A and 2B (Section 3.2.3.2). Potentially significant construction-related emissions would cause exposure of sensitive receptors to substantial pollutant concentrations above the San Diego Air Pollution Control District (SDAPCD) thresholds (Section 3.2.3.3). Less than significant impacts were identified related to consistency with the Regional Air Quality Strategy (RAQS) and State Implementation Plan and odors (Sections 3.2.3.1 and 3.2.3.4).

Mitigation Measure AIR-2 (architectural coating) and AIR-3 (construction equipment performance standards) are required for projects that would contribute to these impacts. Implementation of Mitigation Measure AIR-2 would reduce cumulative impacts to less than significant. However, the 2019 LRDP EIR acknowledges the likely effective amount of reduction from implementation of Mitigation Measure AIR-3 cannot be quantified at this time and would remain significant and unavoidable.

AIR QUALITY Would the Project...	Impact Examined in 2019 LRDP EIR	Impact Not Examined in 2019 LRDP EIR		
		No Impact	Less than Significant Impact	Potentially Significant Impact
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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations resulting in a CO hotspot?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Create objectionable odors affecting a substantial number of people?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a) The Hillcrest Outpatient Pavilion and Parking Structure Project is consistent with the land uses identified for the site in the 2019 LRDP EIR and do not include any new components that would result in any additional expanded growth beyond what was accounted for in the 2019 LRDP EIR analysis. Air quality consistency is based on projected total buildout, rather than the schedule for buildout. The VMT-reducing features identified in the 2019 LRDP would be implemented under the proposed project, such as mixed-use campus development, alternative work schedules, car/vanpool programs, employee bicycle commute facilities, shuttle programs, and trip reduction incentives. Therefore, plan consistency would be the same as the 2019 LRDP EIR conclusion. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding air quality plan consistency.

b) Construction

Table 4-1 provides the estimated construction emissions for the Hillcrest Outpatient Pavilion and Parking Structure Project. As shown in Table 4-1, construction of the Hillcrest Outpatient Pavilion and Parking Structure Project, was determined to result in less than significant impacts during construction. Temporary operation of minimal heavy equipment to install a chiller and cooling tower would result in nominal emissions compared to the building construction emissions calculated for the 2019 LRDP EIR as shown in Table 4-1. Therefore, the proposed project would not result in a significant net increase in emissions and Mitigation Measure AIR-2 identified in the 2019 LRDP EIR for construction impacts does not apply to the proposed project because its maximum air pollutant emissions would be below the impact significance threshold. See Appendix B, Air Quality Memorandum, which provides the detailed construction air quality analysis.

**Table 4-1. Hillcrest Outpatient Pavilion and Parking Structure Project Construction
Daily Maximum Air Pollutant Emissions**

Construction Phase	Maximum Daily Emissions (pounds/day)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Demolition	10	125	68	<1	17	6
Earthwork and grading	9	93	66	<1	19	8
Building construction/architectural coating	31	27	43	<1	9	3
Paving	5	19	37	<1	8	3
Worst-case simultaneous construction ¹	41	218	134	<1	36	14
Worst-case Phases 1A/1B simultaneous construction ²	37	177	118	<1	31	12
Significance Threshold	137	250	550	250	100	55
<i>Significant Impact?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

Source: CalEEMod Version 2016.3.2. See Attachment 1 in Appendix B for model output.

Notes: CO = carbon monoxide; NO_x = nitrogen oxides; PM₁₀ = particulate matter less than 10 micrometers in diameter; PM_{2.5} = particulate matter less than 2.5 micrometers in diameter; SO_x = sulfur oxides; VOC = volatile organic compound

¹ Worst-case for VOC is emissions is simultaneous building construction/architectural coating and either demolition or earthwork and grading. The worst-case scenario for all other pollutants is simultaneous demolition and earthwork and grading.

² Worst-case daily emissions for Phase 1B for any activity as reported in the 2019 LRDP EIR (Table 3.2-9) are 6 lbs/day VOCs, 52 lbs/day NO_x, 50 lbs/day CO, <1 lbs/day SO_x, 12 lbs/day PM₁₀, and 5 lbs/day PM_{2.5}.

Operations

The air quality operation analysis for the 2019 LRDP addressed buildout of the entire plan and compared to the existing air quality pollutants generated by the existing campus. The Hillcrest Outpatient Pavilion and Parking Structure Project is consistent with the 2019 LRDP land use plan and does not propose new unplanned land uses that would result in additional vehicle trips to the campus. The Hillcrest Outpatient Pavilion and Parking Structure Project would slightly reduce the total amount of health services that would be provided at buildout of the campus compared to the 2019 LRDP EIR. The 2019 LRDP EIR also assumes operation of a cogeneration facility at the CUP. However, the non-OSHPD portion of the CUP that would be developed under the Hillcrest Outpatient Pavilion and Parking Structure Project would consist of traditional boilers with a heat recovery chiller, not cogeneration, which significantly reduces the use of natural gas boilers and partially electrifies heating hot water production. Therefore, because natural gas combustion would be reduced, operational emissions of criteria pollutants from the CUP under the Hillcrest Outpatient Pavilion and Parking Structure Project would also be reduced compared to the cogeneration facility assumed in the 2019 LRDP EIR. As a result, buildout operational emissions of the Hillcrest Outpatient Pavilion and Parking Structure Project as part of the 2019 LRDP would be less than those calculated for buildout of the 2019 LRDP. The 2019 LRDP concluded that, operational emissions would not exceed the significance thresholds for maximum daily emissions. Following project modeling, a Design Development Energy Summary Report was completed for the project that demonstrates that the Hillcrest Outpatient Pavilion and Parking Structure Project, including CUP operation, would reduce natural gas use by 60 percent compared to ASHRAE 90.1-2010 standards

(Glumac 2021). Therefore, air quality impacts associated with operation of the 2019 LRDP with the Hillcrest Outpatient Pavilion and Parking Structure Project would not be potentially significant or cumulatively considerable.

The Hillcrest Outpatient Pavilion and Parking Structure Project would not include additional diesel emergency generators beyond those anticipated in the 2019 LRDP. In addition, the project would not include any uses that would generate additional helicopter or ambulance trips compared to the assumptions in the 2019 LRDP EIR. New emergency generators would be installed at the CUP in Phase 1A rather than Phase 3 but would result in the same buildout conditions. Monthly testing of the generators would generally be the same as existing generator testing and the assumptions in the 2019 LRDP EIR. The Hillcrest Outpatient Pavilion and Parking Structure Project would result in a less than significant impact as it relates to these operational activities. See Appendix B, which provides the detailed operation air quality analysis.

The 2019 LRDP EIR also addressed construction of the various plan phases overlapping with existing operations. This was also addressed in the Air Quality Memorandum (Appendix B) which concluded that the construction of the Hillcrest Outpatient Pavilion and Parking Structure Project along with the concurrent operation of the existing 2019 LRDP land uses would not exceed the significance threshold for any pollutant. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding net increases in criteria pollutant emissions.

- c) The Hillcrest Outpatient Pavilion and Parking Structure Project does not include new or expanded land uses that were not included in buildout of the 2019 LRDP that would result in an increase in vehicle trips to the campus compared to those analyzed in the 2019 LRDP EIR. Therefore, no additional congestion would occur as a result of the Hillcrest Outpatient Pavilion and Parking Structure Project. Additionally, the Hillcrest Outpatient Pavilion and Parking Structure Project would implement improvements to the Hotel Circle South/Bachman Place intersection identified as mitigation in the 2019 LRDP EIR to improve traffic congestion. Therefore, carbon monoxide (CO) concentrations would be the same or improved under the Hillcrest Outpatient Pavilion and Parking Structure Project compared to those in the 2019 LRDP EIR. This impact would be less than significant.

Toxic air contaminants (TACs) were addressed under this sensitive receptor heading in the 2019 LRDP EIR for both construction and operation activities in terms of a health risk assessment. Regarding construction TACs, the Hillcrest Outpatient Pavilion and Parking Structure Project, maximum construction emissions would be the same as those assumed in Phase 1A in the 2019 LRDP EIR. Construction would require the closure of Bachman Road for 23 months. It is anticipated that construction access would be maintained during some or

all of project construction; however, an alternative haul route has been identified utilizing First Avenue, Arbor Drive, and Front Street compared to the 2019 LRDP EIR. Use of this haul route, and impact to sensitive receptors as a result, were not specifically addressed in the Health Risk Assessment. However, maximum daily truck trips during Phase 1A and total activity over implementation of the 2019 LRDP would be the same as the 2019 LRDP. Additionally, use of this truck route would be short-term only during the Bachman Place closure (approximately 2 years). Therefore, the contribution of the Hillcrest Outpatient Pavilion and Parking Structure Project to long-term health impacts as a result of annual particulate matter and other emissions from construction equipment would be similar as the contribution assumed for Phase 1A in the 2019 LRDP EIR. The incremental increase in cancer risk that exceeds the SDAPCD's significance threshold of 10 in 1 million at sensitive receptors and residences on and off site identified in the 2019 LRDP EIR would still occur. The chronic risk from construction of the 2019 LRDP was calculated to have a health hazard impact of 0.02 at the point of maximum impact, which is well below the threshold of 1.0. Because overall construction would be the same, the changes to the 2019 LRDP would not result in chronic risks that exceed the SDAPCD chronic risk threshold of 1 in 1 million or greater on the hazard index. Implementation of Mitigation Measure AIR-3 would be required. However, as identified in the 2019 LRDP EIR, the reduction in emissions attributable to Mitigation Measure AIR-3 cannot be quantified; therefore, this construction TAC impact would remain significant and unavoidable.

The revised Outpatient Pavilion would not result in any new project operation sources of TACs compared to the assumptions in the 2019 LRDP EIR. The non-OSHDPD portion of the cogeneration CUP identified in the 2019 LRDP EIR would be replaced by a system of traditional boilers with a heat recovery chiller. However, as discussed under Section 4.1.2(b), this design would demand less natural gas and result in fewer emissions than a cogeneration CUP. Therefore, the health risk impact at buildout of the 2019 LRDP would be the same or less as compared to the impact identified in the 2019 LRDP. Furthermore, the locations of proposed uses would generally be the same as those in Phase 1A in the 2019 LRDP EIR. As a result, the point of maximum impact for operational health risk impacts would not change with implementation of the Hillcrest Outpatient Pavilion and Parking Structure Project. No increase in modeled chronic or acute health risk would occur as a result of the Hillcrest Outpatient Pavilion and Parking Structure Project. Therefore, a significant health risk operational impact would not occur.

The Hillcrest Outpatient Pavilion and Parking Structure Project would not result in an increase in health risk from TAC exposure compared to the impacts identified in the 2019 LRDP EIR during construction or operation. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding sensitive receptors.

- d) As indicated in the 2019 LRDP EIR, the proposed project would not create objectionable odors associated with diesel heavy equipment exhaust affecting a substantial number of people. As shown in Table 4-1, maximum daily construction emissions of sulfur oxides (SO_x), which is the primary component of diesel emissions odor, would be minimal at less than 1 pound per day. Operation of the Hillcrest Outpatient Pavilion and Parking Structure Project would include the same types of land uses addressed in the 2019 LRDP EIR. The design of the non-OSHDP portion of the CUP has been modified; however, as described previously under Section 4.1.2(b) and would result in the reduction of the same types of operational emissions as identified for the cogeneration CUP addressed in the LRDP EIR. As a result, no new sources of odor would occur in the Hillcrest Outpatient Pavilion and Parking Structure Project. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding odors.

4.1.3 Biological Resources

Section 3.3 of the 2019 LRDP EIR evaluates the potential for biological resource impacts associated with implementation of the 2019 LRDP for the Hillcrest Campus and concludes that implementation would result in potentially significant impacts to sensitive plant species (Section 3.3.3.1), sensitive animal species (Section 3.3.3.2), sensitive upland habitats and riparian habitats (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 were identified (Section 3.3.5).

For impacts to sensitive plants, the site would be surveyed for sensitive plants in accordance with Mitigation Measure BIO-1A and, if applicable, San Diego barrel cactus (*Ferocactus viridescens*) would be relocated in accordance with Mitigation Measure BIO-1B, San Diego goldenstar (*Bloomeria clevelandii*) would be relocated in accordance with Mitigation Measure BIO-1C, and seeding of wart-stemmed ceanothus (*Ceanothus verrucosus*) in accordance with Mitigation Measure BIO-1D would be undertaken. For impacts to sensitive animal species, surveys for the species, and agency consultation is required by Mitigation Measures BIO-2A and BIO-2B, and raptor and avian nest surveys and avoidance measures are required by Mitigation Measures BIO-2C and BIO-2D. Mitigation Measures BIO-3A and BIO-3E requires vegetation survey and jurisdictional delineation, while compensatory mitigation is required by Mitigation Measures BIO-3C and BIO-3D. General construction impacts are addressed through the implementation of Mitigation Measures BIO-3F through BIO-3J, and indirect operational impacts require compliance with Mitigation Measures BIO-K through BIO-3O. Implementation of these measures would reduce impacts to less than significant levels.

BIOLOGICAL RESOURCES Would the Project...	Impact Examined in 2019 LRDP EIR	Impact Not Examined in 2019 LRDP EIR		
		No Impact	Less than Significant Impact	Potentially Significant Impact
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 U.S. Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<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"/>
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) The Hillcrest Outpatient Pavilion and Parking Structure Project site is located in a portion of the Hillcrest Campus that contains eucalyptus woodlands and urban/developed lands. Portions of the northerly biofiltration basin contain sensitive Diegan coastal sage scrub habitat.

Consistent with the 2019 LRDP, construction activities for the proposed project include grading and vegetation removal that could result in permanent and temporary impacts to non-sensitive eucalyptus woodland and sensitive Diegan coastal sage scrub that may support coastal California gnatcatcher (*Poliophtila californica californica*) and Cooper's hawk (*Accipiter cooperii*). In addition, the proposed project would have the potential to impact nesting birds (including raptors) through direct removal of nesting habitat and through disturbance to nesting birds from substantial sources of noise generated at the commencement of new construction during the breeding season.

Protocol-level coastal California gnatcatcher surveys were conducted in 2018, and no coastal California gnatcatcher were observed within the Diegan coastal sage scrub habitat within the

survey area. In accordance with Mitigation Measure BIO-2A, additional protocol-level surveys were conducted in 2021. No coastal California gnatcatcher were observed within the Diegan coastal sage scrub habitat. By requiring pre-construction nesting bird surveys and placing restrictions around active nests, implementation of Mitigation Measures BIO-2C and BIO-2D would reduce potential impacts to nesting raptors and birds protected by the California Fish and Game Code and Migratory Bird Treaty Act to less than significant. In addition, no San Diego barrel cactus (*Ferocactus viridescens*), San Diego goldenstar (*Bloomeria clevelandii*), or wart-stemmed ceanothus (*Ceanothus verrucosus*) were identified within the project site. Therefore, Mitigation Measures BIO-1B, BIO-1C, and BIO-1D would not apply to the proposed project. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding candidate, sensitive, or special status plant and animal species.

- b & c) The Hillcrest Outpatient Pavilion and Parking Structure Project site is located in a portion of the Hillcrest Campus that contains eucalyptus woodland and urban/developed lands. As determined in the 2019 LRDP EIR, impacts to eucalyptus woodlands and urban/developed lands are not considered significant. The construction of the north biofiltration basin would result in permanent impacts to 0.03 acre of Diegan coastal sage scrub habitat, which is considered a sensitive vegetation community. The construction of the Bachman Parking Structure would result in permanent impacts to 0.05 acre of Diegan coastal sage scrub. The 2019 LRDP EIR states that impacts to sensitive upland vegetation communities totaling less than 0.10 acre per construction phase would not be considered significant and would not require mitigation. Therefore, the project's removal of 0.08 acre of Diegan coastal sage scrub is not a significant impact and per the 2019 LRDP EIR.

In accordance with Mitigation Measure BIO-3E, a jurisdictional delineation was completed for the Hillcrest Outpatient Pavilion and Parking Structure Project. Based on the jurisdictional delineation, the proposed project would permanently fill the entire existing low-quality unnamed, ephemeral channel and would result in permanent impacts to 0.008 acre of non-wetland waters of the United States. In addition, the proposed project would also result in permanent impacts to approximately 0.001 acre of waters of the United States through the deposition of approximately 2 cubic yards of riprap in the channel east of Bachman Place. Construction of the north biofiltration basin would temporarily impact the concrete channel east of Bachman Place. Consistent with the 2019 LRDP, these impacts would be considered significant.

The proposed project received a Nationwide Permit (NWP) 39 – Commercial and Institutional Developments and NWP 13 – Bank Stabilization Verification from the U.S. Army Corps of Engineers (ACOE) on September 3, 2020; a Streambed Alteration Agreement from the California Department Fish and Wildlife (CDFW) on May 14, 2020; and Clean Water Act Section 401 Water Quality Certification from the Regional Water Quality Control Board

(RWQCB) on October 23, 2022. In accordance with Mitigation Measure BIO-3C, the proposed project would provide compensatory mitigation for the permanent loss of 0.008 acre of other jurisdictional waters of the United States and state through the purchase of off-site mitigation bank credits at the San Luis Rey Mitigation Bank. The permanent impact to 0.008 acre of other waters of the United States and state would be mitigated at a ratio of 1:1. The ACOE determined a 1:1 mitigation ratio instead of a 2:1 mitigation ratio due to the low quality of the non-wetlands waters of the United States. However, because the project site, located in the San Diego River watershed, is in the tertiary treatment area of the San Luis Rey Mitigation Bank, the project is required to mitigate these impacts at a 3:1 ratio. Therefore, 0.03 acre credits of re-established river: wetland waters of the U.S./state (riparian re-establishment) at the San Luis Rey Mitigation Bank (SLRMB) to fully compensate for permanent loss of 0.008 acre (341 linear feet) of waters of the U.S./state at a ratio of 3:1. Impacts would be reduced to less than significant.

Consistent with the 2019 LRDP, the proposed project would result in indirect impacts to riparian habitat or other sensitive natural communities from construction, as well as post-construction/operations activities. Potential indirect impacts would include water quality degradation (e.g., through sedimentation, contaminants, or fuel release), fugitive dust, colonization of invasive or non-native plant species, edge effects, noise, wildlife mortality, lighting, inadvertent encroachments, non-native insects, and Fuel Management Zone 2. Mitigation Measures BIO-3F through BIO-3O require a pre-construction meeting, restoration of errant construction activities, fire prevention measures during construction, construction monitoring, shielding of nighttime construction lighting, implementation of measures to reduce runoff/water quality impacts, invasive plant prevention measures, roadway and driveway wildlife barriers, edge effect avoidance measures, and non-native insects avoidance measures. Implementation of these mitigation measures would reduce these impacts to less than significant.

Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding riparian habitat, other sensitive natural communities, and federally protected wetlands.

- d) Development of the proposed project would not preclude wildlife movement or impact wildlife corridors or linkages as none exist on the campus. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding wildlife movement.
- 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. Consistent with the 2019 LRDP EIR, UC San Diego

voluntarily reviewed the proposed project for consistency with local policies and ordinances found in the City's Land Development Code (2018), including the Environmentally Sensitive Lands regulations and the City's Biology Guidelines (2012), and determined that no local policy conflicts would arise, and no significant impact would occur. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project, which is consistent with the 2019 LRDP, would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding the conflict with local policies and ordinances protecting biological resources.

- f) The proposed 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 Natural Communities Conservation Plan Program and is consistent with the biological resources analysis evaluated in the 2019 LRDP EIR. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding local, regional, or state habitat conservation planning.

4.1.4 Cultural and Tribal Cultural Resources

Section 3.4 of the 2019 LRDP EIR evaluates the potential for impacts to archaeological and historical resources, including tribal cultural resources (TCRs), from the implementation of the 2019 LRDP. The 2019 LRDP EIR concludes that 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); disturbance of unknown or known archaeological resources during construction (Section 3.4.3.2); disturbance of human remains and of potential human remains in unrecorded subsurface sites (Section 3.4.3.3); and disturbance of TCRs (Section 3.4.3.4).

For impacts to historical resources, Mitigation Measure CUL-1 requires the preparation of a Historic American Building Survey Level 1 documentation prior to the demolition of the single-family residence located at 102 Dickinson Street. The building was incorrectly identified at 101 Dickinson Street in the 2019 LRDP EIR. Demolition of this historic resource would be a significant and unavoidable impact associated with the implementation of the 2019 LRDP. Demolition of this resource and implementation of Mitigation Measure CUL-1 were accomplished under a separate CEQA document in the summer of 2020.

Mitigation Measure CUL-2A would require the review of project-specific grading plans to determine whether prior grading activity had removed the top 2 feet of native soils. If 2 feet or more of native soils have been removed than no further cultural resource mitigation would be required. If native soils are present, then a qualified Archaeologist shall monitor grading activities. The construction monitoring procedures that may be required by Mitigation Measure CUL-2A are

described in Mitigation Measure CUL-2B. The identification of human remains during construction activities would be addressed through implementation of Mitigation Measure CUL-2B along with their treatment in accordance with the California Public Resources Code and California Health and Safety Code. In addition, the identification of TCRs during construction activities would occur through implementation of Mitigation Measure CUL-2A, and treatments are specified under Mitigation Measure CUL-2B. Implementation of these measures would reduce future project-level impacts to archaeological resources, including human remains and TCRs, to less than significant levels.

CULTURAL AND TRIBAL CULTURAL RESOURCES Would the Project...	Impact Examined in 2019 LRDP EIR	Impact Not Examined in 2019 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 defined in Section 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 Section 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 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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- a) The project site contains a one-story residence located at 102 Dickinson Street. The building address was incorrectly identified as 101 Dickinson Street in the 2019 LRDP EIR. The residence was constructed around 1920 and represents early patterns of residential development and suburbanization that shaped the Hillcrest Community in the early decades of the twentieth century. The residence stands out as a relatively early example of neighborhood growth, and as an increasingly rare example of an intact residential building dating to this period.

As such, 102 Dickson Street was identified as a potentially eligible historic resource in a survey of the Hillcrest Campus as part of the 2019 LRDP, which evaluated and inventoried significant elements of the campus's historic built environment. In accordance with Mitigation Measure CUL-1, Historic American Building Survey (HABS) Level 1 documentation for the single-family residence located at 102 Dickinson Street was prepared June 2020 by Architectural Resource Group. The HABS Level 1 documentation includes an architectural and historical narrative of the building, archival drawings, and large-format photographs. Therefore, in accordance with Mitigation Measure CUL-1, HABS Level 1 documentation has been prepared, and no further mitigation is required. 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 historical resources.

- b) Consistent with the 2019 LRDP EIR, potential impacts to known or unknown archaeological resources would occur from excavation or grading activities associated with the proposed project. Mitigation Measure CUL-2A involves the on-campus review of grading plans and construction monitoring by a qualified Archaeologist and Native American Monitor. Per this measure, if native soils would be disturbed, then a qualified Archaeologist and Native American Monitor would be required to monitor grading activities in accordance with the procedures outlined in Mitigation Measure CUL-2B. However, regardless the extent of native soils, out of respect for the site's cultural history, the initial grading period of construction would be monitored by a Native American tribal representative from the Kumeyaay Nation, and Mitigation Measure CUL-2B would be applied to the proposed project. These measures would reduce the potentially significant impacts to unknown archaeological resources during project construction to a less than significant level. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding archaeological resources.
- c) Consistent with the 2019 LRDP EIR, the proposed project involves construction activities that could disturb native terrain, including excavation, grading, and soil removal; therefore, the potential exists for previously undiscovered human remains to be discovered. As discussed above, Mitigation Measures CUL-2A and CUL-2B require the site review and monitoring of all grading activities within areas of natural deposition by a qualified Archaeologist and Native American Monitor. 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 Public Resources Code (Section 5097.98), if applicable, shall be followed. Implementation of Mitigation Measures CUL-2A and CUL-2B would reduce the potentially significant impacts to human remains to a less than significant level. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant

environmental effects or a substantial increase in the severity of previously identified significant effects regarding human resources.

- d) Consistent with the 2019 LRDP EIR, potential impacts to unknown TCRs may occur from excavation or grading activities associated with the proposed project. Implementation of Mitigation Measures CUL-2A and CUL-2B, which require the on-campus review of grading plans, construction monitoring by a qualified Archaeologist and a Native American Monitor, and specified treatment of identified TCRs, would reduce the potentially significant impacts to TCRs to a less than significant level. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding TCRs.

4.1.5 Energy

Section 3.5 of the 2019 LRDP EIR evaluates the potential for impacts to energy, from the implementation of the 2019 LRDP. The EIR concludes a significant impact would occur related to use of diesel and gasoline fuel during construction (Section 3.5.3.1). In addition, the 2019 LRDP EIR indicated that the 2019 LRDP would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency (Section 3.5.3.2). Mitigation Measure ENE-1 requires construction practices that encourage efficient use of fuel beyond typical demand. Implementation of Mitigation Measure ENE-1 would reduce impacts to less than significant.

ENERGY Would the Project...	Impact Examined in 2019 LRDP EIR	Impact Not Examined in 2019 LRDP EIR		
		No Impact	Less than Significant Impact	Potentially Significant Impact
a) Result in the 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) Construction

Under the Hillcrest Outpatient Pavilion and Parking Structure Project construction activities would be slightly different as compared to the analysis conducted for Phase 1A in the 2019 LRDP EIR. However, the proposed project would not require any construction practices or building materials that would result in unusually high energy use or that were not accounted for in the 2019 LRDP EIR. With the Hillcrest Outpatient Pavilion and Parking Structure Project, construction of Phase 1A is estimated to require 447,796 gallons of diesel fuel and 255,923 gallons of gasoline (Appendix C, Energy Memorandum). Diesel fuel consumption would increase for Phase 1A compared to the 2019 LRDP EIR; however, the increase in diesel

fuel use would be partially offset by the reduction in estimated fuel use for Phase 2B and Phase 3 as assumed in the 2019 LRDP EIR because demolition of the Bachman Parking Structure and partial construction of the CUP that were assumed in these later phases are now included in Hillcrest Outpatient Pavilion and Parking Structure Project emissions. As a result, construction gasoline consumption would be reduced compared the 2019 LRDP EIR. Additionally, limitations on idling of vehicles and equipment, requirements that equipment be properly maintained, and financial incentives to avoid wasteful, inefficient, and unnecessary consumption of energy during construction would continue to apply to construction. Implementation of Mitigation Measure ENE-1 would be required to reduce fossil fuel use during construction beyond typical demand through the use of the most fuel-efficient construction equipment and models, the encouragement of workers to carpool or use public transit to access the campus during construction, and the use of larger capacity trucks to reduce total truck trips. 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 energy consumption.

Operation

The Hillcrest Outpatient Pavilion and Parking Structure Project does not propose any new land uses that were not addressed in the 2019 LRDP EIR. Additionally, the Hillcrest Outpatient Pavilion and Parking Structure Project does not propose any new land uses that would result in additional vehicle trips to the campus compared to the assumptions of the 2019 LRDP EIR. Operation of the Hillcrest Outpatient Pavilion and Parking Structure Project would result in the same or reduced energy use at campus buildout compared to the buildout addressed in the 2019 LRDP EIR because the non-OSHPD part of the CUP would be more efficient than the cogeneration CUP analyzed in the 2019 LRDP EIR. The anticipated energy usage for the proposed project is 4,449,507 kilowatt-hours of electricity and 25,624 therms of natural gas (directed biogas) (Glumac 2021). Furthermore, the 2019 LRDP would implement GHG Reduction Strategy Measures which includes design measures that reduce energy use and help ensure project operation would not result in the wasteful, inefficient, or unnecessary consumption of energy resources. Additionally, a Design Development Energy Summary Report has been completed for the project that demonstrates that the Hillcrest Outpatient Pavilion and Parking Structure Project, including CUP operation, would reduce total energy use by 30 percent compared to ASHRAE 90.1-2010 standards, consistent with the UC Sustainable Practices Policy (Glumac 2021). The non-significant impact identified in the 2019 LRDP EIR would be the same as that identified for the project. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding energy usage.

- b) The Hillcrest Outpatient Pavilion and Parking Structure Project does not propose any new land uses that were not assumed in the 2019 LRDP EIR. Operation of the proposed project would result in the same or reduced utility use for campus buildout compared to buildout in the 2019 LRDP EIR. The Hillcrest Outpatient Pavilion and Parking Structure Project demonstrates implementation of energy and water use reduction measures through the GHG Reduction Strategy Measures and related Screening Table which was included as part of the 2019 LRDP (see Appendix C). The modified non-OSHDP CUP, which utilizes traditional boilers and heat recovery equipment, would require substantially less natural gas consumption compared to the cogeneration facility assumed in the 2019 LRDP EIR and would not preclude use of biofuel to replace natural gas consumption on the campus. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure 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 or obstruct a state or local plan for renewable energy or energy efficiency.

4.1.6 Geology and Soils

Section 3.6 of the 2019 LRDP EIR evaluates the potential for impacts to geology and soils from the implementation of the 2019 LRDP for the Hillcrest Campus. The EIR concludes that compliance with applicable regulations for future development projects would result in less than significant impacts related to exposure to seismic-related hazards (Section 3.6.3.1), soil erosion and topsoil loss associated with ground disturbance (Section 3.6.3.2); unstable geologic or soil conditions (Section 3.6.3.3), and expansive soils (Section 3.6.3.4). Implementation of the 2019 LRDP would result in potentially significant impacts due to the disturbance of geological formations containing paleontological (fossil) resources (Section 3.6.3.5). In addition, the analysis determined that there is no potential for a significant geology or soils impact related to use of septic tanks or alternative wastewater disposal systems (Section 3.6.5).

Mitigation Measure GEO-5 would require paleontological monitoring during construction and would mitigate any direct or indirect impacts to paleontological resources to less than significant.

GEOLOGY AND SOILS 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) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<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 proposed project would not result in significant impacts because the Hillcrest Campus and the surrounding area are not located within an Alquist-Priolo Earthquake Fault Zone as identified in the 2019 LRDP EIR. Furthermore, as indicated in the 2019 LRDP EIR, the proposed project site would not be subject to surface fault rupture but could be subject to strong seismic ground shaking.

The Hillcrest Campus is in an area that is classified as “Generally Susceptible” to slope instability. The site is underlain by two bedrock formations; very old paralic deposits consisting of Pleistocene siltstone, sandstone and conglomerate, and the Eocene Mission Valley Formation composed of marine and nonmarine sandstone with beds of cobble conglomerate. The angle and orientation at which these formations are sloped and situated help increase overall slope stability on campus. The materials on site are typically considered to be stable and are not expected to fail. Therefore, the potential for slope failure is low. In addition,

the potential for seismic-related liquefaction is considered very low on campus due to the types of soils and depths to groundwater.

Buildings constructed by UC San Diego are required to meet the UC Seismic Safety Policy, which provides heightened requirements to reduce seismic life safety risk by meeting heightened geotechnical standards in building design. The proposed project would comply with both the UC Seismic Safety Policy and the California Building Code (CBC), which would reduce hazards to a less than significant level with regard to seismic-related hazards such as fault rupture, strong seismic ground shaking, seismic-related ground failure, liquefaction, and landslides. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding geological hazards.

- b) The proposed project would involve construction activities that would result in ground disturbance, including excavation, grading, and soil removal. Consistent with the 2019 LRDP, the project would comply with appropriate measures consistent with SDAPCD regulations and the UC San Diego Design Guidelines, which would provide adequate protection against soil erosion during and after site construction. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding soil erosion.
- c) According to the Geotechnical and Geologic Hazards Review (TRC 2018), the site is in an area which is classified as “Generally Susceptible” to slope instability. The project would comply with the CBC and the University of California Seismic Safety Policy, which require building engineering to address unstable soil and slope conditions, if needed. Project compliance with these regulations during construction and operation would provide adequate protection against unstable soil impacts. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding geological or soil stability.
- d) According to the Geotechnical and Geologic Hazards Review (TRC 2018), loose or compressible soils may be found within the Hillcrest Campus, especially in undeveloped areas with deposits of alluvium or slope wash/colluvium and developed areas with undocumented and/or uncompacted fill. The proposed project would also be required to comply with the CBC. Project compliance with these regulations during construction and operation would provide adequate protection against impacts. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding expansive soils.

- e) The sewage generated by the existing Hillcrest Campus and proposed 2019 LRDP is treated by the City of San Diego sewer system, and therefore, no septic tanks or alternative wastewater systems are used or anticipated to be associated with implementation of the 2019 LRDP, including the proposed project. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding septic tanks or alternative wastewater disposal systems.
- f) The Hillcrest Campus is underlain by two geologic units that are assigned paleontological sensitivity levels based on their potential to yield significant fossil remains. The Eocene-age Mission Valley Formation, which is made of weakly cemented, fine-grained sandstone, underlies the Linda Vista Terrace Formation on the mesa top greater than 20 feet in depth and is generally exposed in the steeply sloped, undeveloped canyons north, west, and east of the Hillcrest Campus and is considered to have a high paleontological resource sensitivity. It is anticipated that the Mission Valley Formation would be disturbed as part of grading activities associated with the project given its location adjacent to Bachman Place and east of Bachman Place. In addition, the Linda Vista Terrace Formation is considered to have low to moderate paleontological resource sensitivity. It is anticipated that the project would also excavate within this formation, which is the uppermost rock unit underlying the Hillcrest Campus on the mesa top. Therefore, consistent the 2019 LRDP, construction of the Hillcrest Outpatient Pavilion and Parking Structure Project could result in the disturbance of fossil resources in highly sensitive geologic formations by requiring monitoring by a Paleontological Monitor and providing procedures for the care of fossil discovery. Implementation of Mitigation Measure GEO-5 would reduce impacts to less than significant. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding paleontological resources.

4.1.7 Greenhouse Gas Emissions

Section 3.7 in the 2019 LRDP EIR assesses the Greenhouse (GHG) emissions that would be generated under implementation of the 2019 LRDP for the Hillcrest Campus. The EIR concluded that implementation of the 2019 LRDP would not generate GHG emissions that would have a significant impact on the environment (Section 3.7.3.1) and would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions (Section 3.7.3.2). No mitigation measures were required for GHG emissions for the 2019 LRDP.

GREENHOUSE GAS EMISSIONS Would the Project...	Impact Examined in 2019 LRDP EIR	Impact Not Examined in 2019 LRDP EIR		
		No Impact	Less than Significant Impact	Potentially Significant Impact
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**

Under the Hillcrest Outpatient Pavilion and Parking Structure Project construction activities would be different compared to the 2019 LRDP EIR. Construction of the Hillcrest Outpatient Pavilion and Parking Structure Project is estimated to result in total GHG emissions of 6,821 MT CO₂e, or a contribution of 228 MT CO₂e to amortized annual emissions (amortized over a 30-year project lifetime) (Appendix A). Annual GHG emissions from amortized construction would increase by approximately 12 MT CO₂e compared to the annual GHG emissions attributed to Phase 1A in the 2019 LRDP EIR. However, this increase in construction emissions would be offset by the decrease in operational emissions from the CUP, as discussed below under the GHG operations discussion. Additionally, the increase in construction emissions during Phase 1A under the Hillcrest Outpatient Pavilion and Parking Structure Project would be partially or completely offset by the reduction in estimated construction emissions for Phases 2B and 3 as assumed in the 2019 LRDP EIR. This is because demolition of the Bachman Parking Structure and partial construction of the CUP assumed in these phases would be included with Hillcrest Outpatient Pavilion and Parking Structure Project emissions. Consistent with the methodology of the 2019 LRDP EIR, construction emissions were amortized over a 30-year project lifetime and added to operational emissions below to determine significance.

Operation

The Hillcrest Outpatient Pavilion and Parking Structure Project does not propose any new land uses that would result in additional vehicle trips to the campus or new utility use compared to the assumptions of the 2019 LRDP EIR. The Hillcrest Outpatient Pavilion and Parking Structure Project slightly reduces the total amount of health services that would be provided at buildout of the campus, assuming no increases in building size in the subsequent phases compared to those addressed in the 2019 LRDP EIR occur. The 2019 LRDP EIR assumes operation of a cogeneration facility at the CUP. The non-OSHPD portion of the CUP that would be constructed as part of the proposed project would consist of traditional chillers and boilers with a heat recovery chiller. As a result, the GHG emissions estimate prepared for the CUP determined that,

because this design uses waste heat from chilled water production to produce hot water, it significantly reduces the use of natural gas boilers and partially electrifies hot water production. Therefore, installation of traditional boilers with a heat recovery chiller reduces GHG emissions associated with natural gas combustion compared to the installation of a cogeneration facility. GHG emissions from the proposed non-OSHPD CUP were calculated to be 17 percent less compared to a traditional boiler CUP and 35 percent less than the GHG emissions from a cogeneration facility providing the same energy output (Glumac 2020). The University would also utilize directed biogas, meaning UC-owned biogas plants would provide pipeline-quality biogas to natural gas systems to offset the campus's use of natural gas. Therefore, GHG emissions from the Hillcrest Outpatient Pavilion and Parking Structure Project would not exceed those calculated for campus buildout in the 2019 LRDP EIR.

While the proposed CUP will utilize natural gas boilers to meet only approximately 30 percent of the heating load for the proposed project, the final condition of the CUP (with the remaining OSHPD portion constructed) will allow for even further reduced natural gas usage. This is because future buildout of the 2019 LRDP would provide adequate loads that allow for efficient operation of an all-electric CUP. In its final condition, the completed CUP's heat recovery chillers are expected meet up to 96 percent of the space heating load without natural gas combustion, due to the overlapping heating and cooling load.

Additionally, a GHG Reduction Strategy Screening Table has been prepared for the Hillcrest Outpatient Pavilion and Parking Structure Project that identifies 255 reduction points, which is more than the 100 reduction points required by the 2019 LRDP GHG Reduction Strategy (Attachment 2, Screening Table, to Appendix A). Measures that would be implemented for the Hillcrest Outpatient Pavilion and Parking Structure Project include alternative work schedules, car/vanpool programs, employee bicycle path linkages and commute facilities, shuttle programs, electric vehicle charging stations, and trip reduction incentives, in addition to compliance with applicable energy- and water-efficiency standards including enhanced window installation, cool roof, enhanced duct insulation, very high efficiency water heaters, high efficiency lights, LED surgical lights, and water efficient toilets. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would implement the GHG Reduction Strategy, consistent with the assumptions in the 2019 LRDP EIR, and would not result in an increase in operational GHG emissions compared to those accounted for in the 2019 LRDP. Additionally, a Design Development Energy Summary Report has been completed for the project that demonstrates that the Hillcrest Outpatient Pavilion and Parking Structure Project, including CUP operation, would reduce total energy use by 30 percent and natural gas use by 60 percent compared to ASHRAE 90.1-2010 standards, consistent with the UC Sustainable Practices Policy (Glumac 2021). Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding GHG emissions.

- b) As described in Section 4.1.7(a), the proposed project would not modify land uses assumed in the 2019 LRDP EIR. It would not result in GHG emissions beyond those accounted for in buildout of the campus in the GHG Reduction Strategy and demonstrates implementation of its fair share of GHG reduction measures through the Screening Table (Attachment 2 of Appendix A). Buildout of the campus would continue to be projected to achieve net zero emissions through implementation of the GHG Reduction Strategy. A Design Development Energy Summary Report completed for the project demonstrates that the project would reduce total energy use by 30 percent and natural gas use by 60 percent compared to ASHRAE 90.1-2010 standards, consistent with the UC Sustainable Practices Policy (Glumac 2021). As such, the Hillcrest Outpatient Pavilion and Parking Structure Project would not conflict with the UC San Diego Climate Action Plan (CAP), the UC Sustainable Practices Policy provisions designed to reduce GHG emissions, UC San Diego's achievement of goals set forth in the adopted UC Carbon Neutrality Initiative, or the state's efforts toward achieving a 2050 reduction target. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding GHG emissions.

4.1.8 Hazards and Hazardous Materials

Section 3.8 of the LRDP EIR evaluates the potential for impacts to hazards and hazardous materials from the implementation of the 2019 LRDP for the Hillcrest Campus. The 2019 EIR concluded that implementation of the 2019 LRDP would not result in a potentially significant impact related to the transport, use, and disposal of hazardous materials (Section 3.8.3.1); or pose a health risk to occupants of nearby schools (Section 3.8.3.3). The potential for significant hazards related accidental release of hazardous materials could occur as part of demolition activities and contaminated soil and groundwater (Section 3.8.3.2). Aircraft operations and activities would not pose significant safety hazards (Section 3.8.3.4). Construction-related road closures or detours on the campus could impair or intervene with emergency response and result in potentially significant impacts (Section 3.8.3.5). The 2019 LRDP would have less than significant wildland fires through implementation of fire protection measures, fuel management guidelines and compliance with associated regulations (Section 3.8.3.6). The 2019 LRDP would not result in activities located on a listed hazardous materials site compiled pursuant to Government Code, Section 65962.5 (Section 3.8.5).

Mitigation Measure HAZ-2A requires the review and remediation of buildings prior to their demolition. Mitigation Measure HAZ-2B requires the assessment and remediation of known contaminated sites. Mitigation Measures HAZ-2C and HAZ-2D requires construction activities to be halted if unknown contamination is encountered and implementation of remedial or treatment activities. Implementation of Mitigation Measure HAZ-2A would reduce the potential for the accidental release of hazardous materials associated with demolition activities to less than significant and Mitigation Measures HAZ-2B through HAZ-2D would reduce potential

construction-related impacts from the release of hazardous substances from soil and groundwater during construction activities to less than significant. Mitigation Measure HAZ-5 would require notification of the Hillcrest Campus Fire Marshal and the campus community of any required road closures to reduce emergency access/response impacts to less than significant levels.

HAZARDS AND HAZARDOUS MATERIALS 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) 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 to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- a) As indicated in the 2019 LRDP EIR, the proposed project could result in transport, use, and disposal of hazardous materials that could pose a hazard to the public and environment. UC San Diego policy requires packaging of chemicals transported on public roads to conform with all legal requirements, including those of the US Department of Transportation, California Highway Patrol, California Department of Public Health, and County Department of Environmental Health, and to the guidelines of the International Civil Aeronautics Organization and the International Air Transport Association. All hazardous waste must be picked up by EH&S or a licensed hazardous waste contractor, and hazardous waste generators must package and label all hazardous wastes per UC San Diego policies and regulations. In addition, to minimize exposure to chemicals in the air,

researchers and other workers in the Outpatient Pavilion would continue to take standard procedural precautions, such as working under fume hoods, when using chemicals likely to present exposure hazards. Fume hoods and other engineering controls would be required to meet Cal/OSHA requirements and fume hood ventilation rates are checked annually by EH&S. The UC San Diego radiation safety program, which is required by the Radiation Control Law and documented in the Radiation Safety Manual, is designed to provide adequate protective measures against exposure for visitors, students, faculty, staff, and the community at large. 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. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding the routine transport, use, or disposal of hazardous materials.

- b) As indicated in the 2019 LRDP EIR, the proposed project involves the demolition of existing campus structures, which could result in the upset or accidental release of asbestos, lead, biohazardous waste, pharmaceutical waste, and radioactive waste. Implementation of Mitigation Measure HAZ-2A, which requires that existing aging campus buildings be sampled for hazardous materials and remediated as necessary prior to demolition, would reduce the potential for the accidental release of hazardous materials associated with demolition activities to less than significant.

Records indicate that there was a previous release of approximately 800 to 900 gallons of diesel fuel that occurred near two underground storage tanks located outside the project site near the existing CUP. The location of the underground storage tanks is not within the proposed project footprint. The proposed project would not disturb the known soil and groundwater contamination associated with this release because of its location outside the project site near the existing CUP. No impact would occur. The campus would continue to monitor the plume and coordinate with the RWQCB regarding closure of the site prior to it being disturbed in a future phase of the 2019 LRDP.

Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding the accidental release of hazardous materials.

- c) The project would involve the use or transport of hazardous materials. However, the campus would continue to comply with federal and state regulations pertaining to hazardous wastes, as well as 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. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new

significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding emitting hazardous materials near schools.

- d) The proposed project site is not located on a list of hazardous materials sites compiled pursuant to California Government Code, Section 65962.5, and would not create a significant hazard to the public or environment. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding hazardous material sites.
- e) As indicated in the 2019 LRDP EIR, the proposed project is located approximately 2 miles northeast of the San Diego International Airport (SDIA) and is within the boundaries of the Airport Land Use Plan developed for SDIA. The Outpatient Pavilion, Main Parking Structure and CUP would not exceed 200 feet in height and would not require notification to the Federal Aviation Administration. In addition, the Outpatient Pavilion does not include the construction of a helipad. The project would not result in a safety hazard for people residing or working in the project area. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding airport hazards.
- f) As indicated in the 2019 LRDP EIR, construction-related activities may require temporary partial lane or road closures and/or detours during construction that would interfere with an emergency response plan or emergency evacuation plan. The proposed project would require the temporary closure of Bachman Place to through traffic which could interfere with an emergency response or emergency evacuation plan. As required by Mitigation Measure HAZ-5, 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 and temporary road closures. Implementation of Mitigation Measure HAZ-5 would reduce impacts to less than significant levels. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding emergency access.
- g) The proposed project is located on portions of the Hillcrest Campus that are identified by CAL FIRE's Fire Hazard Severity Zone Map of San Diego County as a local responsibility Very High Fire Hazard Severity Zone. The Outpatient Pavilion, Main Parking Structure and the CUP would comply with the CBC and California Fire Code as enforced by the Hillcrest Campus Fire Marshal, which would include ignition-resistant construction materials, automatic interior sprinklers, fire apparatus access, and emergency evacuation routes. In addition, if appropriate, the project would include the implementation of brush management Zones 1 and 2. Consistent with the 2019 LRDP EIR, impacts related to the exposure of people or structures to a significant risk of loss, injury, or death involving wildland fires would be less than significant. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in

any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding wildfire.

4.1.9 Hydrology and Water Quality

Section 3.9 of the 2019 LRDP EIR evaluates the potential for impacts to hydrology and water quality from the implementation of the 2019 LRDP for the Hillcrest Campus. The 2019 LRDP EIR concluded that implementation of the 2019 LRDP would result in less than significant impacts related to the potential water quality effects due to generation of pollutants or project compliance with applicable policies and regulations, alteration of site drainage and hydrology, and conflict or obstruction of the implementation of a water quality control plan or sustainable groundwater management plan (Sections 3.9.3.1, 3.9.3.2, and 3.9.3.3). No potential for tsunamis or seiches exists on the Hillcrest Campus, and no potential exists for significant impacts related to the depletion of groundwater supplies and flooding (Section 3.9.5).

No mitigation is required for hydrology and water quality impacts as described in the 2019 LRDP EIR.

HYDROLOGY AND WATER QUALITY Would the Project...	Impact Examined in 2019 LRDP EIR	Impact Not Examined in 2019 LRDP EIR		
		No Impact	Less than Significant Impact	Potentially Significant Impact
a) Violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or groundwater water 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) Would implementation of the 2019 LRDP substantially alter the existing drainage pattern of a 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; (ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; (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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Result in activities in a flood hazard, tsunami, or seiche zone that would risk release of pollutants due to project inundation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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) Consistent with the 2019 LRDP EIR, construction activities associated with the proposed project could result in an increase in potential discharge of pollutants to receiving waters. However, adherence with UC San Diego guidelines and policies, including the Storm Water Management Program (SWMP), and other regulatory requirements related to storm water runoff would minimize the potential for pollutants to enter receiving waters during construction.

Construction-related Best Management Practices (BMPs) established as part of UC San Diego's SWMP include, but are not limited to the following:

- Proper storage, use, and disposal of construction materials
- Regular removal of sediment from surface runoff before it leaves the site by silt fences or other similar devices around the site perimeter, with particular attention to protecting impaired water bodies listed on the 303(d) list for sediment and protecting downstream environmentally sensitive habitats such as wetlands
- Protection of all storm drain inlets on site or downstream of the construction site to eliminate entry of sediment
- Stabilization of cleared or graded slopes
- Diversion of runoff from uphill areas around disturbed areas of the site
- Prevention of tracking soil off site through use of a gravel strip or wash facilities at exit areas
- Protection or stabilization of stockpiled soils
- Continual inspection and maintenance of all specified BMPs through the duration of construction, with special emphasis before and after rain events

Operation of the Hillcrest Outpatient Pavilion and Parking Structure Project could also result in an increase in the potential discharge of pollutants to receiving waters. The proposed project would integrate a number of storm water BMPs to promote on-site treatment prior to being discharged. In addition, two biofiltration basins satisfying water quality treatment requirements would be installed as part of the project: one basin is proposed at the southeastern corner of the project site adjacent to Bachman Place and the second basin would be east of Bachman Place in the northeastern area of the campus. A temporary basin is proposed on the eastern side of the graded unbuilt pad, where the Bachman Parking Structure currently exists, which would be created after the Bachman Parking Structure is demolished. The biofiltration basins would be filled with treatment media and drainage rock that treat storm water runoff by capturing and detaining inflows prior to controlled release. Treatment would be achieved through filtration, sedimentation, absorption, biochemical processes, and/or vegetative uptake. Treated runoff would discharge to the existing concrete swale north of Bachman Place. 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 to

avoid potential violation of any water quality standard. See Section 4.1.3(b/c) for a discussion of the regulatory permits acquired for the project. The project is consistent with the hydrology/water quality analysis evaluated in the 2019 LRDP EIR.

Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding the violation of water quality standards.

- b) No removal of groundwater is proposed, the project and 2019 LRDP would obtain potable and recycled water supplied by the City of San Diego Public Utilities Department via existing and future water pipelines on the Hillcrest Campus. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding groundwater.
- c) Consistent with the 2019 LRDP, construction activities associated with the proposed project could result in localized alteration of drainage patterns and temporarily increase erosion and sedimentation in the construction area. The proposed project would be required to comply with UC San Diego Design Guidelines, Storm Water Management Requirements for Construction Projects, and the National Pollution Discharge Elimination System Construction General Permit requirements to minimize any short-term impacts resulting from alterations of drainage and hydrology during construction. Construction-related BMPs are discussed in Section 4.1.9(a). Therefore, no significant impacts are identified.

As described in the 2019 LRDP, Hillcrest Campus generally drains into three distinct drainage discharge points; with the western portion of the campus discharging to the canyon west of the existing Arbor Parking Structure; ultimately discharging toward the Legacy Center in Mission Valley, the eastern portion of the campus which discharges to the existing concrete swale located north of Bachman Place, and an off-site drainage basin that discharges to the public City of San Diego Streets south of Montecito Way. The Hillcrest Outpatient Pavilion and Parking Structure Project is primarily located within the Eastern Drainage Basin.

The proposed project existing drainage pattern is dictated by the streets within the project boundary, with flow cumulating within a 30-inch reinforced concrete (RC) pipe under Bachman Place, ultimately discharging to a concrete swale just east of the existing Bachman Parking Structure. Storm water along Front Street and Dickinson Street is collected at sump inlets located at the intersection of these two streets, ultimately flowing south through a 12-inch City of San Diego Storm Drain and discharging at the top of slope within the existing canyon. Flow along First Avenue flows north through curb and gutter and drains to a sump inlet located at the end of the street, discharging at the top of slope of the same canyon. Rainfall within the existing canyon is concentrated within a natural swale at the bottom, combining with the discharges from the Front/Dickinson Street storm drain and the First Avenue Storm

Drain, discharging on the eastern edge of the canyon to the 30-inch RC pipe located under Bachman Place. Drainage along Arbor Drive flows easterly through curb and gutter and enters a sump inlet located at the end of the street, ultimately tying into the same 30-inch RC Pipe within Bachman Place. Flow within Bachman Place is collected in several sump curb inlets, all tying into the same storm drain main discharging to the concrete swale.

Consistent with the 2019 LRDP, post-construction, new storm drain pipe, inlets, and biofiltration basins have been designed to improve the drainage of the site and ensure that the project meets or exceeds all pertinent governing legislation and the UC San Diego Design Guidelines. Through new routing of on-site storm water, and the construction of two biofiltration basins in support of the post-construction BMP requirements as set forth in the MS4 Phase II permit, the overall flow rate of the project site post-construction would be reduced as shown in Table 4-2.

Table 4-2. Existing and Proposed Condition Hydrology

Existing Condition Hydrology			
P.O.C.	10- Year Event (CFS)	50- Year Event (CFS)	100- Year Event (CFS)
1	33.99	41.91	44.21
Proposed Condition Hydrology (mitigated)			
1	33.66	41.37	44.06

Source: Latitude 33 2021.

Notes: CFS = cubic feet per second; P.O.C. = point of connection

Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding the alteration of existing drainage patterns.

- d) No potential for tsunamis or seiches exists on the Hillcrest Campus given its location approximately 5 miles from the Pacific Ocean on a mesa top not near any large, enclosed body of water. The project would not result in the release of pollutants due to project inundation because it is not located any river or creek. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding tsunamis and seiches.
- e) As indicated in the 2019 LRDP EIR, construction activities could result in significant short-term impacts to 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 Hillcrest Outpatient Pavilion and Parking Structure 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 to promote on-site treatment prior to being discharged. Two biofiltration basins satisfying water quality treatment requirements would be installed: one basin is proposed at the southeastern corner of the project site adjacent to Bachman Place and the second basin would be east of Bachman Place in the northeastern area of the campus. A temporary basin is proposed on the eastern side of the graded unbuilt pad, where the Bachman Parking Structure currently exists. Treated runoff would discharge to the existing concrete swale north of Bachman Place. 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. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure 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 a water quality basin plan.

4.1.10 Land Use and Planning

Section 3.10 in the 2019 LRDP EIR evaluates the potential for impacts to land use and planning from the implementation of the 2019 LRDP for the Hillcrest Campus. It concluded that implementation of the 2019 LRDP would not result in inconsistencies with applicable land use plans, policies, and regulation (Section 3.10.3.1). In addition, there is no potential for significant impacts related to physically dividing an established community (Section 3.10.5).

No mitigation is required for land use and planning impacts as described in the 2019 LRDP EIR.

LAND USE AND PLANNING Would the Project...	Impact Examined in 2019 LRDP EIR	Impact Not Examined in 2019 LRDP EIR		
		No Impact	Less than Significant Impact	Potentially Significant Impact
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 the Hillcrest Campus Boundary but does require some off-site transportation improvement features. These features primarily consist of a direct connection from Bachman Place to Arbor Drive, realignment of Bachman Place. None of these roadway improvements would divide an established community because they are improving the capacity of the existing roadway network. Therefore, the Hillcrest

Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding physically dividing an established community.

- b) As described in Section 3, Consistency with 2019 LRDP, of this Addendum, the project is consistent with the 2019 LRDP EIR project objectives, building space projections and land use designations, which is the applicable land use plan for the Hillcrest Campus. The proposed project would not introduce any new land uses that were not already addressed in the 2019 LRDP EIR.

As indicated in the 2019 LRDP EIR, the review of local land use plans, including the City's General Plan, Uptown Community Plan, Mission Valley Community Plan, and San Diego Association of Governments' Regional Plan, has concluded that the proposed project would be generally consistent with the implementation of these plans. Any specific recommendations in these planning documents are advisory only because the Hillcrest Campus is regulated by a separate planning jurisdiction (the UC) which is a constitutionally created entity of the State of California, with "full powers of organization and government" (Cal. Const. Art. IX, Section 9) and is not subject to municipal regulations of surrounding local government. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure 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 land use plans.

4.1.11 Noise

Section 3.11 evaluates the potential for impacts from noise associated with the implementation of the 2019 LRDP for the Hillcrest Campus. It concluded that implementation of the 2019 LRDP would result in a significant temporary impact from construction equipment noise, result in excessive noise levels, and exposure of sensitive interior uses to stationary noise sources (Section 3.11.3.1). Implementation of the 2019 LRDP would also result in temporary significant groundborne vibration impacts from construction activities (Section 3.11.3.2). Impacts related to aircraft noise would be less than significant (Section 3.11.3.3).

Mitigation Measure NOI-1A requires construction noise reduction measures to be implemented by the construction contractor. Due to uncertainties related to future construction activities, construction noise impacts would remain significant and unavoidable. Mitigation Measure NOI-1B requires mechanical equipment noise shielding while Mitigation Measure NOI-1C requires special event noise measures. Mitigation Measure NOI-1C requires site-specific acoustical analysis for future development projects. Implementation of Mitigation Measures NOI-1B, NOI-1C, and NOI-1D would reduce impacts related to stationary noise sources, special event noise, and interior noise exposure to a less than significant.

Mitigation Measure NOI-2A requires construction notification while NOI-2B requires the preparation of construction vibration mitigation program for future development projects. Due to uncertainties related to future 2019 LRDP construction activities, it cannot be demonstrated that future ground construction activities would be reduced to vibration levels that would not exceed the applicable thresholds at on- or off-campus receptors. Therefore, impacts would remain significant and unavoidable.

NOISE Would the Project Result in...	Impact Examined in 2019 LRDP EIR	Impact Not Examined in 2019 LRDP EIR		
		No Impact	Less than Significant Impact	Potentially Significant Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project 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 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) **Construction**

Construction activities, including demolition, grading, earthwork, utilities installation, surface improvements, and building construction and external/internal building work, under the Hillcrest Outpatient Pavilion and Parking Structure Project have been identified in the 2019 LRDP EIR. Pile driving that was previously anticipated for shoring as part of project construction is unlikely to be required. Therefore, noise impacts related to pile driving identified in the 2019 LRDP EIR would be reduced or eliminated under the Hillcrest Outpatient Pavilion and Parking Structure Project. Impacts related to construction traffic and other construction equipment are addressed below.

The noise analysis for the 2019 LRDP EIR assumed a daily maximum of approximately 300 truck trips, 60 vendor trips, and 894 worker vehicle trips would be required for any phase of campus construction. The construction of the Hillcrest Outpatient Pavilion and Parking Structure Project would result in the same approximate maximum number of worker (894) and vendor (60) trips. The proposed project would result in approximately 52,000 more total demolition truck trips during construction than identified for Phase 1A in the 2019 LRDP EIR; however, it was determined during 2019 LRDP EIR preparation that no more than 300 truck trips could feasibly occur in one day. Therefore, the demolition timeline would be extended to accommodate the additional demolition required under the Hillcrest Outpatient Pavilion and

Parking Structure Project and no more than 300 truck trips would occur in a day during proposed project construction. Because the number of truck trips per day would be the same as identified in the 2019 LRDP EIR, proposed project construction traffic would not result in a temporary significant impact related to construction traffic noise. Therefore, normal daily construction activities for the Hillcrest Outpatient Pavilion and Parking Structure Project, as previously anticipated, would not have the potential to exceed 75 dBA Leq up to 210 feet from temporary construction activities.

As identified in the 2019 LRDP EIR, the existing Inpatient Tower would be the only on-campus noise-sensitive land use (NSLU) within 210 feet of the construction area of the Hillcrest Outpatient Pavilion and Parking Structure Project. The existing residences on Dickinson Street and First Avenue would be demolished prior to the construction of the Hillcrest Outpatient Pavilion and Parking Structure Project and would not be exposed to construction noise. Consistent with the 2019 LRDP EIR, a significant impact would occur to on- and off-campus receptors during normal construction activities. As such, Mitigation Measures NOI-1A, NOI-1B, NOI-1C, and NOI-1D require the construction contractor to implement noise abatement measures during construction. In addition, with implementation of 2019 LRDP EIR Mitigation Measures NOI-2A and NOI-2B, the construction contractor shall provide written notification to vibration-sensitive uses within 75 feet of normal construction or 160 feet of pile driving at least three weeks prior to the start of construction activities informing them of the estimated start date and duration of daytime vibration-generating construction activities, if applicable.

However, as identified in the 2019 LRDP EIR, due to uncertainties in the ability of Mitigation Measure NOI-1A to reduce all construction noise to a level below significance, this impact would remain significant and unavoidable (Appendix D, Noise Memorandum). 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 construction noise impacts.

Operational Impacts

Impacts related to operation of the Hillcrest Outpatient Pavilion and Parking Structure Project include new transportation and stationary noise sources, which are addressed below.

Transportation Noise

The Hillcrest Outpatient Pavilion and Parking Structure Project does not propose any new land uses that would result in additional vehicle trips to the Hillcrest Campus, as identified in the 2019 LRDP. On Opening Day, operation of the non-OSHPD CUP may result in new employee trips compared to Phase 1A described in the 2019 LRDP EIR because it was previously proposed as part of Phase 3 and all CUP-related employee trips were addressed in Phase 3. However, these trips would be offset in Phase 1A by the reduction in health services building

space that would be constructed during this phase. Buildout employee trips would not increase compared to the 2019 LRDP EIR. Therefore, project-related transportation noise impacts would be the same as those identified in the 2019 LRDP EIR and would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding transportation noise impacts.

Heating, Ventilation, and Air Conditioning Equipment

The Hillcrest Outpatient Pavilion and Parking Structure Project does not include any new uses that would require heating, ventilation, and air conditioning (HVAC) systems that were not included in the 2019 LRDP EIR. The proposed Outpatient Pavilion would not be within 55 feet of an existing or proposed off-site sensitive receptor. However, as indicated in the 2019 LRDP EIR, the Hillcrest Outpatient Pavilion and Parking Structure Project may be within 55 feet of an on-campus NSLU. The HVAC systems for the Hillcrest Outpatient Pavilion and Parking Structure Project would be designed with the appropriate screening and low noise-producing mechanical equipment that would meet the noise requirement (see Section 2.3.3.3). Therefore, with 2019 LRDP EIR Mitigation Measure NO-1B applied to the proposed project, the project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

Parking Facilities

The proposed Spine would include limited surface parking that was not addressed in the 2019 LRDP EIR (see Figure 2-4). However, parking lots throughout the campus were addressed in the 2019 LRDP EIR. The 2019 LRDP EIR determined that noise sources from a typical parking lot would vary in kind, duration, and location. Therefore, the overall effects of individual parking lot noise events, such as an alarm or door slam, would be separate, short in duration, and, in most cases, would not affect the same noise-sensitive receptors at the same time. The proposed limited surface parking would generate typical parking lot noise as addressed in the 2019 LRDP EIR. The Main Parking Structure has been expanded compared to the structure analyzed in the 2019 LRDP EIR but would continue to be on the southeastern edge of the campus, approximately 150 feet from the nearest off-campus receptors, and approximately 100 feet from the nearest on-campus receptor. Distance would further reduce the potential for exposure to nuisance noise. Therefore, noise generated from parking facilities would remain less than significant.

Central Utility Plant

The Hillcrest Outpatient Pavilion and Parking Structure Project includes the construction of a part of the non-OSHDPD portion of the CUP. Pursuant to Mitigation Measure NOI-1B, the CUP would be constructed to ensure noise levels from its equipment do not exceed an exterior noise level of 65 dBA CNEL at the nearest on- and off-site NSLU. Due to the proximity of the CUP

equipment to the nearest NSLU and equipment and shielding/enclosure types being considered, the CUP would be designed to meet this requirement. Once final equipment selections are made, the appropriate shielding and sound absorption measures required to meet the required noise level would be determined. In accordance with Mitigation Measure NOI-1B, an Acoustics and Vibration Narrative report demonstrating compliance has been prepared by Acentech as part of design development. The report provides design elements for various components of the CUP to reduce noise impacts (Acentech 2021). Walls surrounding the CUP equipment yard would extend 1 foot above the height of the cooling tower to maximize noise attenuation. The walls would be lined with exterior sound absorptive panels as noise reduction design measures. The proposed cooling tower would be located in an equipment yard immediately adjacent to and west of the CUP, allowing the CUP to provide noise attenuation to the residential units to the east and to block views of the cooling towers and other service yard equipment.

Therefore, as identified in the 2019 LRDP EIR, the project would result in a significant CUP noise impact that would be reduced to less than significant through project design measures. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant CUP noise impacts per the 2019 LRDP EIR.

b) Construction

As described above in a), construction activities, including demolition, grading, earthwork, utilities installation, surface improvements, and building construction and external/internal building work, under the Hillcrest Outpatient Pavilion and Parking Structure Project would require the same equipment fleet as those identified in the 2019 LRDP EIR. However, pile driving is unlikely to be required. Therefore, groundborne vibration impacts related to pile driving would be reduced or eliminated under the Hillcrest Outpatient Pavilion and Parking Structure Project. Impacts related to structural damage, human annoyance, and interference with use are addressed below.

Construction activities under the Hillcrest Outpatient Pavilion and Parking Structure Project would be the same as those identified in the 2019 LRDP EIR. The historic residence at 102 Dickinson Street is anticipated to be demolished prior to project construction. Note the building was incorrectly identified as 101 Dickinson Street in the 2019 LRDP EIR. Therefore, project construction would not result in vibration levels that would have the potential for structural damage to a historic building, and impacts would be the same as those identified in the 2019 LRDP EIR.

As identified in the 2019 LRDP EIR, no existing on-campus residences or inpatient facilities would be within 75 feet of major construction activity, and no institutional uses would be within

60 feet of construction activities associated with the Hillcrest Outpatient Pavilion and Parking Structure Project. However, off-site residences would be within 75 feet of the construction area as it pertains to off-site roadway improvements. Impacts would be the same as those identified in the 2019 LRDP EIR for individual receptors. Mitigation Measures NOI-1A, NOI-2A, and NOI-2B would require the construction contractor to implement noise abatement measures during construction and implementation of mechanical equipment shielding and special event noise abatement measures during operation. Implementation of these measures would reduce impacts but not to a less than significant level. Impact would be the same as identified in the 2019 LRDP EIR and would remain significant and unavoidable.

Potential temporary construction noise impacts to sensitive equipment in the existing hospital, South Wing, Medical Offices South, Medical Offices North, Bachman Building, Theodore Gildred Facility, and Clinical Teaching Facility would be consistent with those identified in the 2019 LRDP EIR because similar equipment would be required in the area. The West Wing, Magnetic Resonance Institute, research buildings, existing Inpatient Tower, and Medical Offices South would be within 450 feet of the Hillcrest Outpatient Pavilion and Parking Structure Project construction area; however, pile driving is unlikely to be necessary. The potential additional impact area to off-campus receptors as a result of roadway improvements includes residential and commercial development that is not vibration sensitive. No additional impacts would occur. Mitigation Measures NOI-1A, NOI-2A, and NOI-2B would reduce impacts to on-campus receptors but not to a less than significant level. Therefore, groundborne construction vibration impacts would be the same as those identified in the 2019 LRDP EIR and would remain significant and unavoidable.

Operational Sources of Vibration

No new vibration-generating uses are proposed as part of the Hillcrest Outpatient Pavilion and Parking Structure Project. Therefore, impacts as a result of the proposed project would be consistent with those identified in the 2019 LRDP EIR and would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding excessive groundborne vibration.

- c) The Hillcrest Outpatient Pavilion and Parking Structure Project does not propose any changes to the proposed helipad. Therefore, impacts related to aircraft noise would be the same as those identified in the 2019 LRDP EIR. The Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding aircraft noise.

4.1.12 Population and Housing

Section 3.12 evaluates the potential for impacts to population and housing from the implementation of the 2019 LRDP for the Hillcrest Campus. It concluded that the implementation

would have less than significant impacts on the inducement of substantial population growth and substantial displacement of people or housing (Sections 3.12.3.1 and 3.12.3.2).

No mitigation is required for population and housing impacts as described in the 2019 LRDP EIR.

POPULATION AND HOUSING Would the Project...	Impact Examined in 2019 LRDP EIR	Impact Not Examined in 2019 LRDP EIR		
		No Impact	Less than Significant Impact	Potentially Significant Impact
a) Induce substantial unplanned 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) As concluded in the 2019 LRDP EIR, the proposed project would increase the non-residential campus population which would contribute to a direct population growth in the region; however, the level of growth is consistent with 2019 LRDP population projections described in the 2019 LRDP EIR. The project does not propose the construction of residential housing that would result in a residential population increase on campus. However, later phases of the 2019 LRDP would include the construction of housing which would accommodate a portion of UC San Diego affiliates (students, staff and faculty) on campus.

The proposed project would not extend roads or other infrastructure to areas not currently served with facilities. The project would construct the extension of the northern section of First Avenue between Arbor Drive and Dickinson Street to serve the existing Hillcrest Campus and improve on-campus circulation. Other road improvements to Arbor Drive and Bachman Place would improve existing roadway conditions and local circulation. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding induced substantial population growth.

- b) The project would not involve the demolition of residences and not temporarily displace a substantial number of people on the campus or create a demand for new housing that cannot be accommodated locally. Therefore, no potential for an impact would occur, consistent with the population and housing conclusion in the 2019 LRDP EIR.

4.1.13 Public Services

Section 3.13 evaluates the on-campus population increases under the proposed 2019 LRDP for the Hillcrest Campus and the associated demand for public services, including fire protection, police

protection, and schools. It concluded that implementation of the 2019 LRDP that less than significant environmental impacts pertaining to additional fire protection facilities (Section 3.13.3.1), police protection facilities (Section 3.13.3.2), and public school facilities (Section 3.13.3.3). No mitigation measures were identified for public services impacts as described in the 2019 LRDP EIR.

PUBLIC SERVICES Would the Project...	Impact Examined in 2019 LRDP EIR	Impact Not Examined in 2019 LRDP EIR		
		No Impact	Less than Significant Impact	Potentially Significant Impact
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"/>

- a) Implementation of the project would contribute to the overall need for new fire protection, police protection and school facilities in the Uptown Community area but not at a level that would require new facilities beyond those that exist or are already planned by the various service providers and would not require any new facilities resulting in a significant physical impact to the environment. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding new public service facilities.

4.1.14 Recreation

Section 3.14 addresses whether or not the implementation of the 2019 LRDP for the Hillcrest Campus would lead to a physical deterioration of existing recreation facilities and whether development of additional recreation facilities would result in an adverse physical effect on the environment. It concluded that implementation of the 2019 LRDP would have less than significant impact related to the deterioration of parks and recreational facilities (Section 3.14.3.1). Implementation of the 2019 LRDP would have potentially significant impact associated with the construction of new recreational facilities on the Hillcrest Campus (Section 3.14.3.2). Implementation of mitigation measures identified in other 2019 LRDP EIR sections, including Mitigation Measures AES-2A and AES-2B (Section 3.1, Aesthetics); AIR-2 and AIR-3 (Section 3.2, Air Quality); BIO-1A–1D, BIO-2A–2D, and BIO-3A–3O (Section 3.3, Biological Resources); CUL-1 and CUL-2A and CUL-2B (Section 3.4, Cultural and Tribal Cultural Resources); ENE-1

(Section 3.5, Energy); GEO-5 (Section 3.6, Geology and Soils); HAZ-2A–HAZ-2D and HAZ-5 (Section 3.8, Hazards and Hazardous Materials); NOI-1A–1D and NOI-2A and NOI-2B (Section 3.11, Noise); and TRA-1A–1C (Section 3.15, Transportation), would reduce impacts to a less than significant level.

RECREATION Would the Project...	Impact Examined in 2019 LRDP EIR	Impact Not Examined in 2019 LRDP EIR		
		No Impact	Less than Significant Impact	Potentially Significant Impact
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) Recreational demand is correlated to residential population. The 2019 LRDP EIR indicates that the 2019 LRDP would result in the increased use of off-campus recreational facilities because of the increase in population associated with the up to 1,000 residences included in the 2019 LRDP, however it would be a less than significant impact. Moreover, the proposed project, because it does not provide residences, would not result in an increase in residential population and therefore would not contribute to a recreational demand impact.
- b) Implementation of the project would not require the construction or expansion of recreational facilities. 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 measures detailed in the 2019 LRDP EIR. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding recreational facilities.

4.1.15 Transportation

Section 3.15 evaluates whether or not implementation of the proposed 2019 LRDP would result in impacts related to transportation. It concluded that implementation of the 2019 LRDP would result in direct and cumulatively significant impacts due to exceedances of level of service criteria in the Year 2025, Year 2030 and Year 2035 Scenarios for intersections, street segments, freeway mainline segments, and freeway ramp meters in the area (Section 3.15.3.1). Implementation of the 2019 LRDP would also have a temporary significant impact associated with construction-related road or lane closures (Section 3.15.3.3). Section 3.15 also evaluates whether or not implementation of the proposed 2019 LRDP would result in substantial additional VMT and determines that

implementation of the 2019 LRDP would not cause substantial additional VMT to exceed the regional averages for applicable campus land uses; therefore, it identifies less than significant VMT impacts (Section 3.15.3.2). There is no potential for significant impacts related to safety hazards due to a design feature or incompatible uses (Section 3.15.5).

On September 27, 2013, SB 743 was signed into law, which creates a process to change the way transportation impacts are analyzed under CEQA. SB 743 required the Governor's Office of Planning and Research to amend the CEQA Guidelines to provide an alternative to level of service (LOS) for evaluating transportation impacts. Under the new transportation guidelines, LOS, or vehicle delay, will no longer be considered an environmental impact under CEQA. The updates to the CEQA Guidelines required under SB 743 were approved on December 28, 2018. Under the new guidelines, VMT has been adopted as the most appropriate measure of transportation impacts under CEQA and LOS, or vehicle delay, is no longer considered an environmental impact under CEQA. As of July 1, 2020, public agencies were required to immediately commence implementation of the new transportation impact guidelines. Therefore, this Addendum addresses only the project's consistency with the 2019 LRDP EIR analysis of traffic impacts pursuant to the current CEQA Guidelines.

TRANSPORTATION/TRAFFIC Would the Project...	Impact Examined in 2019 LRDP EIR	Impact Not Examined in 2019 LRDP EIR		
		No Impact	Less than Significant Impact	Potentially Significant Impact
a) Conflict with a program, 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) 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) **Operation**

The 2019 LRDP EIR that was certified in November 2019 determined that the implementation of the 2019 LRDP would significantly affect LOS at study area roadways during peak commute hours. 2019 LRDP Mitigation Measure TRA-1 was identified to mitigate the LOS impact of Phase 1A related traffic impacts along Hotel Circle South from Bachman Place to Camino De La Reina. Mitigation Measure TRA-1 specified that the Hotel Circle South segment from Bachman Place to Camino De La Reina shall be widened to a Three-Lane Collector prior to occupancy of Phase 1A. However, as noted above, under the current, updated CEQA Guidelines (which were approved on December 28, 2018, consistent with SB 743) LOS, or vehicle delay, is no longer considered an environmental impact under CEQA. Under the current guidelines, VMT

has been adopted as the most appropriate measure of transportation impacts under CEQA, and LOS may no longer be utilized to assess transportation impacts.

Mitigation Measure TRA-1 is considered not “feasible” as defined under CEQA Guidelines Section 15126.4, as it is designed specifically to reduce automobile delay at roadway segments which is no longer considered a significant impact on the environment under CEQA. As stated above, consistent with SB 743, CEQA now requires that transportation impacts be evaluated based on VMT, rather than LOS. Therefore, Mitigation Measure TRA-1 is no longer applicable to the Hillcrest Outpatient Pavilion and Parking Structure Project and will not be implemented by UC San Diego. Based on the analysis in the 2019 LRDP EIR, implementation of the 2019 LRDP would not exceed an applicable VMT threshold, and no mitigation is required. Furthermore, the abandoned mitigation measure would not further reduce the 2019 LRDP’s less than significant transportation impacts to the environment as CEQA now defines them (e.g., VMT impacts). In addition, due to the recent improvements along Hotel Circle South completed by the San Diego Association of Governments, there would not be enough road right-of-way to provide three lanes along Hotel Circle South, and implementation of Mitigation Measure TRA-1 is no longer feasible.

Further, the provision of a third lane along the majority of this segment is physically infeasible due to the existing roadway width, right-of-way, and location of the support columns for the I-8 undercrossing on Hotel Circle South. Therefore, the mitigation measure required a portion of the segment near Camino De La Reina to be restriped to provide three lanes, which would improve operations and partially mitigate the impact. However, the impact remained significant and unavoidable.

Abandonment of the previously identified Mitigation Measure TRA-1 would not itself result in a new or substantially more severe significant environmental impact in other, non-transportation areas. The campus development under the 2019 LRDP would increase traffic volumes on the local roadway network compared to existing conditions, which can contribute to impacts related to air quality, GHG emissions, and traffic noise. The air quality, GHG emissions, and noise impact analyses in the 2019 LRDP EIR were assessed, in part, based on the anticipated vehicle trip generation attributed to the campus under buildout conditions. However, abandonment of Mitigation Measure TRA-1 would not affect the estimated trip generation or significantly alter traffic patterns, and Mitigation Measure TRA-1 was not a factor utilized in these analyses.

The EIR’s analysis related to noise concluded that that the 2019 LRDP’s contribution to traffic-related increases in ambient noise levels on Hotel Circle South would be a less than significant impact, requiring no mitigation. The air quality analysis evaluated maximum daily air pollutant emissions, including mobile emissions from vehicular trips, and concluded that less than

significant impacts would result. Mitigation measures specified to reduce potentially significant impacts related to air quality are related to construction emissions only, and no mitigation was required to address mobile emissions. While mobile emissions were also utilized in the GHG emissions analysis, the EIR concluded that GHG emissions would also be a less than significant impact, requiring no mitigation. Therefore, Mitigation Measure TRA-1 would not reduce or avoid potentially significant impacts related to noise, air quality, or GHG emissions, and abandonment of the measure due to infeasibility would not create a new or substantially more severe significant environmental impact.

The proposed project includes transit, pedestrian, and bicycle improvements described in Section 2.3.3.5, Multi-Modal Improvements, of this Addendum. Additionally, the landscape/hardscape improvements and pedestrian-oriented design will improve the overall experience of pedestrians and bicyclists utilizing Arbor Drive and Bachman Place. The UC San Diego Transportation Demand Management (TDM) programs incentivizing alternative transportation, as outlined in Section 3.15.1.2 of the 2019 LRDP EIR, would apply to the Outpatient Pavilion commuters. Similarly, applicable parking policies from the TDM program would apply to the proposed project. Therefore, consistent with the 2019 LRDP EIR, the proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

Construction

The 2019 LRDP EIR assumed a worse case construction trip generation with 447 workers (894 worker trips), 300 heavy-duty truck trips, and 60 vendor truck trips. The Hillcrest Outpatient Pavilion and Parking Structure Project would require more total demolition truck trips compared to the 2019 LRDP EIR. As a result, the demolition timeline would be extended to accommodate the additional demolition required under the Hillcrest Outpatient Pavilion and Parking Structure Project. In addition, the total building construction would be reduced; therefore, the building construction timeline would be reduced accordingly.

Construction of the proposed project would require the closure of a portion of Bachman Drive to through traffic for up to 23 months. The closure would occur from the proposed Arbor Drive/Bachman Place intersection to just south of the existing Bachman Parking Structure in order to allow for the roadway improvements required by the 2019 LRDP and construction of the proposed project. One entrance and one exit driveway to the existing Bachman Parking Structure would remain open to provide vehicular access to parking. A temporary turnaround would be constructed for those who missed the closure signage and do not want to use the parking structure. At the proposed Arbor Drive/Bachman Place intersection, access to the apartment building located south of the intersection would be maintained. During the Bachman Place closure, traffic control plans would be implemented that include signage, striping, cones, etc. An alternative route would remain accessible to vehicular traffic via I-8 and SR-163. Construction

truck and construction vehicle access to northbound Bachman Drive would be maintained from the project site. Once the new Main Parking Structure construction is completed, the Bachman Parking Structure would be demolished.

In addition, no change to the assumption of vendor or worker trips is required as a result of the Hillcrest Outpatient Pavilion and Parking Structure Project because daily construction activities would be the same. Therefore, the construction traffic levels assumed in the 2019 LRDP EIR (a maximum of 300 truck trips, 60 vendor trips, and 894 worker vehicle trips) would be the same under the Hillcrest Outpatient Pavilion and Parking Structure Project and no new significant impacts would occur. While construction would block use of Bachman Place for a period of time, detours are available to bicycles and pedestrians who utilize the roadway. Additionally, the closure would be temporary in nature, which is not considered a significant impact. The closure would allow for the improvement of Bachman Place benefiting transit, pedestrians, and bicyclists. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding the conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

- b) The 2019 LRDP EIR concluded that the 2019 LRDP would not induce substantial VMT because it would implement their fair share of VMT-reducing features consistent with the GHG Reduction Strategy. As discussed in the Transportation Memorandum, the project is consistent with the land use and development parameters analyzed for the site in the 2019 LRDP EIR. In addition, the proposed project has the same trip generation and trip lengths used in the 2019 LRDP EIR analysis as described in Section 4.1.15(a). Lastly, the project would benefit from the campus's comprehensive TDM programs described in Section 3.15.1.2 of the 2019 LRDP EIR, which include alternative work schedules, car/vanpool programs, employee bicycle commute facilities, shuttle programs, and trip reduction incentives. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding VMT.
- c) The proposed Hillcrest Outpatient Pavilion and Parking Structure Project is located on the Hillcrest Campus, which is located in a largely urbanized area with no farming, rural, or other non-compatible uses. As discussed in Section 2.3.3.4, the Hillcrest Outpatient Pavilion and Parking Structure Project would include roadway improvements to internal campus roads, as well as the widening of Bachman Place and Arbor Drive and the extension of First Avenue. All improvements would be designed and constructed according to the City's roadway design standards and would improve geometric design in several locations as compared to existing conditions. These improvements would not result in changes to roadway design that would cause

increased hazards. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding traffic hazards.

- d) Consistent with the 2019 LRDP EIR, the Hillcrest Outpatient Pavilion and Parking Structure Project would result in temporary construction-related activities that may require partial lane or road closures and/or detours during construction which would interfere with an emergency response plan or emergency evacuation plan. Access to the existing hospital Emergency Department would be maintained throughout construction. As required by Mitigation Measure HAZ-5, 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 Mitigation Measure HAZ-5 would reduce impacts to less than significant levels. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding inadequate emergency access.

4.1.16 Utilities and Service Systems

Section 3.16 evaluates the potential impacts on utilities and service systems resulting from implementation of the proposed 2019 LRDP. It concluded that implementation of the 2019 LRDP would have a potentially significant impact associated with the construction of new utilities infrastructure (Section 3.16.3.1); would result in a less than significant impact with regard to insufficient water supplies (Section 3.16.3.2), wastewater treatment capacity (Section 3.16.3.3), and compliance with solid waste regulations (Section 3.16.3.4). In addition, there is no potential for significant impacts related to generation of solid waste in excess of state or local standards, or the capacity of local infrastructure (Section 3.16.5).

Mitigation measures identified in other 2019 LRDP EIR sections, including Mitigation Measures AES-2A and AES-2B (Section 3.1, Aesthetics); AIR-2 and AIR-3 (Section 3.2, Air Quality); BIO-1A–1D, BIO-2A–2D, and BIO-3A–3O (Section 3.3, Biological Resources); CUL-1 and CUL-2A and CUL-2B (Section 3.4, Cultural and Tribal Cultural Resources); ENE-1 (Section 3.5, Energy); GEO-5 (Section 3.6, Geology and Soils); HAZ-2A–HAZ-2D (Section 3.8, Hazards and Hazardous Materials); NOI-1A–1D and NOI-2A and NOI-2B (Section 3.11, Noise); and TRA-1A–1C (Section 3.15, Transportation), would reduce impacts to a less than significant level with regard to new water, wastewater, storm water drainage, electric power, natural gas, and telecommunications facilities.

UTILITIES AND SERVICE SYSTEMS Would the Project...	Impact Examined in 2019 LRDP EIR	Impact Not Examined in 2019 LRDP EIR		
		No Impact	Less than Significant Impact	Potentially Significant Impact
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, 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 waste water treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<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 in excess of the capacity of local infrastructure, or otherwise 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 statutes and regulations related to solid waste?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- a) Consistent with the 2019 LRDP EIR, the proposed project would require the relocation and construction of water, wastewater, storm drainage facilities, electric power, natural gas and telecommunication facilities as described in Section 2, Project Description, that could cause a significant environmental effect. Implementation of Mitigation Measures AIR-3; BIO-2C–2D, BIO-3C, and BIO-3F–3O; CUL-2A and CUL-2B; ENE-1 (Section 3.5, Energy); GEO-5; HAZ-2A and HAZ-5; and NOI-1A and NOI-2A would reduce these impacts to less than significant. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding the construction or relocation of utilities.
- b) Implementation of the project would increase potable water usage on the campus, however not beyond levels anticipated in the City's Water Supply Assessment Report prepared for the 2019 LRDP. As described in Section 2.3.5, the project would implement a number of sustainability measures and water conservation features to minimize potable water usage, installing water-efficient plumbing fixtures in all new developments and replacing aging infrastructure with water-efficient fixtures, installing aerators in laboratory sinks, converting to drought-tolerant and low-water vegetation, replacing irrigation sprinklers with high-efficiency rotating nozzles, capturing and reusing water from the fire-sprinkler and hydrant testing for use in the CUP cooling towers, and collecting condensation from heating and air conditioning units, reverse osmosis system wastewater and cooling tower blow down for reuse in toilet flushing and irrigation. Therefore, less than significant impacts would occur. The Hillcrest Outpatient

Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding potable water usage.

- c) Implementation of the project would increase average daily wastewater flow, however not beyond the 2019 LRDP 2035 future flows calculated in the 2019 LRDP EIR. As such, consistent with the 2019 LRDP EIR conclusion, the Point Loma Water Treatment Plant, which would serve the project, would have adequate capacity to receive and treat wastewater and a less than significant impact would occur. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding wastewater capacity.
- d) Consistent with the 2019 LRDP, implementation of the project 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. Solid waste would continue to be generated during both the construction and operation of the project. It is anticipated that the majority of construction phase debris would be diverted due to the campus's commitment to LEED-certified facilities. Waste diversion and disposal from the campus occurs at the Republic Landfill in Yuma, Arizona, and could shift to other permitted solid waste facilities, such as local Miramar Landfill, Sycamore Landfill or Otay Landfill, in the future and no impacts would occur. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding generation of solid waste.
- e) Consistent with the 2019 LRDP EIR, construction of the proposed project would require demolition, clearing/grubbing, and grading activities that would produce excavated soils, green waste, asphalt/concrete, and other construction and demolition waste. Operation of the Hillcrest Outpatient Pavilion and Parking Structure Project would contribute additional non-recyclable/non-reusable waste which would be deposited at Republic Landfill in Yuma Arizona, 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 by 2020. As noted in Section 2.3.5, the project proposes to procure regionally sourced construction materials with high recycled content and certified by credible third parties, where feasible and appropriate, and achieve 68 percent diversion of demolition and construction debris. Additionally, the majority of the concrete and steel generated during demolition would be sorted on site with a 100 percent diversion. 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 a less than significant impact. The Hillcrest Outpatient Pavilion

and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding solid waste management.

4.1.17 Wildfire

Section 3.17 evaluates the potential impacts of wildfires that may result from the construction and/or operation of the proposed 2019 LRDP for the Hillcrest Campus. It concluded that implementation of the 2019 LRDP would have a temporary significant impact associated with construction-related road or lane closures (Section 3.17.3.1); while the 2019 LRDP would have a less than significant impact to wildfire risks in compliance with appropriate state regulations, execution of a fuel management strategy, and appropriate fire protection measures (Section 3.17.3.2), and building or maintaining infrastructure that would exacerbate fire risks (Section 3.17.3.3). In addition, no significant impact would occur to exposing people or structures to significant risks, including downslope or downstream flooding or landslides due to runoff, post-fire slope instability, or drainage changes (Section 3.17.3.4).

Implementation of Mitigation Measure HAZ-5 as described in Section 3.8, which requires notifications in the case of road or lane closures, would reduce impacts to less than significant.

WILDFIRE Would the Project...	Impact Examined in 2019 LRDP EIR	Impact Not Examined in 2019 LRDP EIR		
		No Impact	Less than Significant Impact	Potentially Significant Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- a) As discussed in Section 4.1.8(e), construction-related activities may require temporary partial lane or road closures and/or detours during construction that would interfere with an emergency response plan or emergency evacuation plan. As required by Mitigation Measure HAZ-5, 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 Mitigation Measure HAZ-5 would reduce impacts to a less than significant level. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding the impairment an adopted emergency response plan or emergency evacuation plan.

- b) The proposed project is located on portions of the Hillcrest Campus that are identified as a local responsibility Very High Fire Hazard Severity Zone by CAL FIRE. The combustible vegetation located on the project site would be removed prior to building construction which would lessen wildland fire risk during construction. Subsequent to construction completion, the project would employ fuel management techniques that include strategic ornamental landscape along any adjacent mesa top between native steep slope vegetation and the project, as well and general compliance with the City's Brush Management Regulations (SDMC Section 142.0412). This would include, where appropriate, fuel management in two zones equaling a total width of 100 feet measured from the building facade into the canyon area. Zone 1 would be at minimum 35 feet wide from the building and could be used as a fire access lane. Zone 1 would have a relatively level surface and any combination of hardscape and irrigated landscaping with low-fuel species that would be actively maintained to reduce fuel load. Zone 2 would consist of any remaining area necessary to reach the 100-foot minimum width and contain canyon vegetation that would be managed with selective thinning and pruning to reduce fuel load in accordance with SDMC Section 142.0412 while preserving natural habitat. In addition, the Outpatient Pavilion, Main Parking Structure and the CUP would comply with the CBC and California Fire Code as enforced by the Hillcrest Campus Fire Marshal, which would include ignition-resistant construction materials, automatic interior sprinklers, fire apparatus access, and emergency evacuation routes. Therefore, the project impacts would be the same as those identified in the 2019 LRDP EIR, with impacts determined to be less than significant. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding wildfire risk.
- c) As discussed in Section 2 of this Addendum, the proposed project would include installation of infrastructure that would include rerouting existing storm drain pipes, construction of a new storm drain system, installation of water and wastewater lines and the widening of Bachman Place. Consistent with the 2019 LRDP EIR, new infrastructure and roads would be required to comply with all necessary regulations to minimize any fire risks resulting in a less than significant impact (see Section 4.1.17[b]). Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding installation and maintenance of infrastructure.

- d) Consistent with the 2019 LRDP, construction activities of the proposed project, such as vegetation clearing; grading and excavation of the project site; and construction of new building foundations, roads, driveways, and trenches for utilities, could result in localized alteration of drainage patterns and temporarily increase erosion and sedimentation in the construction area. Temporary flooding could also result from such activities from temporary alterations of the drainage system (reducing its capacity of carrying runoff) or from the temporary creation of a sump condition due to grading. Alterations may temporarily result in increased erosion and siltation if flows were substantially increased or routed to facilities or channels without capacity to carry the additional flow. All construction-related activities associated the proposed project would be required to comply with UC San Diego's Design Guidelines, Sustainability Policies, and additional Storm Water Management Requirements for Construction Projects, which have been developed, in part, to mitigate the potential adverse effects associated with construction activities. Therefore, impacts associated with the proposed project would be less than significant, which is the same as identified in the 2019 LRDP EIR.

In addition, consistent with the analysis provided in the 2019 LRDP EIR, the proposed project would include substantial upgrades to existing storm water drainage infrastructure to solve shortcomings associated with the current storm drain system. Drainage improvements on the project site would include shifting runoff from draining over the mesa top to underground piping to avoid runoff erosion. The storm drain facilities would consist of a new 24-inch underground storm drain and localized inlets with connector pipes to the Bachman Place storm drain within Arbor Drive and Bachman Place. With this drainage configuration, the possibility of flooding or landslides as a result of running water down the slope are greatly lessened. The project also includes two biofiltration basins to reduce peak storm water flows and treat storm water before it is discharged into a natural drainage. Additionally, consistent with the 2019 LRDP EIR analysis, the proposed Hillcrest Outpatient Pavilion and Parking Structure Project is not introducing new land uses to the existing condition of the site. The proposed project would result in the redevelopment of an already developed and disturbed area and add additional fire protection measures resulting in a less than significant impact. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding downstream or down slope flooding.

4.1.18 Mandatory Findings of Significance

	Impact Examined in 2019 LRDP EIR	Impact Not Examined in 2019 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 mitigation measures and PDFs identified in the 2019 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, the project would result in direct impacts to Cooper's hawk and other nesting birds as well as permanent impacts to non-wetland waters of the United States and Diegan coastal sage scrub. Direct impacts would be addressed by the implementation of the 2019 LRDP EIR Mitigation Measures BIO-2C, BIO-2D, and BIO-3C. Potential indirect impacts to riparian and sensitive vegetation communities would be addressed by the implementation of the 2019 LRDP EIR Mitigation Measures BIO-3F through BIO-3O. Direct and indirect impacts would be reduced to less than significant.

As described in Section 4.1.4, Cultural and Tribal Cultural Resources, no historic architectural resources were identified on the project site. Potential impacts to archaeological sites would be addressed by 2019 LRDP Mitigation Measures CUL-2A and CUL-2B. Therefore, the project would not eliminate any examples of the major periods of California history or prehistory.

- b) The 2019 LRDP EIR identified significant and unavoidable cumulative impacts to air quality (toxic air contaminant emissions), cultural resources (historical resources), and transportation/traffic (levels of service). As part of the 2019 LRDP EIR development program, the project would contribute to some (air quality, transportation/traffic,) of these significant

and unavoidable impacts as described in this Addendum. However, the proposed project is within the scope of campus development evaluated in the 2019 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 2019 LRDP. No conditions have changed, and no new information has become available since certification of the 2019 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 (TACs) that were identified as significant and unavoidable as well as cumulatively considerable in the 2019 LRDP EIR. The project's construction and operation emissions are within the scope of impacts examined in the 2019 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 2019 LRDP.

Effects of the proposed project would not result in substantial adverse effects on human beings beyond those analyzed in the 2019 LRDP EIR. No conditions have changed, and no new information has become available since certification of the 2019 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.

Section 5 **Applicable Mitigation Measures**

The following mitigation measures from the certified 2019 LRDP EIR Mitigation Monitoring and Reporting Program would be applicable to the impacts associated with the Hillcrest Outpatient Pavilion and Parking Structure Project. Where a PDF serves as mitigation for a significant impact it is included below and includes “PDF” to identify it as part of the project and not specifically included as a mitigation measure in the LRDP EIR. No new significant impacts or increased severity in impacts that were not analyzed in the 2019 LRDP Program EIR have been identified; therefore, no additional project-specific mitigation is required.

5.1 Aesthetics

AES-2A: Design Review. Prior to project design approval, any proposed structure or phase that would have the potential to substantially degrade the community character shall undergo design review by the UC San Diego Design Review Board to ensure that the design is consistent with the visual landscape and/or the character of the surrounding development. The design review process shall evaluate and incorporate, where appropriate, factors including but not necessarily limited to building mass and form, building proportion, roof profile, architectural detail and fenestration, texture, color, type and quality of building materials, and landscaping.

AES-2B: Building Design. Proposed structures to be located along the southern and eastern Hillcrest Campus Boundaries shall be reviewed by the UC San Diego Design Review Board, Campus Architect, and other relevant campus committees at the conceptual design stage to ensure structures are designed to incorporate as applicable the following pedestrian-scale features along the facades facing the public realm:

- Pedestrian-oriented architectural details and scale
- Proportional building mass, form, and roof profiles
- Building setbacks, fenestration, and visual reliefs
- Use of high-quality building materials
- Welcoming and wayfinding elements
- Pedestrian connections and pathways
- Pedestrian furniture and signage
- Landscape buffers
- Limited use of walls or pedestrian barriers

Mitigation Measure AES-1 and AES-2 have been implemented.

5.2 Air Quality

AIR-3: Construction Equipment Performance Standards. UC San Diego, through bid and contract specifications, shall require the construction contractor to implement the following performance standards for the use of heavy-duty construction equipment during all construction activities:

- 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 shall 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.
- To the extent feasible and available, use high-performance renewable diesel fuel.

5.3 Biological Resources

BIO-2A: Coastal California Gnatcatcher (CAGN) Surveys. Beginning in 2022, when a construction project is proposed that would directly or indirectly impact Diegan coastal sage scrub, six surveys at least 7 days apart shall be conducted during the peak breeding season, March 15 to June 30, or nine surveys from July 1 to March 14 at least 2 weeks apart in accordance with the current USFWS protocol (USFWS 1997). The permittee must submit the 15-day pre-survey notification to the USFWS Carlsbad Permits Division, including an explanation that six or nine surveys shall be conducted. Documentation of the survey results shall be provided to USFWS in accordance with current protocol survey guidelines.

BIO-2C: Pre-Construction Raptor Nest Surveys. If project construction is scheduled to commence during the raptor nesting season (generally January 15 through August 31), pre-construction surveys for raptor nests shall be performed by a qualified Biologist within 500 feet of project construction activities no more than 7 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-2D: Pre-Construction Nesting Bird Surveys. No grubbing, trimming, or clearing of vegetation (including fuel management) from project areas 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 7 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-3C: Permanent Impacts to Riparian Habitats. Impacts to sensitive riparian vegetation communities shall be mitigated on or off campus through habitat enhancement or preservation or purchase of credits from an approved conservation bank. Permanent impacts to southern willow scrub-disturbed shall be mitigated at a ratio of 3:1. Permanent impacts to non-vegetated channel shall be mitigated at a ratio of 2:1. If the impacted non-vegetated channel and southern willow scrub-disturbed habitat within the Hillcrest Campus is under the jurisdiction of the ACOE, RWQCB, and/or CDFW then the applicable wetland permit conditions shall be implemented.

For on-campus mitigation, a detailed wetland restoration plan shall be prepared prior to the start of construction (not applicable to mitigation met through purchase of credits from an approved wetland mitigation bank). The plan shall include, at a minimum, the proposed location of the mitigation area(s), site preparation, plant palette, installation procedures, success criteria, fencing and signage, monitoring requirements, and other details of the habitat restoration effort, and be prepared by a qualified Biologist. The plan shall be subject to approval by the corresponding regulatory permitting agencies (i.e., ACOE, RWQCB, and CDFW) as part of the wetland permitting process.

BIO-3E: Jurisdictional Delineation. During the project planning process, if the area of disturbance is within a storm drain outlet; mapped as a potential drainage or wetland; or the project area contains or is located immediately adjacent to a natural drainage course, a qualified Biologist shall conduct a jurisdictional delineation. The jurisdictional delineation shall use current regulatory guidance from ACOE, RWQCB, and CDFW to identify the presence of potential regulated wetlands, waters, and habitats in the project vicinity.

If there is potential for the project to adversely affect wetlands or waters, impacts shall be avoided and minimized during the final design phase, to the extent practicable. Unavoidable impacts shall be mitigated through implementation of Mitigation Measure BIO-3C, as applicable, and conformance with applicable wetland permit condition.

BIO-3F: Pre-Construction Meeting. Prior to construction, a pre-construction meeting shall be held between the qualified Biologist, UC San Diego Project Manager and Campus Planning staff, and Construction Manager and/or Grading Contractor to ensure the appropriate personnel are informed of the sensitivity of habitats in the open space canyon areas:

1. Prior to commencement of clearing or grading activities, fencing (e.g., silt fencing, orange construction fencing, and/or chain-link fencing as determined by UC San Diego 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 a qualified Biologist prior to initiation of clearing or grading activities. All movement of construction vehicles, including ingress and egress of equipment and personnel, shall be limited to designated construction zones. The fencing shall be removed upon completion of all construction activities.
2. No temporary storage or stockpiling of construction materials shall be allowed within the open space canyon areas. This prohibition shall not be applied to facilities that are planned to traverse the open space canyon areas (e.g., driveways, roads, utilities corridors). Staging areas and construction sites in proximity to the open space canyon areas shall be kept free of trash, refuse, and other waste; no waste dirt, rubble, or trash shall be deposited in these areas.

BIO-3G: Errant Construction Activities. If errant construction activities result in inadvertent impacts to biological resources outside of the approved limits of disturbance, such impacted areas shall be evaluated and quantified by a qualified Biologist and revegetation options coordinated with UC San Diego Campus Planning staff. Errant construction impacts to non-sensitive vegetation communities and non-native grassland shall be revegetated with an appropriate native erosion control seed mix. Errant construction impacts to wetland vegetation communities and native upland vegetation communities shall be restored to the pre-impact vegetation community.

BIO-3H: Fire Prevention during Construction. Equipment to extinguish small brush fires (e.g., from trucks or other vehicles) shall be present on site during all phases of project construction, along with personnel trained in the use of such equipment. Smoking shall be prohibited in construction areas adjacent to flammable vegetation.

BIO-3I: Construction Monitoring. During project construction, a qualified Biologist shall visit the site at the start of each construction project to conduct a pre-construction environmental meeting with the construction contractor's Construction Manager and other appropriate personnel. The monitor shall conduct regular visits during site

preparation, vegetation removal, and grading activities within or adjacent to native vegetation and during the raptor and general avian breeding season (refer to BIO-2C and 2D). 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 biological monitor shall be responsible for ensuring that the contractor adheres to the other provisions described in Mitigation Measures BIO-3F through BIO-3J. The monitor, in cooperation with the construction project manager, shall have the authority to halt construction activities in the event that these provisions are not met. The biological monitor shall submit regular reports to UC San Diego Campus Planning during construction documenting the implementation of all grading and construction minimization measures.

BIO-3J: Night Lighting. If temporary night lighting is necessary during construction, lights shall be directed away from sensitive vegetation communities and shielded to minimize temporary lighting of the surrounding habitat and should be of the lowest illumination necessary for human safety.

BIO-3K: Runoff and Water Quality. Irrigation and pest management for the Hillcrest Campus shall be implemented as described below to minimize runoff and impacts to water quality:

- Irrigation for project landscaping shall be minimized and controlled in areas in and adjacent to the steep slope canyon areas 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.
- Integrated pest management principles pursuant to the UC Integrated Pest Management Program shall be implemented to the extent practicable for areas in and adjacent to the steep slope canyon areas for chemical pesticides, herbicides, and fertilizers. Examples of such measures may include, but are not limited to, alternative weed/pest control measures (e.g., hand removal) and proper application techniques (e.g., conformance to manufacturer specifications and legal requirements).

BIO-3L: Invasive Plant Species Prevention. During construction and landscaping within the Hillcrest Campus the following measures shall be implemented to minimize the spread of invasive plant species:

- Construction equipment shall be cleaned before coming to the Hillcrest Campus.
- Weed-free straw wattles shall be used for erosion control.

- Appropriate landscaping species shall be selected based on the vegetation communities within the steep slope canyon areas adjacent to the project. In areas supporting native (or disturbed native) vegetation communities, revegetation of impacted slopes shall be with appropriate native plant materials.
- Landscaping adjacent to the steep slope canyon areas shall comply with the following requirements to prevent the introduction of invasive species:
- Appropriate landscaping shall be selected based on the vegetation communities within the portion of the steep slope canyon areas 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 steep slope canyon areas are disturbed by construction, installation of native plants, including but not limited to California sagebrush, California buckwheat, lemonadeberry, deerweed (*Acemispn glaber*), monkey flower (*Diplacus aurantiacus*), and black sage (*Salvia mellifera*), is recommended to make the steep slope canyon areas more impenetrable to people while reinforcing the boundaries and edges of canyon areas.
- Only non-invasive plant species shall be included in the landscape plans for projects within Fuel Management Zone 1 (species not listed on the California Invasive Plant Inventory prepared by the California Invasive Plant Council). A qualified landscape architect and/or qualified Biologist shall review landscape plant palettes prior to implementation to ensure that no invasive species are included.
- Any planting stock brought onto a project site adjacent to the open space canyon areas for landscaping or habitat restoration shall be inspected to ensure it is free of pest species that may invade natural areas, including but not limited to Argentine ants (*Linepithema humile*) and South American fire ants (*Solenopsis* spp.). 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 a 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-3M: Wildlife Mortality Avoidance. Roads and driveways along the steep slope canyon areas shall have barriers to discourage wildlife from entering the roads.

BIO-3N: Edge Effects Avoidance. Projects adjacent to the open space canyon areas shall install permanent signage along the boundary, indicating the presence of lands supporting sensitive habitat to discourage access outside of established trails.

Projects adjacent to the open space canyon areas shall install other visual/physical barriers (such as appropriate landscaping) to discourage human encroachment into the canyon areas where trespass is likely to occur (gradual slopes, areas of low, open vegetation, areas of previous disturbance).

Maintenance of storm water facilities shall be conducted in a manner to minimize impacts to adjacent sensitive habitats. Maintenance shall be overseen by a qualified Biologist and would occur outside the general bird-breeding season, which extends from January 15 through August 31.

BIO-30: Non-Native Insects Avoidance. The following measures shall be implemented for each project or construction phase that would remove or install tree species on the Hillcrest Campus that may be used as host trees by shot hole borer (SHBs):

- Trees to be planted on the Hillcrest Campus shall be obtained from a reliable source and be free of sign of SHB infestation.
- 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]).
- Sign of SHB infestation shall be reported to CDFW and UC's Eskalen Lab (<https://ucanr.edu/sites/eskalenlab/>) by the UC San Diego Project Manager and/or the project Biologist.
- 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.
- Equipment that is used to prune or remove SHB-infected trees shall be disinfected prior to additional use.
- Biologists monitoring mitigation sites shall be knowledgeable regarding sign of SHB infestation.

Mitigation Measures BIO-2A and BIO-3E have already been implemented.

5.4 Cultural Resources

CUL-1: HABS Level 1 Documentation. UC San Diego shall prepare archival Historic American Building Survey (HABS) Level 1 documentation for the single-family residence located at 101 Dickinson Street. Documentation of the existing conditions shall be undertaken prior to demolition of the structure. If requested, copies of HABS documentation shall be provided to the Hillcrest History Guild, the San Diego History Center, and other interested parties to be identified.

HABS Level 1 documentation shall consist of the following:

- Architectural and historical narrative;
- Archival drawings;
- If adequate archival drawings are not available, measured drawings shall be produced; and
- Large-format photography.

CUL-2A: On-Campus Review Grading Plans. To address potentially significant impacts to unknown archaeological resources on the Hillcrest Campus mesa within the campus property boundary, the following measures shall be followed prior to the start of construction:

1. Prior grading plans shall be reviewed, if available, to determine if prior grading activity has removed the top 2 or more feet of soil on mesas, cliffs, and other flat areas.
 - a. If 2 or more feet have been previously removed, no further work is required.
 - b. If it cannot be verified that prior grading has removed 2 or more feet of soil, a qualified Archaeologist shall monitor grading activities during the removal of the top 2 to 3 feet of soil or if bedrock is encountered.
2. A qualified Archaeologist shall monitor all grading activities within areas of natural deposition.
3. Monitoring shall cease if grading reaches underlying formational material, regardless of how shallow or in what location it is found.

Per this measure, if native soils would be disturbed, then a qualified Archaeologist and Native American Monitor would be required to monitor grading activities in accordance with the procedures outlined in Mitigation Measure CUL-2B. However, regardless the extent of native soils, out of respect for the site's cultural history, the initial grading period of construction would be monitored by a Native American tribal representative from the Kumeyaay Nation, and Mitigation Measure CUL-2B would be applied to the proposed project.

CUL-2B: Construction Monitoring. If construction monitoring is determined to be required on the Hillcrest Campus by Mitigation Measure CUL-2A or construction occurs off campus in Mission Valley, the following measures shall be followed. The following measure shall be implemented during all ground disturbance associated with the off-site portion of Bachman Place widening within 500 feet of the Hotel Circle South intersection:

1. Prior to beginning any work that requires monitoring:
 - a. A pre-construction meeting shall be held that includes the qualified Archaeologist, the UC San Diego Project Manager and Campus Planning

staff, Construction Manager and/or Grading Contractor, and other appropriate personnel so the Archaeologist can make comments and/or suggestions concerning the monitoring program to the Construction Manager and/or Grading Contractor.

- b. The Archaeologist shall (at that meeting or subsequently) submit to the UC San Diego 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 UC San Diego Project Manager on the construction schedule to identify when and where monitoring is to begin, including the start date for monitoring.
 2. The qualified Archaeologist and a Native American Monitor shall be present during grading/excavation and shall document such activity on a standardized form. A record of activity shall be sent to the UC San Diego Environmental Planner and Project Manager each month.
 3. Discoveries
 - a. Discovery Process. In the event of a discovery, and when requested by the Archaeologist or the Archaeological Principal Investigator (PI), the UC San Diego 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 UC San Diego 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 UC San Diego Campus Planning and the Native American Community, as appropriate. UC San Diego 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 UC San Diego Campus Planning, and carried out to mitigate impacts before ground-disturbing activities in the area of discovery will be allowed to resume.
 4. 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 Public Resources Code (Section 5097.98), if applicable, will be followed.
 5. Notification of Completion. The Archaeologist shall notify UC San Diego Campus Planning, as appropriate, in writing of the end date of monitoring.
 6. Handling and Curation of Significant Artifacts and Letter of Acceptance

- a. The Archaeologist shall ensure that all significant cultural resources or artifacts collected are cleaned, cataloged, and permanently curated with an appropriate institution; that a letter of acceptance from the curation institution has been submitted to UC San Diego 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 the project shall be completed in consultation with UC San Diego Campus Planning, as applicable.
7. Final Results Reports (Monitoring and Research Design and Data Recovery Program). Prior to completion of the 2019 LRDP, 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 UC San Diego 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.
8. 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 South Coastal Information Center with the Final Results Report.

Mitigation Measure CUL-1 has already been implemented.

5.5 Energy

ENE-1: Construction Fuel Use. For all construction activities, the construction contractor shall implement the following measures during construction:

1. When more than one piece of construction equipment is available to complete a task, the contractor shall use the most fuel-efficient equipment.
2. Newer or more fuel-efficient models shall be selected from the contractor fleet for use.

3. Workers shall be encouraged to carpool or use public transit to access the campus during construction. Construction contractor shall facilitate carpooling by providing means to organize carpools or request transit center pickups.
4. When haul trucks are available with a haul capacity larger than 15 cubic yards but a fuel efficiency similar to a 15-cubic-yard-capacity truck, the larger capacity trucks shall be used to reduce total truck trips.

5.6 Geology and Soils

GEO-5: Paleontological Monitoring during Construction. To address potentially significant impacts to previously undocumented paleontological resources within highly sensitive geologic formations, a monitoring program shall be implemented. Grading and excavation equating to 1,000 cubic yards or more within highly sensitive Mission Valley Formation shall require monitoring by a qualified Paleontologist and shall include the following measures:

1. Prior to beginning any grading/excavation work:
 - a. A pre-construction meeting shall be held that includes the qualified Paleontologist, the UC San Diego Project Manager and Campus Planning staff, Construction Manager and/or Grading Contractor, and other appropriate personnel so the Paleontologist can make comments and/or suggestions concerning the monitoring program to the Construction Manager and/or Grading Contractor.
 - b. The Paleontologist shall (at that meeting or subsequently) submit to the UC San Diego 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 Paleontologist shall also coordinate with the UC San Diego Project Manager on the construction schedule to identify when and where monitoring is to begin and to specify the start date for monitoring.
2. The Paleontologist shall be present during grading/excavation and shall document such activity on a standardized form. A record of activity shall be sent to UC San Diego Campus Planning and the UC San Diego Project Manager each month.
3. For excavations in geologic units of known high sensitivity for paleontological resources (i.e., Mission Valley Formation), a qualified Paleontologist shall be present initially during 100 percent of the earthmoving activities. After 50 percent of the excavations are complete within the unit, if no significant fossils have been recovered, the level of monitoring may be reduced or suspended

entirely at the Paleontologist's discretion and in consultation with UC San Diego Campus Planning.

4. Excavations in formations of low and moderate paleontological sensitivity, such as the Linda Vista Terrace Formation, do not require paleontological monitoring.
5. Discoveries:
 - a. Discovery Process. In the event of a discovery, and when requested by the Paleontologist, the UC San Diego 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 paleontological resources. The Paleontologist shall also immediately notify UC San Diego 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 Paleontologist in consultation with UC San Diego Campus Planning. UC San Diego Campus Planning must concur with the evaluation before grading activities shall be allowed to resume.
 - c. Documentation and Treatment of Finds. Based on the scientific value and/or uniqueness of the find, the qualified Paleontologist may record the find and allow work to continue, or recommend salvage and recovery of the fossil. If treatment and salvage are required, recommendations shall be consistent with Society of Vertebrate Paleontology 2010 guidelines and currently accepted scientific practice. Work in the affected area may resume once the fossil has been assessed and/or salvaged and a Paleontological Monitor is present.
6. Notification of Completion. The Paleontologist shall notify UC San Diego Campus Planning, as appropriate, in writing of the end date of monitoring.
7. Handling and Curation of Significant Paleontological Specimens and Letter of Acceptance. The Paleontologist shall ensure that all significant fossils collected are appropriately prepared and permanently curated with an appropriate institution, and that a letter of acceptance from the curation institution has been submitted to UC San Diego Campus Planning.
8. Final Results Reports (Monitoring and Research Design and Recovery Program). Prior to completion of the 2019 LRDP, 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 Paleontological Monitoring Program (with appropriate graphics) shall be submitted to UC San Diego Campus Planning for approval.

5.7 Greenhouse Gas Emissions

PDF GHG-1: High-Efficiency Lighting. UC San Diego would opt to install high-efficiency lighting throughout the Hillcrest Campus, including light-emitting diode (LED) streetlights, path lighting, emergency lights, maintenance lighting, and building lighting. High-efficiency medical exam lights and surgery room lighting could use LED or other high-efficiency technology.

PDF GHG-2: High-Efficiency Appliances. Establish energy efficiency criteria for appliances installed on the Hillcrest Campus.

PDF GHG 3: Energy-Efficient Building Envelopes. Require all new buildings within the project area to exceed 2016 Title 24 standards.

PDF GHG-5: Off-Site Renewable Energy Generation. Through direct access, UC San Diego has the opportunity to purchase 100 percent of the electricity supplied to the Hillcrest Campus as renewable power. UC San Diego has committed to purchasing electricity that is 100 percent generated by carbon-free generation facilities that will result in zero GHG emissions by the 2019 LRDP buildout.

PDF GHG-6: Bio-Methane Fueling the Central Utilities Plant. UC San Diego would purchase bio-methane to address GHG emissions associated with use of natural gas at the CUP.

PDF GHG-7: Bicycle Infrastructure. Secure bike parking could be included in the design of the various land uses such that employees and visitors can safely and securely commute to Hillcrest Campus on bicycles and other wheeled devices. Showers and lockers could be made available to employees in order to facilitate and encourage commuting to work on bicycles and other wheeled devices.

PDF GHG-8: Employee Trip Reduction Program. The Hillcrest Campus would continue to implement an Employee Trip Reduction Program to reduce mobile source emissions from employee commutes.

PDF GHG-9: Neighborhood Electric Vehicles (NEV). The Hillcrest Campus could provide an NEV-friendly road network within the campus, including charging stations, and use an NEV fleet to shuttle visitors and employees between the various buildings on campus. In addition, maintenance crews would use specially equipped NEVs rather than trucks on campus when transporting personnel, tools, and maintenance equipment, in accordance with the UC Sustainable Practices Policy.

PDF GHG-10: Recycling and Waste Diversion Program. The 2019 LRDP could include recycling containers located within public areas, and a waste diversion and recycling program

could be implemented within the campus to divert all non-hazardous and non-health care related waste that can be safely recycled or composted.

PDF GHG-11: Water Conservation Strategies. The 2019 LRDP could implement water conservation strategies that are designed to be as efficient as possible (36 percent indoor water use reduction) with potable water supplies. At buildout, all landscape irrigation needs within the campus could be provided through low precipitation spray heads or drip irrigation connected to weather-based irrigation control systems. In addition, a drought-tolerant and native plant landscape pallet would be developed for the 2019 LRDP with the goal of conserving water, and air conditioning condensate would be recovered for irrigation and cooling tower use.

PDF GHG-12: Electric Landscape Equipment. Lawnmowers, leaf blowers, and chainsaws utilized on campus could be 100 percent electric-powered.

5.8 Hazards and Hazardous Materials

HAZ-2A: Demolition Procedure. Prior to the initiation of demolition activities, the UC San Diego Project Manager shall consult with University of California, San Diego, Environmental Health and Safety regarding existing aging campus buildings, which shall be sampled and have laboratory tests completed for the presence of asbestos, lead, biohazardous waste, pharmaceutical waste, and radioactive waste. If any lead and/or asbestos is detected in the building material, a Remediation Plan shall be prepared in coordination with University of California, San Diego, Environmental Health and Safety to adhere to the proper agency remediation guidelines (i.e., SDAPCD, Cal/OSHA, USEPA, CDPH, NRC) followed by a clearance report. Prior to demolition of the campus buildings, a third-party consultant shall provide to the UC San Diego Project Manager the clearance report stating that the lead and/or asbestos concentrations are below Cal/OSHA permissible exposure limits.

HAZ-5: Emergency Services Notification. 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 Hillcrest Campus Fire Marshal and campus community at large are notified. If determined necessary by the Hillcrest Campus Fire Marshal, local emergency services shall be notified by the Fire Marshal of the closure.

5.9 Noise

NOI-1A: Construction Noise. For all construction activities, the construction contractor shall implement the following measures during construction:

1. The construction contractor shall work with proper administrative controls on equipment in order to not 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.
2. The construction contractor shall provide written notification to the noise-sensitive uses within 210 feet of normal construction activities and 500 feet of pile driving at least 3 weeks prior to the start of construction activities, informing them of the estimated start date and duration of construction activities.
3. Construction activities that could generate high noise levels, such as pile driving, shall be scheduled during times that would have the least impact on sensitive receptor locations. This could include restricting the noisiest construction activities in the areas of potential impact to hours when staff and students would most likely be taking lunch and medical procedures and operation of equipment would be least likely to be scheduled or required. Days of activity shall be adjusted to avoid holidays or scheduled exam days.
4. Stationary construction noise sources, such as temporary generators, shall be located as far from nearby noise-sensitive receptors as possible.
5. Trucks shall be prohibited from idling along streets serving the construction site where noise-sensitive receptors are located.
6. 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.
7. Position (to the extent practical) construction laydown and vehicle staging areas as far from noise-sensitive land uses as feasible.
8. If the hourly average noise level is anticipated to exceed 75 dBA L_{eq} for a particular activity, limit simultaneous operation of construction equipment or limit construction time within another hour to reduce the 12-hour average noise level.
9. If feasible and determined to be an effective option, install temporary noise barriers around the perimeter of the construction area to minimize construction noise.

NOI-1D:Interior Noise Levels. Prior to issuance of a certificate of occupancy for any new campus noise-sensitive land uses (residences, inpatient facilities, or classrooms and related learning spaces), a site-specific acoustical analysis shall be prepared by a qualified acoustical specialist to demonstrate that the sound level in all habitable rooms would be 45 dBA CNEL or less or 50 dBA or less for learning spaces/classrooms. The analysis shall

specifically take into consideration stationary noise sources, such as building HVAC systems. Noise reduction measures for structures may include insulation between rooms or floors, or specific window treatments, such as multiple-pane and/or laminated glazing, which shall be integrated into the project design.

NOI-2A: Construction Notification. The construction contractor shall provide written notification to the vibration-sensitive uses within the following screening distances at least 3 weeks prior to the start of construction activities informing them of the estimated start date and duration of daytime vibration-generating construction activities:

- Existing or new residences within 75 feet of normal construction or 160 feet of pile driving
- Institutional buildings with primarily daytime uses that do not require vibration-sensitive equipment within 60 feet of normal construction or 125 feet of pile driving
- Uses requiring vibration-sensitive equipment, such as the hospital, within 210 feet of normal construction or 450 feet of pile driving

This notification shall include information warning about the potential for impacts related to vibration-sensitive equipment. UC San Diego shall provide a phone number for the affected businesses and residents to call if they have vibration-sensitive equipment on their sites. Notification requirements shall also apply to any new businesses within 450 feet of the Hillcrest Campus potentially containing vibration-sensitive uses for which licenses are issued prior to completion of construction.

NOI-2B: Vibration Best Management Practices. Prior to the commencement of construction projects that would involve heavy earthmoving equipment within the following applicable screening distances, UC San Diego shall retain a qualified acoustician to prepare a construction vibration mitigation program to be implemented by the construction contractor(s):

- Existing or new residences within 75 feet of normal construction or 160 feet of pile driving.
- Institutional buildings with primarily daytime uses that do not require vibration-sensitive equipment within 60 feet of normal construction or 125 feet of pile driving.
- Structures potentially requiring vibration-sensitive equipment within 210 feet of normal construction or 450 feet of pile driving. If, during the notification process outlined in Mitigation Measure NOI-2A, existing receptors are identified that involve activities that are vibration sensitive at a level more stringent than VC-A (as defined by the Federal Transit Administration as medium- to high-power optical microscopes (400X), microbalances, optical balances, and similar specialized equipment), vibration shall be estimated at this

structure, regardless of distance, and this measure shall apply if a potential impact is identified.

- The construction vibration mitigation program shall identify and require measures to reduce vibration, such as maintaining equipment and operating equipment as far from sensitive receptors as possible, 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, vibration monitoring.
- Vibration monitoring shall be performed during construction to establish the level of vibration produced by high impact activities. Baseline vibration levels at specified locations shall be established prior to the construction activity. Monitoring shall be conducted when any construction activity would occur within the above-described screening distances. 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 all feasible alternative work methods and equipment intended to reduce vibration levels have been implemented.

Mitigation Measure NOI-1D has already been implemented.

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Section 6 **References**

The primary sources of information for the project-level Addendum are the 2019 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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LSA (LSA Associates, Inc.). 2019. Greenhouse Gas Emissions Reduction Strategy – University Of California, San Diego Hillcrest Campus Long Range Development Plan EIR. June 2019.

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UC San Diego (University of California, San Diego). 2018. UC San Diego Design Guidelines. October 5.

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Appendix A. Greenhouse Gas Memorandum

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MEMORANDUM

To: Lauren Lievers, Senior Environmental Planner, University of California, San Diego
From: Sharon Toland, Project Manager, Harris & Associates
RE: Comparison of Hillcrest Outpatient Pavilion and Parking Structure Project Components to 2019 LRDP EIR Phase 1A Project Components – Greenhouse Gas Emissions Impacts
Date: August 23, 2021
CC: Diane Sandman, Kim Howlett, Kristin Blackson, Harris & Associates
Att: 1, Model Outputs; 2, Heat Recovery CUP and GHG Emissions Memorandum; 3, Screening Table

The Environmental Impact Report for the University of California, San Diego (UC San Diego), 2019 Long Range Development Plan (2019 LRDP) for the Hillcrest Campus (2019 LRDP EIR) was certified in November 2019 (SCH No. 2018031003). Following certification, the project components of Phase 1A of the 2019 LRDP have been revised and are referred to in this analysis as the Hillcrest Outpatient Pavilion and Parking Structure Project. The purpose of this memorandum is to compare the components of the Hillcrest Outpatient Pavilion and Parking Structure Project to those in Phase 1A in the 2019 LRDP to determine whether the potential impacts of the Hillcrest Outpatient Pavilion and Parking Structure Project are adequately addressed in the certified 2019 LRDP EIR. For each issue addressed in Section 3.7, Greenhouse Gas Emissions, of the 2019 LRDP EIR, the following analysis summarizes the greenhouse gas (GHG) emissions impacts of Phase 1A in the 2019 LRDP EIR and provides a comparison to the potential impacts of the Hillcrest Outpatient Pavilion and Parking Structure Project.

Project Description

The Hillcrest Outpatient Pavilion and Parking Structure Project includes construction of the proposed Outpatient Pavilion, the Spine, the reduced size Canyon Parking Structure, the Main Parking Structure, and the non-Office of Statewide Health Planning Department (OSHPD) portion of the Central Utility Plant (CUP) (see Figure 1, Outpatient Pavilion and Parking Structure Site Plan). The pad for the OSHPD CUP would also be constructed, but the future OSHPD CUP would be installed in a later phase.

The Hillcrest Outpatient Pavilion and Parking Structure Project does not include new uses that were not addressed in the 2019 LRDP EIR. The proposed size of the Outpatient Pavilion has been reduced from 272,000 gross square feet (gsf) in the 2019 LRDP EIR to 251,000 gsf. The 25,000 gsf Outpatient Pavilion Annex addressed in the 2019 LRDP EIR would not be constructed under implementation of the Hillcrest Outpatient Pavilion and Parking Structure Project. Proposed parking in the Spine would be reduced to approximately 70 spaces compared to 675 spaces in the 2019 LRDP EIR. The footprint of the Main Parking Structure has also been redesigned and would accommodate approximately 1,780 parking spaces compared to 1,325 spaces as described in the 2019 LRDP EIR.

In the 2019 LRDP EIR, the entire CUP was assumed to be constructed in Phase 3. Under the Hillcrest Outpatient Pavilion and Parking Structure Project, the non-OSHPD portion of the CUP would primarily be constructed in Phase 1A. The remaining OSHPD portion of the CUP would be constructed in a later phase. The non-OSHPD CUP would include traditional chillers and boilers with a heat recovery chiller rather than the cogeneration facility assumed in the 2019 LRDP EIR. Emergency power would be provided as part of the CUP from a diesel-fueled generator.

The Hillcrest Outpatient Pavilion and Parking Structure Project also includes the redesign of a service road connection from Bachman Place to the Canyon Parking Structure and the CUP. Instead of terminating in the

underground portion of the structure, the service road would terminate at the surface parking area of the Spine but would also provide service vehicle access to the CUP and the Outpatient Pavilion at the western end of the access road.

In addition, the Hillcrest Outpatient Pavilion and Parking Structure Project would include two drainage basins. One basin is proposed in the southeastern corner of the project site and was previously included as part of Phase 1A. The second basin would be east of Bachman Place in the northeastern area of the Hillcrest Campus and was previously proposed as part of Phase 2B.

Overall, the Hillcrest Outpatient Pavilion and Parking Structure Project would result in the construction of 251,000 gsf of health services and 9,500 gsf of campus support utilities compared to 297,000 gsf of health services in Phase 1A in the 2019 LRDP EIR. Table 1 summarizes the changes in land use between Phase 1A in the 2019 LRDP EIR and the Hillcrest Outpatient Pavilion and Parking Structure Project.

Table 1. Comparison of 2019 LRDP EIR Phase 1A Project Components with Hillcrest Outpatient Pavilion and Parking Structure Project – Construction

2019 LRDP EIR Phase 1A – Construction	Proposed Hillcrest Outpatient Pavilion and Parking Structure Project – Construction
Outpatient Pavilion (272,000 gsf)	Outpatient Pavilion (251,000 gsf)
Outpatient Pavilion Annex (25,000 gsf)	No longer proposed
Canyon Parking Structure (subgrade) (675 parking spaces)	The Spine (approximately 70 parking spaces and a 2,417-square-foot parking and security office)
Main Parking Structure (1,325 parking spaces)	Main Parking Structure (approximately 1,780 parking spaces)
	CUP – Non-OSHPD portion (9,500 gsf)
Total: 297,000 gsf campus development 2,000 parking spaces	Total: 260,500 gsf campus development 1,850 parking spaces

Notes: 2019 LRDP = 2019 Long Range Development Plan; CUP = Central Utility Plant; EIR = Environmental Impact Report; gsf = gross square feet; OSHPD = Office of Statewide Health Planning Department

To accommodate the construction of the non-OSHPD portion of the CUP, the construction area of the Hillcrest Outpatient Pavilion and Parking Structure Project would be extended north compared to Phase 1A in the 2019 LRDP EIR and south to include improvements to Bachman Place south of Arbor Drive identified as mitigation for the 2019 LRDP in the 2019 LRDP EIR. With the exception of these improvements to Bachman Place, the construction area would be within the total construction area for the 2019 LRDP addressed in the 2019 LRDP EIR. The Hillcrest Outpatient Pavilion and Parking Structure Project would result in a total disturbance area of 10.5 acres. The extended portion to the north was previously addressed in Phases 2B and 3 in the 2019 LRDP EIR. As a result, the Hillcrest Outpatient Pavilion and Parking Structure Project would include the demolition of the existing Bachman Parking Structure that was previously planned for future Phase 2B. Demolition export would be approximately 296,698 gsf compared to the 61,400 gsf assumed in the 2019 LRDP EIR. Table 2 compares the demolition required for the Hillcrest Outpatient Pavilion and Parking Structure Project to the demolition required for Phase 1A in the 2019 LRDP EIR, when construction of the Hillcrest Outpatient Pavilion and Parking Structure Project would occur. Only minor construction would be required for equipment installation at the non-OSHPD CUP during Phase 1B. Construction of the Hillcrest Outpatient Pavilion and Parking Structure Project would require the closure of Bachman Place for approximately 23 months; however, truck and construction vehicle access to Bachman Place would be maintained from the project site, and no change in the truck route is anticipated compared to Phase 1A in the 2019 LRDP EIR. Soil export of 65,000 cubic yards is estimated for the Hillcrest Outpatient Pavilion and Parking Structure Project compared to the 238,000 cubic yards in Phase 1A in the 2019 LRDP EIR (see Figure 2, Outpatient Pavilion and Parking Structure Grading Plan). The difference is primarily due to less underground parking proposed in the Hillcrest Outpatient Pavilion and Parking Structure Project compared

to the amount of underground parking proposed in the 2019 LRDP EIR, and because excavated material from the location of the existing Bachman Parking Structure would be used for fill at the CUP site. No building construction was previously assumed in Phase 1B in the 2019 LRDP EIR. Under the Hillcrest Outpatient Pavilion and Parking Structure Project, minor construction would be required for equipment installation at the non-OSHPD CUP. Additional building construction is not proposed. The most intensive construction activity for the non-OSHPD CUP, including earthwork and pad construction, would occur in Phase 1A.

Table 2. Comparison of 2019 LRDP EIR Phase 1A Project Components with Hillcrest Outpatient Pavilion and Parking Structure Project Components – Existing Buildings to Be Demolished

2019 LRDP EIR Phase 1A – Demolition	Proposed Hillcrest Outpatient Pavilion and Parking Structure Project – Demolition
Mail Services, 138 Dickinson Street (2,100 gsf)	Not included in Phase 1A scope
136 Dickinson Street (2,900 gsf)	Not included in Phase 1A scope
134 Dickinson Street (1,800 gsf)	Not included in Phase 1A scope
150 Dickinson Street (800 gsf) ¹	Not included in Phase 1A scope
Camelot (1,700 gsf)	Not included in Phase 1A scope
135 Dickinson Street (3,800 gsf) ¹	Not included in Phase 1A scope
125 Dickinson Street (2,600 gsf) ¹	Not included in Phase 1A scope
Dickinson Housing Cluster (10,500 gsf)	Not included in Phase 1A scope
4235 Front Street (3,500 gsf)	Not included in Phase 1A scope
Crest Chateau (5,500 gsf) ¹	Not included in Phase 1A scope
Crest Trailer (900 gsf) ¹	Not included in Phase 1A scope
112 Arbor Drive (7,700 gsf)	112 Arbor Drive (7,700 gsf)
140 Arbor Drive (27,700 gsf)	140 Arbor Drive (27,700 gsf)
114 Arbor Drive (6,400 gsf)	114 Arbor Drive (6,400 gsf)
140 Arbor Parking Structure (80 parking spaces)	140 Arbor Parking Structure (80 parking spaces)
4194 First Avenue (3,800 gsf for both units)	Not included in Phase 1A scope
Surface Parking Lot (23 parking spaces)	Surface Parking Lot (23 parking spaces)
Valet Parking Lot (50 parking spaces)	Valet Parking Lot (50 parking spaces)
Bachman East Surface Lot (118 parking spaces)	Bachman East Surface Lot (118 parking spaces)
First Avenue End Parking Lot (7 parking spaces)	First Avenue End Parking Lot (7 parking spaces)
	Existing Bachman Parking Structure (1,032 parking spaces)

Notes: 2019 LRDP = 2019 Long Range Development Plan; EIR = Environmental Impact Report; gsf = gross square feet

¹ The building has been demolished/removed as a separate project in accordance with the approved 2019 LRDP and 2019 LRDP EIR.

The construction assumptions developed for the 2019 LRDP EIR, which were based on a similar major UC San Diego project, determined that no more than 150 two-way truck trips would feasibly occur in a workday. Construction of the Hillcrest Outpatient Pavilion and Parking Structure Project is estimated to begin in November 2021 and take approximately 40 months to complete. Therefore, for the Hillcrest Outpatient Pavilion and Parking Structure Project, the demolition phase is assumed to be extended from 60 days for Phase 1A in the 2019 LRDP EIR to 225 days to accommodate the additional demolition materials.

Issue 1: Generate Greenhouse Gas Emissions

Based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines, implementation of the 2019 LRDP would have a significant impact if it would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. The 2019 LRDP would not result in a significant impact on the

environment if GHG emissions from construction and operations would not exceed a threshold of net zero additional GHG emissions compared to the existing conditions baseline.

Summary of 2019 LRDP EIR Impacts

GHG emissions from construction and operation of the 2019 LRDP as identified in the 2019 LRDP EIR are summarized below. The analysis of GHG emissions is based on the GHG Reduction Strategy prepared for the 2019 LRDP by LSA Associates, Inc. (LSA 2019).

Construction

Construction activities would result in temporary increases in GHG emissions from operation of heavy equipment and vehicles during construction. GHG emissions from construction under the 2019 LRDP were calculated as part of preparation of the Air Quality Technical Report (Harris 2019) and incorporated in the GHG Reduction Strategy (LSA 2019). Construction emissions were calculated by phase, and total construction emissions were amortized over a 30-year period and added to operational emissions. Construction emissions for Phase 1, including Phases 1A and 1B, were reported to be 12,014 metric tons of carbon dioxide equivalent (MT CO₂e). Based on the CalEEMod modeling conducted for the 2019 LRDP, included as an appendix to the GHG Reduction Strategy, Phase 1A emissions alone would result in 6,491 MT CO₂e of emissions, or a contribution of 216 MT CO₂e to amortized annual emissions.

Operations

The GHG Reduction Strategy proposed as part of the 2019 LRDP included a calculation of buildout operational emissions using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2. Compared to existing conditions, emissions would continue to result from mobile sources, electricity consumption, potable water use, solid waste generation, wastewater production, and area sources (specifically, landscape equipment). Emissions assumed the existing CUP would be replaced by a new CUP that would include a cogeneration unit. Forecasted annual emissions associated with buildout of the 2019 LRDP were calculated to be 58,113.52 MT CO₂e, a net increase of approximately 10,625 MT CO₂e from existing conditions. As such, reduction measures were identified through the GHG Reduction Strategy to achieve net zero additional emissions compared to existing conditions (LSA 2019).

The reduction measures outlined in the GHG Reduction Strategy build on the existing reduction policies in the UC Sustainable Practices Policy and UC San Diego Climate Action Plan (CAP) GHG mitigation strategies and include measures for energy efficiency, renewable energy, vehicle miles traveled reduction, electric vehicle use, solid waste reduction, and water conservation. With implementation of reduction measures outlined in the GHG Reduction Strategy, buildout GHG emissions from the 2019 LRDP would be approximately 38,596.99 MT CO₂e, which is below the 47,490 MT CO₂e existing emissions threshold (LSA 2019).

The GHG Reduction Strategy presents a reasonably foreseeable pathway illustrating how the reduction measures would be implemented to reduce the 2035 emission inventory for the Hillcrest Campus to below the 2017 baseline levels of GHG emissions to achieve the reduction target of net zero additional emissions. Consistency with the GHG Reduction Strategy is demonstrated through completion of the Screening Tables included in the GHG Reduction Strategy, which provide a menu of performance standards and options that can be selected and implemented to demonstrate consistency with the reduction measures and GHG reduction quantities in the GHG Reduction Strategy. As projects are designed and implemented under the 2019 LRDP, project design teams would prepare a Screening Table with project-specific tabulation of the GHG reduction “points.” A project that achieves the required reduction points would be consistent with 2019 LRDP progress toward achieving the reduction target.

With implementation of the GHG Reduction Strategy, the 2019 LRDP would not result in a net increase in GHG emissions. The GHG Reduction Strategy was incorporated into the 2019 LRDP EIR and was adopted as part of the 2019 LRDP. Therefore, the GHG emissions associated with the 2019 LRDP were determined to not result in a significant impact on the environment. The 2019 LRDP EIR identified this impact as less than significant.

Hillcrest Outpatient Pavilion and Parking Structure Project Consistency Evaluation

Construction and operational GHG emissions associated with the proposed project are addressed separately below.

Construction

Table 3 provides a comparison between the construction assumptions for the Hillcrest Outpatient Pavilion and Parking Structure Project and the construction assumptions of the 2019 LRDP EIR. As shown in Table 3, demolition under the Hillcrest Outpatient Pavilion and Parking Structure Project would require a higher number of demolition haul trips per day. As such, demolition would have the potential to result in higher GHG emissions compared to Phase 1A in the 2019 LRDP EIR. However, soil haul trips would be substantially reduced compared to the trips included in Phase 1A in the 2019 LRDP EIR. GHG emissions from construction of the Hillcrest Outpatient Pavilion and Parking Structure Project were estimated using CalEEMod, Version 2016.3.2, based on these revised assumptions (Attachment 1, Model Outputs). The start of construction was also adjusted from 2019, and the schedule was adjusted from 45 months to 38 months. The additional disturbance area is assumed to be paved to account for the additional roadway improvements. Modeling includes the portion of the non-OSHDP CUP equipment to be installed in Phase 1B to calculate total construction emissions.

Construction of the Hillcrest Outpatient Pavilion and Parking Structure Project was calculated using the CalEEMod model to result in total GHG emissions of 6,821 MT CO₂e, or a contribution of 228 MT CO₂e to amortized annual emissions. Table 4 compares the Hillcrest Outpatient Pavilion and Parking Structure Project emissions to 2019 LRDP EIR Phase 1A. Annual GHG emissions from amortized construction would increase by approximately 12 MT CO₂e compared to the annual GHG emissions attributed to Phase 1A in the 2019 LRDP EIR. However, this increase in construction emissions would be offset by the decrease in operational emissions from the CUP, as discussed below. Additionally, the increase in construction emissions during Phase 1A under the Hillcrest Outpatient Pavilion and Parking Structure Project would be partially or completely offset by the reduction in estimated emissions for Phases 2B and 3 as assumed in the 2019 LRDP EIR. This is because demolition of the Bachman Parking Structure and partial construction of the CUP assumed in these phases would be included in Hillcrest Outpatient Pavilion and Parking Structure Project emissions. Consistent with the methodology of the 2019 LRDP EIR, construction emissions were amortized over a 30-year project lifetime and added to operational emissions below to determine significance.

Table 3. Hillcrest Outpatient Pavilion and Parking Structure Project Construction Assumption Summary

Construction Phase	Working Days by Activity	Demolition Material Export (sf)	Demolition Haul Trips	Soil Export (cy)	Soil Haul Trips	Disturbance Area (acres)	Total Building Construction (sf)
2019 LRDP EIR Phase 1A	Demolition – 60 Grading and earthwork – 110 Building construction – 670 Architectural coating – 446 Paving – 55	61,400	13,730	238,000	31,733	5.4	997,000
Hillcrest Outpatient Pavilion and Parking Structure Project	Demolition – 225 Grading and earthwork – 64 Building construction – 396 Architectural coating – 264 Paving – 35	296,698	66,348	65,000	8,667	10.5	942,000

**Table 3. Hillcrest Outpatient Pavilion and Parking Structure Project Construction Assumption Summary**

Construction Phase	Working Days by Activity	Demolition Material Export (sf)	Demolition Haul Trips	Soil Export (cy)	Soil Haul Trips	Disturbance Area (acres)	Total Building Construction (sf)
Net Change from 2019 LRDP EIR Phase 1A	Demolition – +165 Grading and earthwork – (–46) Building construction – (–274) Architectural coating – (–182) Paving – (–20)	+235,298	+52,618	(–173,000)	(–23,066)	+5.1	(–55,000)

Notes: 2019 LRDP = 2019 Long Range Development Plan; cy = cubic yard; EIR = Environmental Impact Report; sf = square feet

Table 4. Hillcrest Outpatient Pavilion and Parking Structure Project Construction Emissions

Project	Total Construction Emissions (MT CO ₂ e)	Amortized Construction Emissions (MT CO ₂ e)
2019 LRDP EIR Phase 1A	6,491	216
Hillcrest Outpatient Pavilion and Parking Structure Project	6,821	228
Net Change from 2019 LRDP EIR Phase 1A	+330	+12

Source: Attachment 1.

Notes: 2019 LRDP = 2019 Long Range Development Plan; EIR = Environmental Impact Report; MT CO₂e = metric tons of carbon dioxide equivalent

Operation

The Hillcrest Outpatient Pavilion and Parking Structure Project does not propose any new land uses that would result in additional vehicle trips to the campus or new utility use compared to the assumptions of the 2019 LRDP EIR. The Hillcrest Outpatient Pavilion and Parking Structure Project slightly reduces the total amount of health services that would be provided at buildout of the campus, assuming no increases in building size in the subsequent phases compared to those addressed in the 2019 LRDP EIR occur. The 2019 LRDP EIR assumes operation of a cogeneration facility at the CUP. The non-OSHPD portion of the CUP that would be developed under the Hillcrest Outpatient Pavilion and Parking Structure Project would consist of traditional chillers and boilers with a heat recovery chiller. However, a GHG emissions estimate prepared for the CUP determined that, because this design uses waste heat from chilled water production to produce hot water, it significantly reduces the use of natural gas boilers and partially electrifies hot water production. As a result, installation of traditional boilers with a heat recovery chiller reduces GHG emissions associated with natural gas combustion compared to the installation of a cogeneration facility. GHG emissions from the proposed non-OSHPD CUP were calculated to be 17 percent less compared to a traditional boiler CUP and 35 percent less than the GHG emissions from a cogeneration facility (Glumac 2020; Attachment 2, Heat Recovery CUP and GHG Emissions Memorandum). Additionally, the GHG Reduction Strategy includes an estimate of GHG emissions from operation of a CUP with traditional boilers compared to the GHG emissions from operation of a cogeneration facility (LSA 2019). Buildout of the campus with a traditional boiler CUP was estimated in the GHG Reduction Strategy to result in GHG emissions of 40,227.92 MT CO₂e, or a reduction of 7,258.17 MT CO₂e compared to existing conditions without implementation of the GHG Reduction Strategy (LSA 2019). Therefore, GHG emissions from the Hillcrest Outpatient Pavilion and Parking Structure Project would not exceed those calculated for campus buildout in the 2019 LRDP EIR.

Additionally, a GHG Reduction Strategy Screening Table has been prepared for the Hillcrest Outpatient Pavilion and Parking Structure Project that demonstrates achievement of the necessary reduction points called for by the

2019 LRDP GHG Reduction Strategy (Attachment 3, Screening Table). Measures that would be implemented for the Hillcrest Outpatient Pavilion and Parking Structure Project include the following:

- Install enhanced cool roofs
- Minimize leaks in the building envelope
- Install modest duct insulation
- Install heat pump water heater with at least 92 percent efficiency
- Install high-efficiency lighting for all general lighting
- Install solar-ready roofs
- Include only moderate-water use plants in landscape
- Install weather-based irrigation control systems combined with drip irrigation
- Install water-efficient showerheads, toilets, and faucets
- Provide public charging station for an electric vehicle
- Allow flexible work schedules
- Encourage employee car or vanpool program
- Provide new pedestrian and bicycle facilities
- Provide new bicycle lockers and shower and changing facilities
- Implement shuttle and transit subsidy programs

Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would implement the GHG Reduction Strategy, consistent with the assumptions in the 2019 LRDP EIR, and would not result in an increase in operational GHG emissions compared to those accounted for in the 2019 LRDP. Additionally, a Design Development Energy Summary Report has been completed for the project that demonstrates that the Hillcrest Outpatient Pavilion and Parking Structure Project, including CUP operation, would reduce total energy use by 30 percent and natural gas use by 60 percent compared to ASHRAE 90.1-2010 standards, consistent with the UC Sustainable Practices Policy (Glumac 2021). Therefore, the GHG emissions associated with the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in a significant impact on the environment, and the significance of this impact would be the same as identified in the 2019 LRDP EIR.

Summary

Combined construction of the Hillcrest Outpatient Pavilion and Parking Structure Project and operation of the 2019 LRDP with the Hillcrest Outpatient Pavilion and Parking Structure Project would not exceed the GHG emissions assumed for campus buildout in the 2019 LRDP EIR. The Hillcrest Outpatient Pavilion and Parking Structure Project has demonstrated consistency with the GHG Reduction Strategy through the Screening Table. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding GHG emissions. This impact would be the same as the impact identified in the 2019 LRDP EIR.

Issue 2: Conflict with Applicable Plan

Based on Appendix G of the CEQA Guidelines, implementation of the 2019 LRDP would have a significant impact if it would conflict with an applicable plan, policy, or regulation adopted for reducing GHG emissions. Several UC and UC San Diego plans and policies reduce GHG emissions and are applicable to the 2019 LRDP to address this CEQA threshold. They are the UC San Diego CAP, the UC Sustainable Practices Policy, and the UC Carbon Neutrality Initiative.

Summary of 2019 Long Range Development Plan Environmental Impact Report Impacts

The 2019 LRDP EIR determined that the GHG Reduction Strategy implements all relevant UC San Diego CAP reduction measures and the UC Sustainable Practices Policy provisions designed to reduce GHG emissions. In addition, the 2019 LRDP would advance UC San Diego's achievement of the goals set forth in the adopted UC Carbon Neutrality Initiative, which, by 2025, would achieve net zero carbon levels in UC system-wide Scope 1 (direct and controlled) and Scope 2 (indirect) and, by 2050, would achieve full net zero carbon levels in UC system-wide emissions, including Scope 3 (campus commuters and business air travel) emissions. The UC Carbon



Neutrality Initiative goal is more stringent than the statewide target of achieving 80 percent below 1990 emission levels by 2050. Therefore, the Hillcrest Campus is consistent with the state's efforts toward achieving the 2050 reduction target. The 2019 LRDP EIR identified this impact as less than significant.

Hillcrest Outpatient Pavilion and Parking Structure Project Consistency Evaluation

As described under Issue 1, the proposed project would not substantially modify land uses assumed in the 2019 LRDP EIR. It would not result in GHG emissions beyond those accounted for in buildout of the campus in the GHG Reduction Strategy and demonstrates implementation of its fair share of GHG reduction measures through the Screening Table (Attachment 3). Buildout of the campus would continue to be projected to achieve net zero emissions through implementation of the GHG Reduction Strategy. A Design Development Energy Summary Report completed for the project demonstrates that the project would reduce total energy use by 30 percent and natural gas use by 60 percent compared to ASHRAE 90.1-2010 standards, consistent with the UC Sustainable Practices Policy (Glumac 2021). As such, the Hillcrest Outpatient Pavilion and Parking Structure Project would not conflict with the UC San Diego CAP, the UC Sustainable Practices Policy provisions designed to reduce GHG emissions, UC San Diego's achievement of goals set forth in the adopted UC Carbon Neutrality Initiative, or the state's efforts toward achieving a 2050 reduction target. The impact would be the same as the impact identified in the 2019 LRDP EIR.

Summary of GHG Emissions Impacts

Impacts related to GHG emissions from construction and operation of the Hillcrest Outpatient Pavilion and Parking Structure Project would be the same as those identified in the 2019 LRDP EIR. The Hillcrest Outpatient Pavilion and Parking Structure Project would not result in additional net GHG emissions and would achieve the required reduction points in the Screening Table. The Hillcrest Outpatient Pavilion and Parking Structure Project would not include any new sources of GHG emissions that were not previously addressed, and no new significant impacts would occur compared to those in the 2019 LRDP EIR. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects related to GHG emissions.

References

Glumac. 2020. Heat Recovery CUP and GHG Emissions Memorandum. March 24.

Glumac. 2021. 100% Design Development Energy Summary Report – UCSD Hillcrest Phase 1A. May 21.

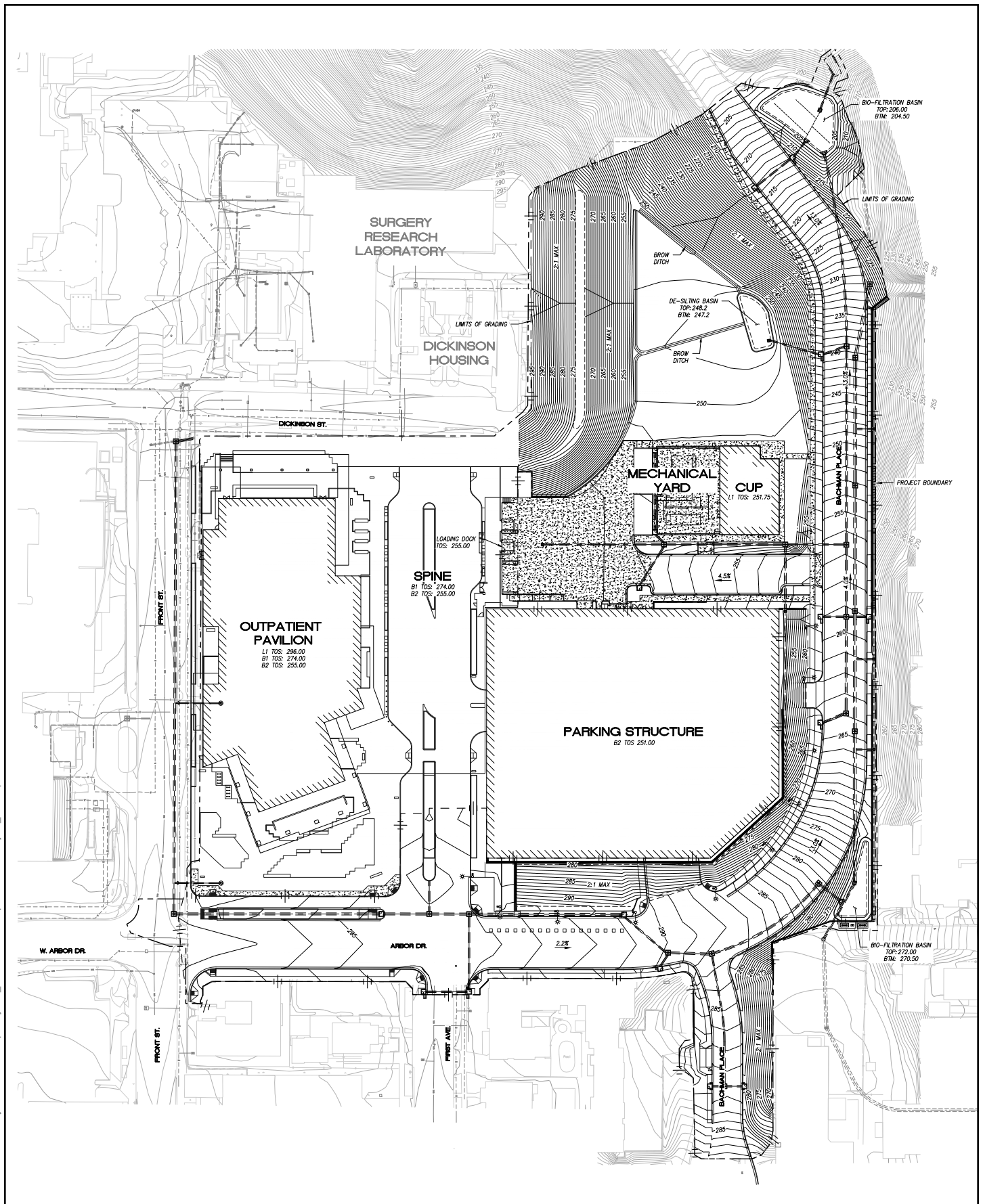
Harris (Harris & Associates). 2019. Air Quality Technical Report for the UC San Diego Hillcrest Campus 2019 Long Range Development Plan. June.

LSA (LSA Associates, Inc.). 2019. Greenhouse Gas Emissions Reduction Strategy – University of California, San Diego, Hillcrest Campus Long Range Development Plan EIR. June.



Source: Callisonrtkl Inc. 2020.

Figure 1
Outpatient Pavilion and Parking Structure Site Plan



Source: Latitude 33 2021.

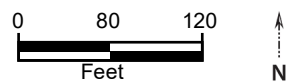


Figure 2
Outpatient Pavilion and Parking Structure Grading Plan

Attachment 1. Model Outputs

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Phase 1 UCSD Hillcrest 2019 LRDP

San Diego Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	6.53	1000sqft	0.15	6,525.00	0
Medical Office Building	230.00	1000sqft	1.06	230,000.00	0
General Light Industry	12.00	1000sqft	0.28	12,000.00	0
Enclosed Parking with Elevator	2,000.00	Space	3.19	800,000.00	0
Other Non-Asphalt Surfaces	43.00	1000sqft	0.99	43,000.00	0
Parking Lot	210.36	1000sqft	4.83	210,360.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2024
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

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Project Characteristics -

Land Use - Reduced OPP to 230 (same lot), added CUP, , Non-asphalt parking = building pad for HC-6. Added pavement to up lot to 10.5 acre for offsite improvements.

Construction Phase - adjusted for truck trips in demo, then rest to meet 38 month schedule

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Added drill rig for pile driving

Off-road Equipment -

Off-road Equipment -

Trips and VMT - Based on 15 CY and NTPLL EIR worker/vehicle trips and demo volume

Demolition -

Grading - Based on grading plan and manual calculation

Construction Off-road Equipment Mitigation - Assume minimum of Tier 3

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Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	264.00
tblConstructionPhase	NumDays	300.00	396.00
tblConstructionPhase	NumDays	20.00	225.00
tblConstructionPhase	NumDays	30.00	64.00
tblConstructionPhase	NumDays	20.00	35.00
tblGrading	AcresOfGrading	160.00	10.50
tblGrading	MaterialExported	0.00	65,000.00
tblLandUse	LandUseSquareFeet	6,530.00	6,525.00
tblLandUse	LotAcreage	5.28	1.06
tblLandUse	LotAcreage	18.00	3.19
tblTripsAndVMT	HaulingTripNumber	1,350.00	66,348.00
tblTripsAndVMT	HaulingTripNumber	8,125.00	8,668.00
tblTripsAndVMT	VendorTripNumber	0.00	60.00
tblTripsAndVMT	VendorTripNumber	0.00	60.00
tblTripsAndVMT	VendorTripNumber	213.00	60.00
tblTripsAndVMT	VendorTripNumber	0.00	60.00
tblTripsAndVMT	WorkerTripNumber	15.00	894.00
tblTripsAndVMT	WorkerTripNumber	23.00	894.00
tblTripsAndVMT	WorkerTripNumber	523.00	894.00
tblTripsAndVMT	WorkerTripNumber	15.00	894.00
tblTripsAndVMT	WorkerTripNumber	105.00	0.00

2.0 Emissions Summary

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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					
2020	0.8918	12.2569	6.4704	0.0345	1.4097	0.1948	1.6045	0.3641	0.1818	0.5459	0.0000	3,317.982 3	3,317.982 3	0.3224	0.0000	3,326.042 1
2021	0.8459	6.9353	6.4674	0.0231	1.7309	0.1854	1.9164	0.5061	0.1727	0.6788	0.0000	2,146.003 7	2,146.003 7	0.2260	0.0000	2,151.653 8
2022	0.6229	2.9824	4.9985	0.0142	0.9838	0.1095	1.0932	0.2626	0.1027	0.3653	0.0000	1,282.820 0	1,282.820 0	0.1096	0.0000	1,285.559 8
2023	3.1705	0.2077	0.3190	6.3000e-004	0.0189	0.0104	0.0294	5.0500e-003	0.0103	0.0154	0.0000	55.8540	55.8540	4.2000e-003	0.0000	55.9590
2024	0.1115	5.4800e-003	8.1500e-003	1.0000e-005	0.0000	2.7000e-004	2.7000e-004	0.0000	2.7000e-004	2.7000e-004	0.0000	1.1490	1.1490	6.0000e-005	0.0000	1.1506
Maximum	3.1705	12.2569	6.4704	0.0345	1.7309	0.1948	1.9164	0.5061	0.1818	0.6788	0.0000	3,317.982 3	3,317.982 3	0.3224	0.0000	3,326.042 1

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2.1 Overall Construction**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					
2020	0.8918	12.2569	6.4704	0.0345	1.3396	0.1948	1.5344	0.3535	0.1818	0.5353	0.0000	3,317.981 9	3,317.981 9	0.3224	0.0000	3,326.041 7
2021	0.8459	6.9353	6.4674	0.0231	1.6082	0.1854	1.7936	0.4454	0.1727	0.6181	0.0000	2,146.003 2	2,146.003 2	0.2260	0.0000	2,151.653 3
2022	0.6229	2.9824	4.9985	0.0142	0.9838	0.1095	1.0932	0.2626	0.1027	0.3653	0.0000	1,282.819 7	1,282.819 7	0.1096	0.0000	1,285.559 4
2023	3.1705	0.2077	0.3190	6.3000e-004	0.0189	0.0104	0.0294	5.0500e-003	0.0103	0.0154	0.0000	55.8540	55.8540	4.2000e-003	0.0000	55.9590
2024	0.1115	5.4800e-003	8.1500e-003	1.0000e-005	0.0000	2.7000e-004	2.7000e-004	0.0000	2.7000e-004	2.7000e-004	0.0000	1.1490	1.1490	6.0000e-005	0.0000	1.1506
Maximum	3.1705	12.2569	6.4704	0.0345	1.6082	0.1948	1.7936	0.4454	0.1818	0.6181	0.0000	3,317.981 9	3,317.981 9	0.3224	0.0000	3,326.041 7

	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	4.65	0.00	4.15	6.27	0.00	4.44	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	4-6-2020	7-5-2020	4.3415	4.3415
2	7-6-2020	10-5-2020	4.3920	4.3920
3	10-6-2020	1-5-2021	4.4229	4.4229
4	1-6-2021	4-5-2021	3.5903	3.5903
5	4-6-2021	7-5-2021	1.9521	1.9521
6	7-6-2021	10-5-2021	1.0107	1.0107

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7	10-6-2021	1-5-2022	1.0261	1.0261
8	1-6-2022	4-5-2022	0.9193	0.9193
9	4-6-2022	7-5-2022	0.9106	0.9106
10	7-6-2022	10-5-2022	0.9217	0.9217
11	10-6-2022	1-5-2023	0.8550	0.8550
12	1-6-2023	4-5-2023	0.8367	0.8367
13	4-6-2023	7-5-2023	0.8478	0.8478
14	7-6-2023	10-5-2023	0.8571	0.8571
15	10-6-2023	1-5-2024	0.8569	0.8569
16	1-6-2024	4-5-2024	0.0557	0.0557
		Highest	4.4229	4.4229

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	1.3654	2.1000e-004	0.0230	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0447	0.0447	1.2000e-004	0.0000	0.0476
Energy	0.0265	0.2409	0.0204	1.4500e-003		0.0183	0.0183		0.0183	0.0183	0.0000	2,889.8599	2,889.8599	0.1108	0.0267	2,900.5831
Mobile	1.3808	5.4203	14.7228	0.0512	4.7508	0.0408	4.7916	1.2720	0.0380	1.3100	0.0000	4,740.9048	4,740.9048	0.2468	0.0000	4,747.0758
Waste						0.0000	0.0000		0.0000	0.0000	508.4822	0.0000	508.4822	30.0504	0.0000	1,259.7432
Water						0.0000	0.0000		0.0000	0.0000	10.4047	162.1023	172.5070	1.0752	0.0266	207.3085
Total	2.7727	5.6614	14.9481	0.0527	4.7508	0.0592	4.8100	1.2720	0.0564	1.3284	518.8869	7,792.9117	8,311.7986	31.4834	0.0533	9,114.7582

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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	1.3654	2.1000e-004	0.0230	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0447	0.0447	1.2000e-004	0.0000	0.0476
Energy	0.0265	0.2409	0.2024	1.4500e-003		0.0183	0.0183		0.0183	0.0183	0.0000	2,889.8599	2,889.8599	0.1108	0.0267	2,900.5831
Mobile	1.3808	5.4203	14.7228	0.0512	4.7508	0.0408	4.7916	1.2720	0.0380	1.3100	0.0000	4,740.9048	4,740.9048	0.2468	0.0000	4,747.0758
Waste						0.0000	0.0000		0.0000	0.0000	508.4822	0.0000	508.4822	30.0504	0.0000	1,259.7432
Water						0.0000	0.0000		0.0000	0.0000	10.4047	162.1023	172.5070	1.0752	0.0266	207.3085
Total	2.7727	5.6614	14.9481	0.0527	4.7508	0.0592	4.8100	1.2720	0.0564	1.3284	518.8869	7,792.9117	8,311.7986	31.4834	0.0533	9,114.7582

	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 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	1A Demolition	Demolition	4/6/2020	2/12/2021	5	225	
2	1A Grading	Grading	2/13/2021	5/13/2021	5	64	
3	1A Building Construction	Building Construction	5/14/2021	11/18/2022	5	396	
4	1A Paving	Paving	11/19/2022	1/6/2023	5	35	
5	1A Architectural Coating	Architectural Coating	1/7/2023	1/11/2024	5	264	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 9.01

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 372,788; Non-Residential Outdoor: 124,263; Striped Parking Area: 63,202 (Architectural Coating – sqft)

OffRoad Equipment

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
1A Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
1A Demolition	Excavators	3	8.00	158	0.38
1A Demolition	Rubber Tired Dozers	2	8.00	247	0.40
1A Grading	Bore/Drill Rigs	1	8.00	221	0.50
1A Grading	Excavators	2	8.00	158	0.38
1A Grading	Graders	1	8.00	187	0.41
1A Grading	Rubber Tired Dozers	1	8.00	247	0.40
1A Grading	Scrapers	2	8.00	367	0.48
1A Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
1A Building Construction	Cranes	1	7.00	231	0.29
1A Building Construction	Forklifts	3	8.00	89	0.20
1A Building Construction	Generator Sets	1	8.00	84	0.74
1A Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
1A Building Construction	Welders	1	8.00	46	0.45
1A Paving	Pavers	2	8.00	130	0.42
1A Paving	Paving Equipment	2	8.00	132	0.36
1A Paving	Rollers	2	8.00	80	0.38
1A Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Annual

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
1A Demolition	6	894.00	60.00	66,348.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
1A Grading	9	894.00	60.00	8,668.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
1A Building Construction	9	894.00	60.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
1A Paving	6	894.00	60.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
1A Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 1A Demolition - 2020**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					0.1275	0.0000	0.1275	0.0193	0.0000	0.0193	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3213	3.2205	2.1101	3.7600e-003		0.1609	0.1609		0.1496	0.1496	0.0000	329.7865	329.7865	0.0931	0.0000	332.1139
Total	0.3213	3.2205	2.1101	3.7600e-003	0.1275	0.1609	0.2884	0.0193	0.1496	0.1689	0.0000	329.7865	329.7865	0.0931	0.0000	332.1139

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3.2 1A Demolition - 2020**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	0.2287	8.1363	1.8635	0.0222	0.5482	0.0257	0.5739	0.1489	0.0246	0.1734	0.0000	2,206.0309	2,206.0309	0.1987	0.0000	2,210.9973
Vendor	0.0222	0.6634	0.1763	1.5800e-003	0.0386	3.2400e-003	0.0419	0.0112	3.1000e-003	0.0143	0.0000	153.5674	153.5674	0.0118	0.0000	153.8616
Worker	0.3196	0.2367	2.3205	6.9500e-003	0.6954	5.0000e-003	0.7004	0.1848	4.6100e-003	0.1894	0.0000	628.5976	628.5976	0.0189	0.0000	629.0694
Total	0.5706	9.0364	4.3603	0.0308	1.2823	0.0339	1.3162	0.3448	0.0323	0.3771	0.0000	2,988.1958	2,988.1958	0.2293	0.0000	2,993.9282

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					0.0574	0.0000	0.0574	8.6900e-003	0.0000	8.6900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3213	3.2205	2.1101	3.7600e-003		0.1609	0.1609		0.1496	0.1496	0.0000	329.7861	329.7861	0.0931	0.0000	332.1135
Total	0.3213	3.2205	2.1101	3.7600e-003	0.0574	0.1609	0.2183	8.6900e-003	0.1496	0.1583	0.0000	329.7861	329.7861	0.0931	0.0000	332.1135

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3.2 1A Demolition - 2020**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	0.2287	8.1363	1.8635	0.0222	0.5482	0.0257	0.5739	0.1489	0.0246	0.1734	0.0000	2,206.0309	2,206.0309	0.1987	0.0000	2,210.9973
Vendor	0.0222	0.6634	0.1763	1.5800e-003	0.0386	3.2400e-003	0.0419	0.0112	3.1000e-003	0.0143	0.0000	153.5674	153.5674	0.0118	0.0000	153.8616
Worker	0.3196	0.2367	2.3205	6.9500e-003	0.6954	5.0000e-003	0.7004	0.1848	4.6100e-003	0.1894	0.0000	628.5976	628.5976	0.0189	0.0000	629.0694
Total	0.5706	9.0364	4.3603	0.0308	1.2823	0.0339	1.3162	0.3448	0.0323	0.3771	0.0000	2,988.1958	2,988.1958	0.2293	0.0000	2,993.9282

3.2 1A Demolition - 2021**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					0.0204	0.0000	0.0204	3.0800e-003	0.0000	3.0800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0491	0.4873	0.3343	6.0000e-004		0.0241	0.0241		0.0223	0.0223	0.0000	52.7012	52.7012	0.0148	0.0000	53.0721
Total	0.0491	0.4873	0.3343	6.0000e-004	0.0204	0.0241	0.0444	3.0800e-003	0.0223	0.0254	0.0000	52.7012	52.7012	0.0148	0.0000	53.0721

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3.2 1A Demolition - 2021**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	0.0343	1.1937	0.2944	3.5000e-003	0.4460	3.6100e-003	0.4496	0.1118	3.4500e-003	0.1152	0.0000	348.1096	348.1096	0.0314	0.0000	348.8951
Vendor	2.8800e-003	0.0956	0.0255	2.5000e-004	6.1700e-003	2.0000e-004	6.3800e-003	1.7800e-003	1.9000e-004	1.9800e-003	0.0000	24.3139	24.3139	1.8000e-003	0.0000	24.3590
Worker	0.0482	0.0344	0.3462	1.0700e-003	0.1111	7.9000e-004	0.1119	0.0295	7.2000e-004	0.0303	0.0000	97.0714	97.0714	2.7800e-003	0.0000	97.1410
Total	0.0854	1.3236	0.6661	4.8200e-003	0.5633	4.6000e-003	0.5679	0.1431	4.3600e-003	0.1474	0.0000	469.4950	469.4950	0.0360	0.0000	470.3951

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					9.1700e-003	0.0000	9.1700e-003	1.3900e-003	0.0000	1.3900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0491	0.4873	0.3343	6.0000e-004		0.0241	0.0241		0.0223	0.0223	0.0000	52.7012	52.7012	0.0148	0.0000	53.0720
Total	0.0491	0.4873	0.3343	6.0000e-004	9.1700e-003	0.0241	0.0332	1.3900e-003	0.0223	0.0237	0.0000	52.7012	52.7012	0.0148	0.0000	53.0720

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3.2 1A Demolition - 2021**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	0.0343	1.1937	0.2944	3.5000e-003	0.4460	3.6100e-003	0.4496	0.1118	3.4500e-003	0.1152	0.0000	348.1096	348.1096	0.0314	0.0000	348.8951
Vendor	2.8800e-003	0.0956	0.0255	2.5000e-004	6.1700e-003	2.0000e-004	6.3800e-003	1.7800e-003	1.9000e-004	1.9800e-003	0.0000	24.3139	24.3139	1.8000e-003	0.0000	24.3590
Worker	0.0482	0.0344	0.3462	1.0700e-003	0.1111	7.9000e-004	0.1119	0.0295	7.2000e-004	0.0303	0.0000	97.0714	97.0714	2.7800e-003	0.0000	97.1410
Total	0.0854	1.3236	0.6661	4.8200e-003	0.5633	4.6000e-003	0.5679	0.1431	4.3600e-003	0.1474	0.0000	469.4950	469.4950	0.0360	0.0000	470.3951

3.3 1A Grading - 2021**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					0.2028	0.0000	0.2028	0.1072	0.0000	0.1072	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1424	1.5815	1.0545	2.2900e-003		0.0665	0.0665		0.0612	0.0612	0.0000	200.8610	200.8610	0.0650	0.0000	202.4851
Total	0.1424	1.5815	1.0545	2.2900e-003	0.2028	0.0665	0.2693	0.1072	0.0612	0.1684	0.0000	200.8610	200.8610	0.0650	0.0000	202.4851

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3.3 1A Grading - 2021**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	0.0326	1.1319	0.2792	3.3200e-003	0.0742	3.4200e-003	0.0776	0.0204	3.2700e-003	0.0236	0.0000	330.0866	330.0866	0.0298	0.0000	330.8314
Vendor	5.9400e-003	0.1973	0.0526	5.1000e-004	0.0127	4.2000e-004	0.0132	3.6800e-003	4.0000e-004	4.0800e-003	0.0000	50.1965	50.1965	3.7300e-003	0.0000	50.2896
Worker	0.0995	0.0710	0.7147	2.2200e-003	0.2294	1.6200e-003	0.2310	0.0610	1.5000e-003	0.0625	0.0000	200.4055	200.4055	5.7400e-003	0.0000	200.5491
Total	0.1379	1.4002	1.0465	6.0500e-003	0.3163	5.4600e-003	0.3218	0.0850	5.1700e-003	0.0902	0.0000	580.6886	580.6886	0.0393	0.0000	581.6701

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					0.0913	0.0000	0.0913	0.0483	0.0000	0.0483	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1424	1.5815	1.0545	2.2900e-003		0.0665	0.0665		0.0612	0.0612	0.0000	200.8608	200.8608	0.0650	0.0000	202.4849
Total	0.1424	1.5815	1.0545	2.2900e-003	0.0913	0.0665	0.1577	0.0483	0.0612	0.1094	0.0000	200.8608	200.8608	0.0650	0.0000	202.4849

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3.3 1A Grading - 2021**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	0.0326	1.1319	0.2792	3.3200e-003	0.0742	3.4200e-003	0.0776	0.0204	3.2700e-003	0.0236	0.0000	330.0866	330.0866	0.0298	0.0000	330.8314
Vendor	5.9400e-003	0.1973	0.0526	5.1000e-004	0.0127	4.2000e-004	0.0132	3.6800e-003	4.0000e-004	4.0800e-003	0.0000	50.1965	50.1965	3.7300e-003	0.0000	50.2896
Worker	0.0995	0.0710	0.7147	2.2200e-003	0.2294	1.6200e-003	0.2310	0.0610	1.5000e-003	0.0625	0.0000	200.4055	200.4055	5.7400e-003	0.0000	200.5491
Total	0.1379	1.4002	1.0465	6.0500e-003	0.3163	5.4600e-003	0.3218	0.0850	5.1700e-003	0.0902	0.0000	580.6886	580.6886	0.0393	0.0000	581.6701

3.4 1A Building Construction - 2021**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	0.1578	1.4469	1.3757	2.2300e-003		0.0796	0.0796		0.0748	0.0748	0.0000	192.2589	192.2589	0.0464	0.0000	193.4185
Total	0.1578	1.4469	1.3757	2.2300e-003		0.0796	0.0796		0.0748	0.0748	0.0000	192.2589	192.2589	0.0464	0.0000	193.4185

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3.4 1A Building Construction - 2021**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	0.0154	0.5118	0.1365	1.3300e-003	0.0331	1.0800e-003	0.0341	9.5400e-003	1.0400e-003	0.0106	0.0000	130.1971	130.1971	9.6600e-003	0.0000	130.4387
Worker	0.2579	0.1840	1.8538	5.7500e-003	0.5950	4.2100e-003	0.5993	0.1581	3.8800e-003	0.1620	0.0000	519.8018	519.8018	0.0149	0.0000	520.1743
Total	0.2733	0.6958	1.9903	7.0800e-003	0.6281	5.2900e-003	0.6334	0.1677	4.9200e-003	0.1726	0.0000	649.9989	649.9989	0.0246	0.0000	650.6130

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	0.1578	1.4469	1.3757	2.2300e-003		0.0796	0.0796		0.0748	0.0748	0.0000	192.2587	192.2587	0.0464	0.0000	193.4183
Total	0.1578	1.4469	1.3757	2.2300e-003		0.0796	0.0796		0.0748	0.0748	0.0000	192.2587	192.2587	0.0464	0.0000	193.4183

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3.4 1A Building Construction - 2021**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	0.0154	0.5118	0.1365	1.3300e-003	0.0331	1.0800e-003	0.0341	9.5400e-003	1.0400e-003	0.0106	0.0000	130.1971	130.1971	9.6600e-003	0.0000	130.4387
Worker	0.2579	0.1840	1.8538	5.7500e-003	0.5950	4.2100e-003	0.5993	0.1581	3.8800e-003	0.1620	0.0000	519.8018	519.8018	0.0149	0.0000	520.1743
Total	0.2733	0.6958	1.9903	7.0800e-003	0.6281	5.2900e-003	0.6334	0.1677	4.9200e-003	0.1726	0.0000	649.9989	649.9989	0.0246	0.0000	650.6130

3.4 1A Building Construction - 2022**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	0.1962	1.7958	1.8818	3.1000e-003		0.0930	0.0930		0.0875	0.0875	0.0000	266.4840	266.4840	0.0638	0.0000	268.0801
Total	0.1962	1.7958	1.8818	3.1000e-003		0.0930	0.0930		0.0875	0.0875	0.0000	266.4840	266.4840	0.0638	0.0000	268.0801

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3.4 1A Building Construction - 2022**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	0.0198	0.6696	0.1790	1.8300e-003	0.0458	1.2900e-003	0.0471	0.0132	1.2400e-003	0.0145	0.0000	178.6853	178.6853	0.0130	0.0000	179.0095
Worker	0.3382	0.2325	2.3846	7.6700e-003	0.8245	5.7100e-003	0.8302	0.2191	5.2600e-003	0.2243	0.0000	693.8061	693.8061	0.0189	0.0000	694.2788
Total	0.3580	0.9021	2.5636	9.5000e-003	0.8703	7.0000e-003	0.8773	0.2323	6.5000e-003	0.2388	0.0000	872.4914	872.4914	0.0319	0.0000	873.2883

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	0.1962	1.7958	1.8818	3.1000e-003		0.0930	0.0930		0.0875	0.0875	0.0000	266.4837	266.4837	0.0638	0.0000	268.0798
Total	0.1962	1.7958	1.8818	3.1000e-003		0.0930	0.0930		0.0875	0.0875	0.0000	266.4837	266.4837	0.0638	0.0000	268.0798

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3.4 1A Building Construction - 2022**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	0.0198	0.6696	0.1790	1.8300e-003	0.0458	1.2900e-003	0.0471	0.0132	1.2400e-003	0.0145	0.0000	178.6853	178.6853	0.0130	0.0000	179.0095
Worker	0.3382	0.2325	2.3846	7.6700e-003	0.8245	5.7100e-003	0.8302	0.2191	5.2600e-003	0.2243	0.0000	693.8061	693.8061	0.0189	0.0000	694.2788
Total	0.3580	0.9021	2.5636	9.5000e-003	0.8703	7.0000e-003	0.8773	0.2323	6.5000e-003	0.2388	0.0000	872.4914	872.4914	0.0319	0.0000	873.2883

3.5 1A Paving - 2022**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	0.0165	0.1669	0.2187	3.4000e-004		8.5200e-003	8.5200e-003		7.8400e-003	7.8400e-003	0.0000	30.0413	30.0413	9.7200e-003	0.0000	30.2842
Paving	5.4200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0220	0.1669	0.2187	3.4000e-004		8.5200e-003	8.5200e-003		7.8400e-003	7.8400e-003	0.0000	30.0413	30.0413	9.7200e-003	0.0000	30.2842

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3.5 1A Paving - 2022**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	2.5900e-003	0.0873	0.0234	2.4000e-004	5.9700e-003	1.7000e-004	6.1400e-003	1.7200e-003	1.6000e-004	1.8900e-003	0.0000	23.3068	23.3068	1.6900e-003	0.0000	23.3491
Worker	0.0441	0.0303	0.3110	1.0000e-003	0.1075	7.4000e-004	0.1083	0.0286	6.9000e-004	0.0293	0.0000	90.4965	90.4965	2.4700e-003	0.0000	90.5581
Total	0.0467	0.1177	0.3344	1.2400e-003	0.1135	9.1000e-004	0.1144	0.0303	8.5000e-004	0.0312	0.0000	113.8032	113.8032	4.1600e-003	0.0000	113.9072

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	0.0165	0.1669	0.2187	3.4000e-004		8.5200e-003	8.5200e-003		7.8400e-003	7.8400e-003	0.0000	30.0413	30.0413	9.7200e-003	0.0000	30.2842
Paving	5.4200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0220	0.1669	0.2187	3.4000e-004		8.5200e-003	8.5200e-003		7.8400e-003	7.8400e-003	0.0000	30.0413	30.0413	9.7200e-003	0.0000	30.2842

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3.5 1A Paving - 2022**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	2.5900e-003	0.0873	0.0234	2.4000e-004	5.9700e-003	1.7000e-004	6.1400e-003	1.7200e-003	1.6000e-004	1.8900e-003	0.0000	23.3068	23.3068	1.6900e-003	0.0000	23.3491
Worker	0.0441	0.0303	0.3110	1.0000e-003	0.1075	7.4000e-004	0.1083	0.0286	6.9000e-004	0.0293	0.0000	90.4965	90.4965	2.4700e-003	0.0000	90.5581
Total	0.0467	0.1177	0.3344	1.2400e-003	0.1135	9.1000e-004	0.1144	0.0303	8.5000e-004	0.0312	0.0000	113.8032	113.8032	4.1600e-003	0.0000	113.9072

3.5 1A Paving - 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					
Off-Road	2.5800e-003	0.0255	0.0365	6.0000e-005		1.2800e-003	1.2800e-003		1.1700e-003	1.1700e-003	0.0000	5.0067	5.0067	1.6200e-003	0.0000	5.0472
Paving	9.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.4800e-003	0.0255	0.0365	6.0000e-005		1.2800e-003	1.2800e-003		1.1700e-003	1.1700e-003	0.0000	5.0067	5.0067	1.6200e-003	0.0000	5.0472

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3.5 1A Paving - 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	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	3.3000e-004	0.0114	3.5400e-003	4.0000e-005	1.0000e-003	1.0000e-005	1.0100e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	3.7867	3.7867	2.6000e-004	0.0000	3.7931
Worker	6.9700e-003	4.6100e-003	0.0481	1.6000e-004	0.0179	1.2000e-004	0.0180	4.7600e-003	1.1000e-004	4.8700e-003	0.0000	14.5066	14.5066	3.8000e-004	0.0000	14.5160
Total	7.3000e-003	0.0161	0.0516	2.0000e-004	0.0189	1.3000e-004	0.0191	5.0500e-003	1.2000e-004	5.1700e-003	0.0000	18.2933	18.2933	6.4000e-004	0.0000	18.3091

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	2.5800e-003	0.0255	0.0365	6.0000e-005		1.2800e-003	1.2800e-003		1.1700e-003	1.1700e-003	0.0000	5.0067	5.0067	1.6200e-003	0.0000	5.0472
Paving	9.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.4800e-003	0.0255	0.0365	6.0000e-005		1.2800e-003	1.2800e-003		1.1700e-003	1.1700e-003	0.0000	5.0067	5.0067	1.6200e-003	0.0000	5.0472

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3.5 1A Paving - 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	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	3.3000e-004	0.0114	3.5400e-003	4.0000e-005	1.0000e-003	1.0000e-005	1.0100e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	3.7867	3.7867	2.6000e-004	0.0000	3.7931
Worker	6.9700e-003	4.6100e-003	0.0481	1.6000e-004	0.0179	1.2000e-004	0.0180	4.7600e-003	1.1000e-004	4.8700e-003	0.0000	14.5066	14.5066	3.8000e-004	0.0000	14.5160
Total	7.3000e-003	0.0161	0.0516	2.0000e-004	0.0189	1.3000e-004	0.0191	5.0500e-003	1.2000e-004	5.1700e-003	0.0000	18.2933	18.2933	6.4000e-004	0.0000	18.3091

3.6 1A Architectural Coating - 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					
Archit. Coating	3.1353					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0244	0.1661	0.2309	3.8000e-004		9.0300e-003	9.0300e-003		9.0300e-003	9.0300e-003	0.0000	32.5540	32.5540	1.9500e-003	0.0000	32.6027
Total	3.1598	0.1661	0.2309	3.8000e-004		9.0300e-003	9.0300e-003		9.0300e-003	9.0300e-003	0.0000	32.5540	32.5540	1.9500e-003	0.0000	32.6027

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3.6 1A Architectural Coating - 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	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	0.0000	0.0000	0.0000	0.0000	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	0.0000	0.0000	0.0000

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	3.1353					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0244	0.1661	0.2309	3.8000e-004		9.0300e-003	9.0300e-003		9.0300e-003	9.0300e-003	0.0000	32.5540	32.5540	1.9500e-003	0.0000	32.6026
Total	3.1598	0.1661	0.2309	3.8000e-004		9.0300e-003	9.0300e-003		9.0300e-003	9.0300e-003	0.0000	32.5540	32.5540	1.9500e-003	0.0000	32.6026

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3.6 1A Architectural Coating - 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	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	0.0000	0.0000	0.0000	0.0000	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	0.0000	0.0000	0.0000

3.6 1A Architectural Coating - 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					
Archit. Coating	0.1107					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.1000e-004	5.4800e-003	8.1500e-003	1.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	1.1490	1.1490	6.0000e-005	0.0000	1.1506
Total	0.1115	5.4800e-003	8.1500e-003	1.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	1.1490	1.1490	6.0000e-005	0.0000	1.1506

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3.6 1A Architectural Coating - 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	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	0.0000	0.0000	0.0000	0.0000	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	0.0000	0.0000	0.0000

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	0.1107					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.1000e-004	5.4800e-003	8.1500e-003	1.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	1.1490	1.1490	6.0000e-005	0.0000	1.1506
Total	0.1115	5.4800e-003	8.1500e-003	1.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	1.1490	1.1490	6.0000e-005	0.0000	1.1506

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3.6 1A Architectural Coating - 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	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	0.0000	0.0000	0.0000	0.0000	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	0.0000	0.0000	0.0000

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

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	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	1.3808	5.4203	14.7228	0.0512	4.7508	0.0408	4.7916	1.2720	0.0380	1.3100	0.0000	4,740.9048	4,740.9048	0.2468	0.0000	4,747.0758
Unmitigated	1.3808	5.4203	14.7228	0.0512	4.7508	0.0408	4.7916	1.2720	0.0380	1.3100	0.0000	4,740.9048	4,740.9048	0.2468	0.0000	4,747.0758

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Light Industry	83.64	15.84	8.16	184,430	184,430
General Office Building	72.03	16.06	6.86	130,771	130,771
Medical Office Building	8,309.90	2,060.80	356.50	12,293,430	12,293,430
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	8,465.57	2,092.70	371.52	12,608,631	12,608,631

4.3 Trip Type Information

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Annual

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
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
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
Medical Office Building	9.50	7.30	7.30	29.60	51.40	19.00	60	30	10
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.606234	0.039465	0.179154	0.102641	0.014368	0.005395	0.016820	0.024508	0.001929	0.001857	0.005869	0.000761	0.000998
General Light Industry	0.606234	0.039465	0.179154	0.102641	0.014368	0.005395	0.016820	0.024508	0.001929	0.001857	0.005869	0.000761	0.000998
General Office Building	0.606234	0.039465	0.179154	0.102641	0.014368	0.005395	0.016820	0.024508	0.001929	0.001857	0.005869	0.000761	0.000998
Medical Office Building	0.606234	0.039465	0.179154	0.102641	0.014368	0.005395	0.016820	0.024508	0.001929	0.001857	0.005869	0.000761	0.000998
Other Non-Asphalt Surfaces	0.606234	0.039465	0.179154	0.102641	0.014368	0.005395	0.016820	0.024508	0.001929	0.001857	0.005869	0.000761	0.000998
Parking Lot	0.606234	0.039465	0.179154	0.102641	0.014368	0.005395	0.016820	0.024508	0.001929	0.001857	0.005869	0.000761	0.000998

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Annual

	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					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,627.6216	2,627.6216	0.1058	0.0219	2,636.7865
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,627.6216	2,627.6216	0.1058	0.0219	2,636.7865
NaturalGas Mitigated	0.0265	0.2409	0.2024	1.4500e-003		0.0183	0.0183		0.0183	0.0183	0.0000	262.2383	262.2383	5.0300e-003	4.8100e-003	263.7966
NaturalGas Unmitigated	0.0265	0.2409	0.2024	1.4500e-003		0.0183	0.0183		0.0183	0.0183	0.0000	262.2383	262.2383	5.0300e-003	4.8100e-003	263.7966

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Annual

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	tons/yr										MT/yr					
Enclosed Parking with Elevator	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	0.0000
General Light Industry	138720	7.5000e-004	6.8000e-003	5.7100e-003	4.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	7.4026	7.4026	1.4000e-004	1.4000e-004	7.4466
General Office Building	131740	7.1000e-004	6.4600e-003	5.4200e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	7.0301	7.0301	1.3000e-004	1.3000e-004	7.0719
Medical Office Building	4.6437e+006	0.0250	0.2276	0.1912	1.3700e-003		0.0173	0.0173		0.0173	0.0173	0.0000	247.8055	247.8055	4.7500e-003	4.5400e-003	249.2781
Other Non-Asphalt Surfaces	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	0.0000
Parking Lot	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	0.0000
Total		0.0265	0.2409	0.2023	1.4500e-003		0.0183	0.0183		0.0183	0.0183	0.0000	262.2383	262.2383	5.0200e-003	4.8100e-003	263.7966

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Annual

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	tons/yr										MT/yr					
Enclosed Parking with Elevator	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	0.0000
General Light Industry	138720	7.5000e-004	6.8000e-003	5.7100e-003	4.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	7.4026	7.4026	1.4000e-004	1.4000e-004	7.4466
General Office Building	131740	7.1000e-004	6.4600e-003	5.4200e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	7.0301	7.0301	1.3000e-004	1.3000e-004	7.0719
Medical Office Building	4.6437e+006	0.0250	0.2276	0.1912	1.3700e-003		0.0173	0.0173		0.0173	0.0173	0.0000	247.8055	247.8055	4.7500e-003	4.5400e-003	249.2781
Other Non-Asphalt Surfaces	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	0.0000
Parking Lot	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	0.0000
Total		0.0265	0.2409	0.2023	1.4500e-003		0.0183	0.0183		0.0183	0.0183	0.0000	262.2383	262.2383	5.0200e-003	4.8100e-003	263.7966

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Annual

5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	4.688e+006	1,532.0795	0.0617	0.0128	1,537.4232
General Light Industry	99720	32.5894	1.3100e-003	2.7000e-004	32.7030
General Office Building	87696	28.6598	1.1500e-003	2.4000e-004	28.7598
Medical Office Building	3.0912e+006	1,010.2313	0.0407	8.4100e-003	1,013.7549
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	73626	24.0616	9.7000e-004	2.0000e-004	24.1456
Total		2,627.6216	0.1058	0.0219	2,636.7865

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Annual

5.3 Energy by Land Use - Electricity**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	4.688e+006	1,532.0795	0.0617	0.0128	1,537.4232
General Light Industry	99720	32.5894	1.3100e-003	2.7000e-004	32.7030
General Office Building	87696	28.6598	1.1500e-003	2.4000e-004	28.7598
Medical Office Building	3.0912e+006	1,010.2313	0.0407	8.4100e-003	1,013.7549
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	73626	24.0616	9.7000e-004	2.0000e-004	24.1456
Total		2,627.6216	0.1058	0.0219	2,636.7865

6.0 Area Detail**6.1 Mitigation Measures Area**

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Annual

	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	1.3654	2.1000e-004	0.0230	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0447	0.0447	1.2000e-004	0.0000	0.0476
Unmitigated	1.3654	2.1000e-004	0.0230	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0447	0.0447	1.2000e-004	0.0000	0.0476

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	0.3246					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0387					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.1200e-003	2.1000e-004	0.0230	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0447	0.0447	1.2000e-004	0.0000	0.0476
Total	1.3654	2.1000e-004	0.0230	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0447	0.0447	1.2000e-004	0.0000	0.0476

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Annual

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	0.3246					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0387					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.1200e-003	2.1000e-004	0.0230	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0447	0.0447	1.2000e-004	0.0000	0.0476
Total	1.3654	2.1000e-004	0.0230	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0447	0.0447	1.2000e-004	0.0000	0.0476

7.0 Water Detail**7.1 Mitigation Measures Water**

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	172.5070	1.0752	0.0266	207.3085
Unmitigated	172.5070	1.0752	0.0266	207.3085

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Annual

7.2 Water by Land Use**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Light Industry	2.775 / 0	12.6891	0.0909	2.2300e-003	15.6271
General Office Building	1.1606 / 0.711336	7.8898	0.0381	9.6000e-004	9.1276
Medical Office Building	28.8605 / 5.49724	151.9282	0.9462	0.0234	182.5539
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		172.5070	1.0752	0.0266	207.3085

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Annual

7.2 Water by Land Use**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Light Industry	2.775 / 0	12.6891	0.0909	2.2300e-003	15.6271
General Office Building	1.1606 / 0.711336	7.8898	0.0381	9.6000e-004	9.1276
Medical Office Building	28.8605 / 5.49724	151.9282	0.9462	0.0234	182.5539
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		172.5070	1.0752	0.0266	207.3085

8.0 Waste Detail**8.1 Mitigation Measures Waste**

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Annual

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	508.4822	30.0504	0.0000	1,259.743 ₂
Unmitigated	508.4822	30.0504	0.0000	1,259.743 ₂

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Annual

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Light Industry	14.88	3.0205	0.1785	0.0000	7.4832
General Office Building	6.07	1.2322	0.0728	0.0000	3.0526
Medical Office Building	2484	504.2296	29.7991	0.0000	1,249.2074
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		508.4822	30.0504	0.0000	1,259.7432

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Annual

8.2 Waste by Land Use**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Light Industry	14.88	3.0205	0.1785	0.0000	7.4832
General Office Building	6.07	1.2322	0.0728	0.0000	3.0526
Medical Office Building	2484	504.2296	29.7991	0.0000	1,249.2074
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		508.4822	30.0504	0.0000	1,259.7432

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

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

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Annual

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

Attachment 2. Heat Recovery CUP and GHG Emissions Memorandum

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MEMORANDUM

To: Harris & Associates: Sharon Toland, Kim Howlett
UCSD: Lauren Lievers

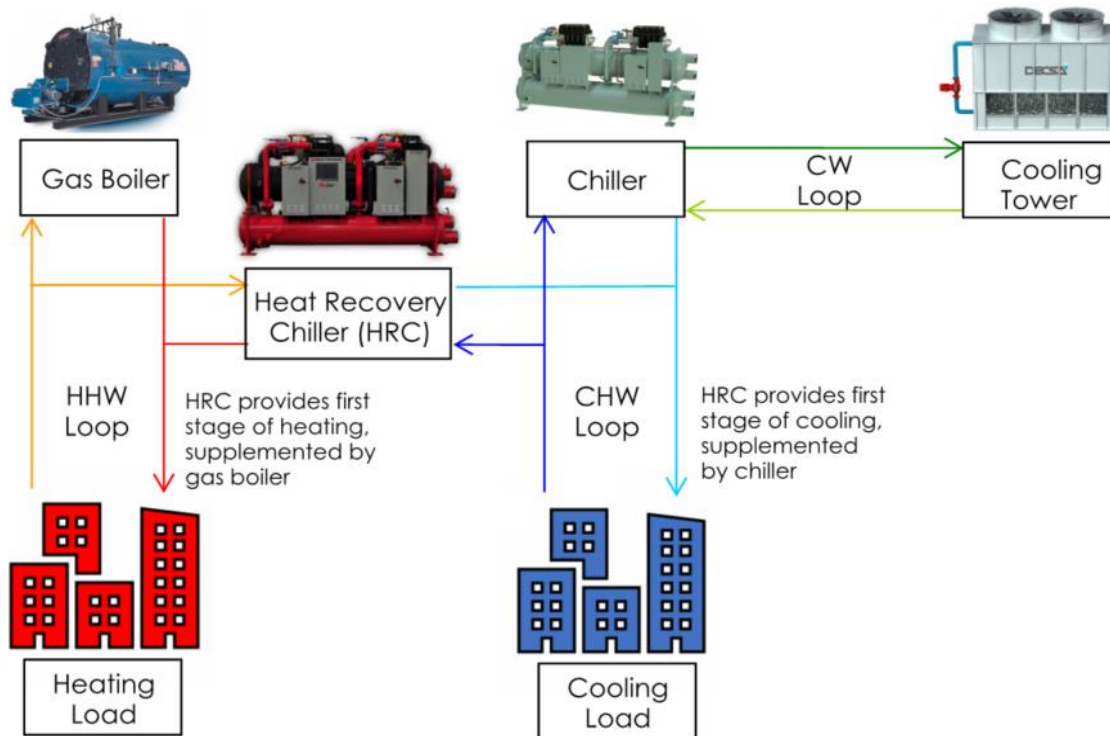
Date: 03/24/2020
From: Yu Zhang yzhang@glumac.com
cc: Nick Spath nspath@glumac.com
Brian Stern bstern@glumac.com

Project Name: UCSD Hillcrest Phase1
Subject: Heat Recovery CUP and GHG Emissions

This memo is to provide a description of the proposed design for phase one (non-OSHPD) central utility plant (CUP) for UCSD Hillcrest campus and to quantify the greenhouse gas (GHG) reductions compared to other system options. Phase one CUP will produce chilled water and hot water to serve outpatient pavilion (OPP) and multi-purpose building (MPB). The CUP will be built out during Phase 1A for OPP and 1B for MPB, equipment built out during Phase 1A will have ability to tie into additional equipment during Phase 1B. This analysis is provided for the phase one central plant in its entirety at the end of Phase 1B.

The proposed heat recovery CUP for phase 1 will have one 350-ton heat recovery chiller that will produce 130F hot water for heating while simultaneously producing a portion of chilled water. The heat recovery chiller runs on electricity and will provide first stage of cooling and heating, the remainder of the chilled water load is met by cooling-only chillers sized up to 1150 ton. Supplemental heating is provided by two 5,500 MBH natural gas fired boilers when heat recovery chiller cannot meet total heating load. The plant also has two 750-ton cooling tower to reject excess heat. See below for system configuration:

Heat Recovery CUP



This design has superior efficiency compared to a traditional chiller-boiler CUP design because it utilizes waste heat from chilled water production to produce hot water. It significantly reduces the usage of natural gas boilers and partially electrifies heating hot water production, as a result, reduces GHG emissions associated with natural gas combustion.

Compared to a cogen plant, a heat recovery plant with supplemental boilers has much less GHG emissions than a gas turbine. In addition, UCSD plans to purchase electricity through UCOP direct access which will be 100% renewable and have zero carbon emissions associated starting in 2025. After 2025, emission is not expected to change and remain at zero for electricity usage.

See below for analysis that quantifies the GHG reduction of proposed heat recovery plant in comparison to traditional plant and cogen plant for phase 1. GHG emission is calculated based on electricity and natural gas usage, using EPA's emission factors: 70.44 kg/MBtu for electricity within eGRID region CAMX, and 53.11 kg/MBtu for natural gas in United States.

2020

CUP Option	Emissions (MTE CO2)	MTE CO2 Reduction	% Reduction
1) Cogen	5,723	-	-
2) Standard CUP	4,757	996	17%
3) Heat Recovery CUP	3,725	1,998	35%

2025

CUP Option	Emissions (MTE CO2)	MTE CO2 Reduction	% Reduction
1) Cogen	5,601	-	-
2) Standard CUP	2,178	3,423	61%
3) Heat Recovery CUP	600	5,001	89%

Attachment 3. Screening Table

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GREENHOUSE GAS (GHG) EMISSIONS REDUCTION STRATEGY - TABLE 7.A

Project:	UCSD Hillcrest Campus Redevelopment Phase One
Project No.:	UCSD 5171 ; CRTKL 040-180089

Feature	Description	Assigned Point Values	Project Points
Reduction Measure: Hospital/Medical Facility/Lab Energy Efficiency Development			
Overall Energy Rating of Building			
HEA Energy Audits	<p>The Hospital Energy Alliance (HEA) in collaboration with the USEPA has developed an Energy Star efficiency benchmarking system depending upon how efficient the facility is in comparison to other medical facilities within the United States. A subset scoring system was also developed using medical facilities in California. The following scoring system is based on the California subset database:</p> <ul style="list-style-type: none"> <input type="checkbox"/> HEA Energy Star Score of below 60 <input type="checkbox"/> HEA Energy Star Score between 60 and 65 <input type="checkbox"/> HEA Energy Star Score between 66 and 70 <input type="checkbox"/> HEA Energy Star Score between 71 and 75 <input type="checkbox"/> HEA Energy Star Score between 76 and 80 <input type="checkbox"/> HEA Energy Star Score between 81 and 85 <input type="checkbox"/> HEA Energy Star Score between 86 and 90 <input type="checkbox"/> HEA Energy Star Score between 91 and 100 	<p>0 point</p> <p>5 points</p> <p>10 points</p> <p>20 points</p> <p>35 points</p> <p>50 points</p> <p>75 points</p> <p>100 points</p>	0
<i>If gaining points with HEA Energy Audits, skip the choices under the titles "Building Envelope" and "Indoor Space Efficiencies" because the HEA Energy Audits already account for these types of features (no double counting).</i>			0
Building Envelope			
Insulation	<ul style="list-style-type: none"> <input type="checkbox"/> 2017 baseline (walls R-13; roof/attic R-30) <input type="checkbox"/> Modestly Enhanced Insulation (walls R-15, roof/attic R-38) <input type="checkbox"/> Enhanced Insulation (rigid wall insulation R-15, roof/attic R-38) <input type="checkbox"/> Greatly Enhanced Insulation (spray foam insulated walls R-18 or higher, roof/attic R-38 or higher) 	<p>0 point</p> <p>20 points</p> <p>22 points</p> <p>24 points</p>	0

Feature	Description	Assigned Point Values	Project Points
Windows	<input type="checkbox"/> 2017 Baseline Windows (0.57 U-factor, 0.4 SHGC) <input type="checkbox"/> Modestly Enhanced Window Insulation (0.4 U-factor, 0.32 SHGC) <input type="checkbox"/> Enhanced Window Insulation (0.32 U-factor, 0.25 SHGC) <input type="checkbox"/> Greatly Enhanced Window Insulation (0.28 or less U-factor, 0.22 or less SHGC)	0 point 3 points 6 points 8 points	3
Cool Roof	<input type="checkbox"/> Modest Cool Roof (CRRC Rated 0.15 aged solar reflectance, 0.75 thermal emittance) <input type="checkbox"/> Enhanced Cool Roof (CRRC Rated 0.2 aged solar reflectance, 0.75 thermal emittance) <input type="checkbox"/> Greatly Enhanced Cool Roof (CRRC Rated 0.35 aged solar reflectance, 0.75 thermal emittance)	11 points 12 points 14 points	14
Air Infiltration	Minimizing leaks in the building envelope is as important as the insulation properties of the building. Insulation does not work effectively if there is excess air leakage. <input type="checkbox"/> Air barrier applied to exterior walls, caulking, and visual inspection such as the HERS Verified Quality Insulation Installation (QII or equivalent) <input type="checkbox"/> Blower Door HERS Verified Envelope Leakage or equivalent	12 points 9 points	12
Thermal Storage of Building	Thermal storage is a design characteristic that helps keep a constant temperature in the building. Common thermal storage devices include strategically placed water-filled columns, water storage tanks, and thick masonry walls. <input type="checkbox"/> Modest Thermal Mass (10 percent of floor or 10 percent of walls 12" or more thick exposed concrete or masonry with no permanently installed floor covering such as carpet, linoleum, wood or other insulating materials) <input type="checkbox"/> Enhanced Thermal Mass (20 percent of floor or 20 percent of walls 12" or more thick exposed concrete or masonry with no permanently installed floor covering such as carpet, linoleum, wood or other insulating materials)	4 points 6 points	0
Indoor Space Efficiencies			

Feature	Description	Assigned Point Values	Project Points
Heating/Cooling Distribution System	<input type="checkbox"/> Minimum Duct Insulation (R-4.2 required) <input type="checkbox"/> Modest Duct insulation (R-6) <input type="checkbox"/> Enhanced Duct Insulation (R-8) <input type="checkbox"/> Distribution loss reduction with inspection (HERS Verified Duct Leakage)	0 point 8 points 9 points 12 points	9
Medical Facility Heat Recovery Systems	Heat recovery strategies employed with laundry, cooking equipment, and other commercial heat sources for reuse in HVAC air intake or other appropriate heat recovery technology. Point values for these types of systems would be determined based upon design and engineering data documenting the energy savings. Use the GHG emission reduction per point value shown in Appendix B to calculate the points based upon the specific design.	Points for this option must be calculated at the time that the heat recovery system is designed based upon expected energy savings.	0
Water Heaters	<input type="checkbox"/> 2017 Minimum Efficiency (0.57 Energy Factor) <input type="checkbox"/> Improved Efficiency Water Heater (0.675 Energy Factor) <input type="checkbox"/> High Efficiency Water Heater (0.72 Energy Factor) <input type="checkbox"/> Very High Efficiency Water Heater (0.92 Energy Factor) <input type="checkbox"/> Solar Pre-heat System (0.2 Net Solar Fraction) <input type="checkbox"/> Enhanced Solar Pre-heat System (0.35 Net Solar Fraction)	0 point 11 points 12 points 15 points 3 points 6 points	15
Daylighting	Daylighting is the ability of each room within the building to provide outside light during the day, reducing the need for artificial lighting during daylight hours. <input type="checkbox"/> All peripheral rooms within the building have at least one window or skylight <input type="checkbox"/> All rooms within the building have daylight (through use of windows, solar tubes, skylights, etc.) <input type="checkbox"/> All rooms daylighted	1 point 4 points 5 points	0

Feature	Description	Assigned Point Values	Project Points
Artificial Lighting (generic lighting throughout the buildings)	<input type="checkbox"/> 2017 Minimum Efficiency (required) <input type="checkbox"/> Efficient Lights (25 percent of in-unit fixtures considered high efficacy. High efficacy is defined as 40 lumens/watt for 15 watt or less fixtures, 50 lumens/watt for 15-40 watt fixtures, 60 lumens/watt for fixtures >40 watt) <input type="checkbox"/> High Efficiency Lights (50 percent of in-unit fixtures are high efficacy) <input type="checkbox"/> Very High Efficiency Lights (100 percent of in-unit fixtures are high efficacy)	0 point 7 points 9 points 11 point	11
Examination and Surgical Lighting	<input type="checkbox"/> LED Exam room portable lighting (60 lumens/watt) <30,000 lux/M <input type="checkbox"/> LED Surgical lighting (60 lumens/watt) 31,000-80,000 lux/M <input type="checkbox"/> LED Surgical lighting (60 lumens/watt) 81,000-100,000 lux/M <input type="checkbox"/> LED Surgical lighting (60 lumens/watt) >100,000 lux/M with multi-stage dimming switch	7 points 12 points 18 points 25 points	25
Appliances	<input type="checkbox"/> Energy Star Commercial Refrigerator (new) <input type="checkbox"/> Energy Star Commercial Dishwasher (new) <input type="checkbox"/> Energy Star Commercial Clothes Washer <input type="checkbox"/> Energy Star Commercial Fan	1 point 1 point 1 point 1 point	1
Misc. Hospital/Medical Facility and Lab Building Efficiencies			
Building Placement	North/south alignment of building or other building placement such that the orientation of the buildings optimizes conditions for natural heating, cooling, and lighting.	4 points	0
Shading	At least 90 percent of south-facing glazing would be shaded by vegetation or overhangs at noon on June 21.	4 points	0
Other	This allows innovation by the applicant to provide design features that increase the energy efficiency of the project that are not provided in the table. Note that engineering data would be required documenting the energy efficiency of innovative designs and point values given based on the proven efficiency beyond the Title 24 Energy Efficiency Standards.	Points for this option must be calculated at the time that the energy efficiency feature is designed based upon expected energy savings.	0
Reduction Measure: Hospital/Medical Facility/Lab Renewable Energy			

Feature	Description	Assigned Point Values	Project Points
Photovoltaic	<p>Solar photovoltaic panels installed on commercial buildings or in collective arrangements within a commercial development such that the total power provided augments:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Solar Ready Roofs (sturdy roof and electric hookups) <input type="checkbox"/> 400 kW Capacity <input type="checkbox"/> 600 kW Capacity <input type="checkbox"/> 800 kW Capacity <input type="checkbox"/> 1.2 MW Capacity <input type="checkbox"/> 1.6 MW Capacity <input type="checkbox"/> 2.4 MW Capacity <input type="checkbox"/> 2.8 MW Capacity <input type="checkbox"/> 3.2 MW Capacity <input type="checkbox"/> 3.6 MW Capacity <input type="checkbox"/> 4 MW Capacity 	<p>2 points 8 points 14 points 20 points 26 points 32 points 38 points 44 points 50 points 56 points 60 points</p>	2
Offsite Renewable Power	<p>Electricity purchases by UC San Diego used to meet this menu option must include acquisition/retentions of sufficient environmental attributes to ensure zero GHG emissions:</p> <ul style="list-style-type: none"> <input type="checkbox"/> 1 MWh annually <input type="checkbox"/> 2 MWh annually <input type="checkbox"/> 4 MWh annually <input type="checkbox"/> 8 MWh annually <input type="checkbox"/> 12 MWh annually <input type="checkbox"/> 26 MWh annually <input type="checkbox"/> 32 MWh annually <input type="checkbox"/> 36 MWh annually <input type="checkbox"/> All electricity purchased as 100 percent zero emission renewable energy 	<p>2 points 5 points 11 points 22 points 33 points 72 points 88 points 99 points 112 points</p>	112
Other Renewable Energy Generation	<p>The applicant may have innovative designs or unique site circumstances (such as geothermal) that allow the project to generate electricity from renewable energy not provided in the table. The point values allowed would be decided based upon engineering data showing the generation capacity.</p>	<p>Points for this option must be calculated at the time that the system is designed.</p>	0
Reduction Measure: Hospital/Medical Facility/Lab Water Conservation			
Irrigation and Landscaping			

Feature	Description	Assigned Point Values	Project Points
Water Efficient Landscaping	<input type="checkbox"/> Eliminate conventional turf from landscaping <input type="checkbox"/> Only moderate water using plants <input type="checkbox"/> Only low water using plants <input type="checkbox"/> Only California native landscape that requires no or only supplemental irrigation	0 point 2 points 3 points 6 points	2
Trees	<input type="checkbox"/> Increase tree planting in parking areas 50 percent beyond City Code	Points for this option must be calculated at the time that the system is designed.	0
Water Efficient Irrigation Systems	<input type="checkbox"/> Low precipitation spray heads <0.75"/hour or drip irrigation <input type="checkbox"/> Weather-based irrigation control systems combined with drip irrigation (demonstrate 20 percent reduced water use)	1 point 4 points	4
Recycled Water	<input type="checkbox"/> Recycled water connection (purple pipe) to irrigation system on site	5 points	0
Storm Water Reuse Systems	Innovative on-site storm water collection, filtration, and reuse systems are being developed that provide supplemental irrigation water and provide vector control. These systems can greatly reduce the irrigation needs of a project. Point values for these types of systems would be determined based on design and engineering data documenting the water savings.	Points for this option must be calculated at the time that the system is designed.	0
Potable Water			
Showers	Water efficient showerheads (2.0 gpm)	2 points	2
Toilets	<input type="checkbox"/> Water efficient toilets/urinals (1.5 gpm) <input type="checkbox"/> Waterless urinals (note that commercial buildings having both waterless urinals and high-efficiency toilets would have a combined point value of 6 points)	2 points 3 points	2
Faucets	<input type="checkbox"/> Water efficient faucets (1.28 gpm)	2 points	2
Commercial Dishwashers	<input type="checkbox"/> Water efficient dishwashers (20 percent water savings)	3 points	0
<input type="checkbox"/> Commercial Laundry Washers	<input type="checkbox"/> Water efficient laundry (15 percent water savings) <input type="checkbox"/> High efficiency laundry equipment that captures and reuses rinse water (30 percent water savings)	2 points 4 points	0

Feature	Description	Assigned Point Values	Project Points
Commercial Water Operations Program	Establish an operational program to reduce water loss from pools, water features, etc., by covering pools, adjusting fountain operational hours, and using water treatment to reduce drawdown and replacement of water. Point values for these types of plans would be determined based on design and engineering data documenting the water savings.	Points for this option must be calculated at the time that the water operations program is designed based upon expected water savings.	0
Reduction Measure Transportation: Bicycle Infrastructure			
Bicycle Infrastructure	<p>Campus mobility includes Class I, Class II, and Class III bikeways to build on the current bikeways.</p> <p><input type="checkbox"/> Provide bicycle paths within project boundaries.</p> <p><input type="checkbox"/> Provide bicycle path linkages between project site and other land uses.</p> <p><input type="checkbox"/> Provide bicycle path linkages between project site and transit.</p>	<p>1 point</p> <p>2 points</p> <p>6 points</p>	6
Reduction Measure Transportation: Electric Vehicle Infrastructure			
Neighborhood Electric Vehicles	<p><input type="checkbox"/> Provide safe NEV routes within the facility</p> <p><input type="checkbox"/> Provide safe NEV routes between the facility and other land uses</p>	<p>5 points</p> <p>10 points</p>	0
Electrical Vehicles	<p><input type="checkbox"/> Provide staff-only charging station for use by facility-owned electric vehicle</p> <p><input type="checkbox"/> Provide public charging station for use by an electric vehicle</p>	<p>5 points</p> <p>7 points</p>	7
Reduction Measure Transportation: Employee Based Trip & VMT Reduction Policy			
Compressed Work Week	<p>Reducing the number of days per week that employees need to be on site would reduce the number of vehicle trips associated with commercial/industrial development. A compressed work week such that full-time employees are on site:</p> <p><input type="checkbox"/> 4 days per week</p> <p><input type="checkbox"/> 3 days per week</p>	<p>3 points</p> <p>6 points</p>	3
Car/Vanpools	<p><input type="checkbox"/> Car/vanpool program</p> <p><input type="checkbox"/> Car/vanpool program with preferred parking</p> <p><input type="checkbox"/> Car/vanpool with guaranteed ride home program</p> <p><input type="checkbox"/> Subsidized employee incentive car/vanpool program</p> <p><input type="checkbox"/> Combination of all the above</p>	<p>3 points</p> <p>4 points</p> <p>4 points</p> <p>5 points</p> <p>7 points</p>	4

Feature	Description	Assigned Point Values	Project Points
Employee Bicycle/ Pedestrian Programs	<input type="checkbox"/> Complete sidewalk to residential within 0.5 mile <input type="checkbox"/> Complete bike path to residential within 3 miles <input type="checkbox"/> Bike lockers and secure racks <input type="checkbox"/> Showers and changing facilities <input type="checkbox"/> Subsidized employee walk/bike program (Note: Combine all applicable points for total value.)	3 points 3 points 1 point 2 points 2 points	9
Shuttle/Transit Programs	<input type="checkbox"/> Local bus stop at the medical facility <input type="checkbox"/> Light rail transit within 0.25 mile <input type="checkbox"/> Light rail transit within 0.5 mile <input type="checkbox"/> Shuttle service to light rail transit station <input type="checkbox"/> Guaranteed ride home program <input type="checkbox"/> Subsidized transit passes (Note: Combine all applicable points for total value.)	3 points 7 points 3 points 3 points 3 points 4 points	10
Commute Trip Reduction	Employer-based CTR. CTRs apply to commercial, offices, or industrial projects that include a reduction of vehicle trip or VMT goal using a variety of employee CTR methods. <input type="checkbox"/> Incentive-based CRT programs <input type="checkbox"/> Mandatory CRT programs	5 points 11 points	0
Other Trip Reductions	Other trip or VMT reduction measures not listed above with a TIA and/or other traffic data supporting the trip and/or VMT for the project.	Point values for this option must be calculated at the time the VMT reduction measure is designed based on the reduction of VMT.	0
			255

Appendix B. Air Quality Memorandum

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MEMORANDUM

To: Lauren Lievers, Senior Environmental Planner, University of California, San Diego
From: Sharon Toland, Project Manager, Harris & Associates
RE: Comparison of Hillcrest Outpatient Pavilion and Parking Structure Project to 2019 LRDP EIR Phase 1A Project Components – Air Quality Impacts
Date: August 23, 2021
CC: Diane Sandman, Kim Howlett, Kristin Blackson, Harris & Associates
Att: 1, Model Outputs; 2, Heat Recovery CUP and GHG Emissions Memorandum

The Environmental Impact Report (EIR) for the University of California, San Diego (UC San Diego), 2019 Long Range Development Plan (2019 LRDP) for the Hillcrest Campus was certified in November 2019 (SCH No. 2018031003). Following certification, the project components of Phase 1A of the 2019 LRDP have been revised and are referred to in this analysis as the Hillcrest Outpatient Pavilion and Parking Structure Project (project). The purpose of this memorandum is to compare the components of the Hillcrest Outpatient Pavilion and Parking Structure Project to those addressed as Phase 1A of the 2019 LRDP in the 2019 LRDP EIR to determine whether the potential impacts of the Hillcrest Outpatient Pavilion and Parking Structure Project are adequately addressed in the certified 2019 LRDP EIR. For each issue addressed in Section 3.2, Air Quality, of the 2019 LRDP EIR, the following analysis summarizes the air quality impacts of Phase 1A in the 2019 LRDP EIR and provides a comparison to the potential impacts of the Hillcrest Outpatient Pavilion and Parking Structure Project.

Project Description

The Hillcrest Outpatient Pavilion and Parking Structure Project includes construction of the proposed Outpatient Pavilion, the Spine, the reduced size Canyon Parking Structure, the Main Parking Structure, and the non-Office of Statewide Health Planning Department (OSHPD) portion of the Central Utility Plant (CUP) (see Figure 1, Outpatient Pavilion and Parking Structure Site Plan). The pad for the OSHPD CUP would also be constructed, but the future OSHPD CUP would not be installed until a later phase.

The Hillcrest Outpatient Pavilion and Parking Structure Project does not include new uses that were not addressed in the 2019 LRDP EIR. The proposed size of the Outpatient Pavilion has been reduced from 272,000 gross square feet (gsf) in the 2019 LRDP EIR to 251,000 gsf. The 25,000 gsf Outpatient Pavilion Annex addressed in the 2019 LRDP EIR would not be constructed under implementation of the Hillcrest Outpatient Pavilion and Parking Structure Project. Proposed parking in the Spine would be reduced to approximately 70 spaces compared to 675 spaces in the 2019 LRDP EIR. The footprint of the Main Parking Structure has also been redesigned and would accommodate approximately 1,780 parking spaces compared to 1,325 spaces as described in the 2019 LRDP EIR.

In the 2019 LRDP EIR, the entire CUP was assumed to be constructed in Phase 3. Under the Hillcrest Outpatient Pavilion and Parking Structure Project, the non-OSHPD portion of the CUP would primarily be constructed in Phase 1A. The remaining OSHPD portion of the CUP would be constructed in a later phase. The non-OSHPD CUP would include traditional chillers and boilers with a heat recovery chiller rather than the cogeneration facility assumed in the 2019 LRDP EIR. Emergency power would be provided as part of the CUP from a diesel-fueled generator.

The Hillcrest Outpatient Pavilion and Parking Structure Project also includes the redesign of a service road connection from Bachman Place to the Canyon Parking Structure and the CUP. Instead of terminating in the underground portion of the structure, the service road would terminate at the parking area of the Spine but would also provide service vehicle access to the CUP and the Outpatient Pavilion at the western end of the access road.

In addition, the Hillcrest Outpatient Pavilion and Parking Structure Project would include two drainage basins. One basin is proposed at the southeastern corner of the project site and was previously included as part of Phase 1A. The second basin would be east of Bachman Place in the northeastern area of the Hillcrest Campus and was previously proposed as part of Phase 2B. Overall, the Hillcrest Outpatient Pavilion and Parking Structure Project would result in the construction of 251,000 gsf of health services and 9,5000 gsf of campus support utilities compared to 297,000 gsf of health services in Phase 1A in the 2019 LRDP EIR. Table 1 summarizes the changes in land use between Phase 1A in the 2019 LRDP EIR and the Hillcrest Outpatient Pavilion and Parking Structure Project.

Table 1. Comparison of 2019 LRDP EIR Phase 1A Project Components with Hillcrest Outpatient Pavilion and Parking Structure Project – Construction

2019 LRDP EIR Phase 1A Construction	Proposed Hillcrest Outpatient Pavilion and Parking Structure Project Construction
Outpatient Pavilion (272,000 gsf)	Outpatient Pavilion (251,000 gsf)
Outpatient Pavilion Annex (25,000 gsf)	No longer proposed
Canyon Parking Structure (subgrade) (675 parking spaces)	The Spine (approximately 70 parking spaces and a 2,417-square-foot parking and security office)
Main Parking Structure (1,325 parking spaces)	Main Parking Structure (approximately 1,780 parking spaces)
	CUP – Non-OSHPD portion (9,500 gsf)
Total: 297,000 gsf campus development 2,000 parking spaces	Total: 260,500 gsf campus development 1,850 parking spaces

Notes: 2019 LRDP = 2019 Long Range Development Plan; CUP = Central Utility Plant; EIR = Environmental Impact Report; gsf = gross square feet; OSHPD = Office of Statewide Health Planning Department

To accommodate the construction of the non-OSHPD portion of the CUP, the construction area of the Hillcrest Outpatient Pavilion and Parking Structure Project would be extended north compared to Phase 1A in the 2019 LRDP EIR and south to include improvements to Bachman Place south of Arbor Drive identified as mitigation for the 2019 LRDP in the 2019 LRDP EIR. With the exception of these improvements to Bachman Place, the construction area is within the total construction area for the 2019 LRDP addressed in the 2019 LRDP EIR. The Hillcrest Outpatient Pavilion and Parking Structure Project would result in a total disturbance area of approximately 10.5 acres. The extended portion to the north was previously addressed in Phases 2B and 3. As a result, the Hillcrest Outpatient Pavilion and Parking Structure Project would include the demolition of the existing Bachman Parking structure that was previously planned for future Phase 2B. Table 2 compares demolition required for the Hillcrest Outpatient Pavilion and Parking Structure Project to Phase 1A in the 2019 LRDP EIR, when construction of the Hillcrest Outpatient Pavilion and Parking Structure Project would occur. Only minor construction would be required for equipment installation at the non-OSHPD CUP during Phase 1B. Construction of the Hillcrest Outpatient Pavilion and Parking Structure Project would require the closure of Bachman Place for approximately 23 months; it is anticipated that construction access would be maintained during some or all of project construction; however, an alternative haul route has been identified utilizing First Avenue, Arbor Drive, and Front Street compared to the 2019 LRDP EIR. Soil export of 48,700 cubic yards is estimated for the Hillcrest Outpatient Pavilion and Parking Structure Project compared to the 238,000 cubic yards in Phase 1A in the 2019 LRDP EIR (see Figure 2, Outpatient Pavilion and Parking Structure Grading Plan). The difference is primarily due to less underground parking proposed in the Hillcrest Outpatient Pavilion and Parking Structure Project compared to the 2019 LRDP EIR, and because excavated material from the location of the existing Bachman Parking Structure would be used for fill at the CUP site. No building construction was previously assumed in Phase 1B in the 2019 LRDP EIR. Under the Hillcrest Outpatient Pavilion and

Parking Structure Project, minor construction would be required for equipment installation at the non-OSHPD CUP. Additional building construction is not proposed. The most intensive construction activity for the non-OSHPD CUP, including earthwork and pad construction, would occur in Phase 1A.

The construction assumptions developed for the 2019 LRDP EIR, which were based on a similar major UC San Diego project, determined that no more than 150 two-way truck trips would feasibly occur in a workday. Construction of the Hillcrest Outpatient Pavilion and Parking Structure Project is estimated to begin in November 2021 and take approximately 40 months to complete, and the demolition phase is assumed to be extended from 60 days for Phase 1A in the 2019 LRDP EIR to 225 days to accommodate the additional demolition materials.

Table 2. Comparison of 2019 LRDP EIR Phase 1A Project Components with Hillcrest Outpatient Pavilion and Parking Structure Project – Existing Buildings to be Demolished

2019 LRDP EIR Phase 1A – Demolition	Proposed Hillcrest Outpatient Pavilion and Parking Structure Project – Demolition
Mail Services, 138 Dickinson Street (2,100 gsf)	Not included in Phase 1A scope
136 Dickinson Street (2,900 gsf)	Not included in Phase 1A scope
134 Dickinson Street (1,800 gsf)	Not included in Phase 1A scope
150 Dickinson Street (800 gsf) ¹	Not included in Phase 1A scope
Camelot (1,700 gsf)	Not included in Phase 1A scope
135 Dickinson Street (3,800 gsf) ¹	Not included in Phase 1A scope
125 Dickinson Street (2,600 gsf) ¹	Not included in Phase 1A scope
Dickinson Housing Cluster (10,500 gsf)	Not included in Phase 1A scope
4235 Front Street (3,500 gsf)	Not included in Phase 1A scope
Crest Chateau (5,500 gsf) ¹	Not included in Phase 1A scope
Crest Trailer (900 gsf) ¹	Not included in Phase 1A scope
112 Arbor Drive (7,700 gsf)	112 Arbor Drive (7,700 gsf)
140 Arbor Drive (27,700 gsf)	140 Arbor Drive (27,700 gsf)
114 Arbor Drive (6,400 gsf)	114 Arbor Drive (6,400 gsf)
140 Arbor Parking Structure (80 parking spaces)	140 Arbor Parking Structure (80 parking spaces)
4194 First Avenue (3,800 gsf for both units)	Not included in Phase 1A scope
Surface Parking Lot (23 parking spaces)	Surface Parking Lot (23 parking spaces)
Valet Parking Lot (50 parking spaces)	Valet Parking Lot (50 parking spaces)
Bachman East Surface Lot (118 parking spaces)	Bachman East Surface Lot (118 parking spaces)
First Avenue End Parking Lot (7 parking spaces)	First Avenue End Parking Lot (7 parking spaces)
	Existing Bachman Parking Structure (1,032 parking spaces)

Notes: 2019 LRDP = 2019 Long Range Development Plan; EIR = Environmental Impact Report; gsf = gross square feet

¹ The building has been demolished/removed as a separate project in accordance with the approved 2019 LRDP and 2019 LRDP EIR.

Issue 1: Consistency with Applicable Air Quality Plan

Based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines, implementation of the 2019 LRDP would have a significant impact if it would result in a conflict with or obstruct implementation of the applicable air quality plan. For the 2019 LRDP, applicable air quality plans include the San Diego Air Pollution Control District (SDAPCD) Regional Air Quality Strategy (RAQS) and the California State Implementation Plan (SIP).



Summary of 2019 Long Range Development Plan Environmental Impact Report Impacts

Consistency with the RAQS and SIP was determined based on 2019 LRDP consistency with the regional growth projections accounted for in the RAQS and SIP emissions inventories. Projects that propose development consistent with or less than the growth projections anticipated by a General Plan would be consistent with the RAQS and SIP because the emissions resulting from these projects have been accounted for in the air quality plans. The existing 1995 LRDP for the Hillcrest Campus is the applicable General Plan accounted for in the RAQS and SIP.

The 2019 LRDP EIR determined that although the 2019 LRDP would expand the campus, the 2019 LRDP land uses are generally consistent with the current campus land use types and, therefore, are consistent with the goals developed by San Diego Association of Governments to reduce vehicle miles traveled (VMT). Implementation of the 2019 LRDP would result in a net decrease in ozone (O₃) precursors compared to existing conditions. Therefore, the proposed 2019 LRDP does not conflict with or obstruct implementation of the applicable air quality plan. The 2019 LRDP EIR identified this impact as less than significant. No mitigation measures are required.

Hillcrest Outpatient Pavilion and Parking Structure Project Consistency Evaluation

The Hillcrest Outpatient Pavilion and Parking Structure Project is consistent with the uses identified for the site in the 2019 LRDP EIR and do not include any new components that would result in any additional growth beyond what was accounted for in the 2019 LRDP EIR analysis. Instead, it moves some of the anticipated growth from later phases of the 2019 LRDP to the Hillcrest Outpatient Pavilion and Structure Parking Project. Air quality consistency is based on projected total buildout, rather than the buildout schedule. The VMT-reducing features proposed in the 2019 LRDP would continue to be implemented under the Hillcrest Outpatient Pavilion and Parking Structure Project, such as mixed-use campus development, alternative work schedules, car/vanpool programs, employee bicycle commute facilities, shuttle programs, and trip reduction incentives. Therefore, air quality plan consistency would be the same for the project as the 2019 LRDP EIR. Additionally, as described under Issue 2, operation of the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in additional ozone (O₃) compared to Phase 1A addressed in the 2019 LRDP EIR. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding air quality plan consistency.

Issue 2: Cumulative Increase in Criteria Pollutant Emissions

Based on Appendix G of the CEQA Guidelines, implementation of the 2019 LRDP would have a significant impact if it would result in a cumulatively considerable net increase of any criteria air quality pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard. The 2019 LRDP was determined to result in a significant increase in criteria pollutant emissions if it would exceed the thresholds adopted by the City of San Diego during construction or operation.

Summary of 2019 Long Range Development Plan Environmental Impact Report Impacts

Construction and operational criteria pollutant emissions are summarized below.

Construction

Daily air pollutant emissions during construction of Phase 1A in the 2019 LRDP EIR were estimated using the assumed worst-case activity data and the emission factors included in the California Emissions Estimator Model (CalEEMod), Version 2016.3.2. Model defaults were used to estimate emissions associated with construction equipment except pile driving equipment, which was added to grading in Phase 1A. Daily worker and vendor vehicle trips were conservatively assumed to be an average of 447 workers per day during construction activities and 60 trips per day for vendor deliveries during building construction in all phases. A 15-cubic-yard truck capacity was assumed for soil export, and one truck was assumed for every 9 square feet of building demolition material for construction activities. Architectural coating was assumed to occur simultaneously with building construction and would not result in additional worker or vendor trips. Assumptions for Phase 1A in the 2019 LRDP EIR are listed in Table 3.

Table 3. 2019 LRDP EIR Phase 1A Construction Assumption Summary

Construction Phase	Working Days by Activity	Demolition Material Export (sf)	Demolition Haul Trips	Soil Export (cy)	Soil Haul Trips	Disturbance Area (acres)	Total Building Construction (sf)
2019 LRDP EIR Phase 1A	Demolition – 60 Grading and earthwork – 110 Building construction – 670 Architectural coating – 446 Paving – 55	61,400	13,730 (229/day)	238,000	31,733 (289/day)	5.4	997,000

Source: Harris 2019.

Notes: 2019 LRDP = 2019 Long Range Development Plan; cy = cubic yard; EIR = Environmental Impact Report; sf = square feet

Table 4 provides the estimated construction emissions for Phase 1A in the 2019 LRDP EIR based on the above assumptions. As shown in Table 4, construction of Phase 1A was determined to result in less than significant impacts during construction. Therefore, Mitigation Measure AIR-2 identified for 2019 LRDP construction, which prohibited architectural coating simultaneous with other construction activities, does not apply to Phase 1A because its maximum air pollutant emissions would be below the impact significance criteria even during simultaneous construction.

Table 4. 2019 LRDP EIR Phase 1A Construction Daily Maximum Air Pollutant Emissions

Construction Phase	Maximum Daily Emissions (pounds/day)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Demolition	10	115	66	<1	14	5
Earthwork and grading	10	130	67	<1	22	8
Building construction/architectural coating	23	30	45	<1	9	3
Paving	5	19	27	<1	9	3
Worst-case simultaneous construction ¹	33	245	133	<1	36	13
Worst-Case Phases 1A/1B simultaneous construction (grading in both phases) ²	16	166	109	<1	32	13
Significance Threshold	137	250	550	250	100	55
<i>Significant Impact?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

Source: Harris 2019.

Notes:

¹ Worst-case for VOC is emissions is simultaneous building construction/architectural coating and either demolition or earthwork and grading. The worst-case scenario for all other pollutants is simultaneous demolition and earthwork and grading.

² Grading emissions for Phase 1B as reported in the 2019 LRDP EIR (Table 3.2-9) are 6 lbs/day VOCs, 36 lbs/day NO_x, 42 lbs/day CO, <1 lbs/day SO_x, 12 lbs/day PM₁₀, and 5 lbs/day PM_{2.5}.

2019 LRDP = 2019 Long Range Development Plan; CO = carbon monoxide; EIR = Environmental Impact Report; NO_x = nitrogen oxides; PM₁₀ = particulate matter less than 10 micrometers in diameter; PM_{2.5} = particulate matter less than 2.5 micrometers in diameter; SO_x = sulfur oxides; VOC = volatile organic compound

Operation

Operational emissions for the 2019 LRDP in the 2019 LRDP EIR were estimated using CalEEMod, Version 2016.3.2, as part of the project-specific Greenhouse Gas Reduction Strategy prepared by LSA (2019), which is based on project-specific energy use data provided by UC San Diego and traffic data from the project-specific Transportation Impact Analysis (LLG 2019). The 2019 LRDP would replace existing campus operations, which are an existing source

of criteria pollutant emissions. Total long-term operational emissions were estimated for the existing campus and buildout of the 2019 LRDP. The existing campus emissions are part of existing ambient air quality. As such, the 2019 LRDP's net change in emissions was used in the 2019 LRDP EIR analysis.

The net change in emissions as a result of buildout of the 2019 LRDP is provided in Table 5, which includes emissions from operation of a cogeneration facility at the CUP. As shown in Table 5, operational emissions from the 2019 LRDP would have the potential to result in a net decrease in volatile organic compound and carbon monoxide emissions compared to existing conditions and a net increase in nitrogen oxides and particulate matter (PM₁₀ [particulate matter less than 10 micrometers in diameter] and PM_{2.5} [particulate matter less than 2.5 micrometers in diameter]) emissions. However, the increase in emissions would not exceed the significance thresholds for maximum daily emissions. The decrease or minimal increase in emissions anticipated compared to existing conditions is primarily due to increasingly stringent vehicle emissions standards. Therefore, the 2019 LRDP EIR concluded that air quality impacts associated with operation of the 2019 LRDP would not be potentially significant or cumulatively considerable.

Table 5 does not include emissions from diesel emergency generators, helicopters, or ambulances. New emergency generators installed under the 2019 LRDP would replace the existing generators on campus. Due to similar operational requirements, and because the generators installed under the 2019 LRDP are expected to incorporate newer technology and be more efficient than the generators being replaced, pollutant emissions from periodic generator testing would only nominally contribute to the net increase in pollutants from 2019 LRDP implementation. Emissions from use of helicopters or ambulances for emergency services would be similar to existing conditions. No net increase in emissions from fuel use associated with emergency helicopter or vehicle trips would result from project implementation. The 2019 LRDP EIR concluded that impacts would be less than significant for this issue.

Table 5. 2019 LRDP EIR Buildout Operational Daily Maximum Air Pollutant Emissions

Emission Source	Maximum Daily Emissions (pounds/day)					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
CUP operation	6	160	96	1	9	9
Landscape	3	1	84	<1	<1	<1
Consumer products	59	0	0	0	0	0
Architectural coating	19	0	0	0	0	0
Vehicular sources	46	220	462	2	205	55
Total Operational Emissions	133	381	642	3	214	64
Net Change in Emissions	(-34)	18	(-359)	0	25	3
Significance Threshold	137	250	550	250	100	55
<i>Significant Impact?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

Sources: Harris 2019; CalEEMod, Version 2016.3.2. See Appendix F of the 2019 LRDP EIR for model output.

Notes: 2019 LRDP = 2019 Long Range Development Plan; CO = carbon monoxide; CUP = Central Utility Plant; EIR = Environmental Impact Report; NO_x = nitrogen oxides; PM₁₀ = particulate matter less than 10 micrometers in diameter; PM_{2.5} = particulate matter less than 2.5 micrometers in diameter; SO₂ = sulfur dioxide; VOC = volatile organic compound

Emission quantities are rounded to the nearest whole number. Exact values are provided in Appendix F of the 2019 LRDP EIR.

The 2019 LRDP EIR also includes an analysis of simultaneous operation of the remaining existing facilities, 2019 LRDP implementation, and operation of facilities constructed under the 2019 LRDP in interim year 2025. The analysis considers whether the net operation in operational emissions in year 2025, combined with worst-case construction emissions, would exceed the significance thresholds. A potentially significant impact was identified during simultaneous construction of Phase 2A/2B and interim operation. However, during construction of Phase 1A, none of the proposed 2019 LRDP facilities would be operational. Therefore, this analysis and the potential impact do not apply to Phase 1A. The analysis of the net increase above existing emissions during Phase 1A construction is addressed by the construction emissions in Table 4.



Hillcrest Outpatient Pavilion and Parking Structure Project Consistency Evaluation

Construction and operational criteria pollutant emissions are addressed separately below.

Construction

Table 6 provides a comparison between the construction assumptions for the Hillcrest Outpatient Pavilion and Parking Structure Project and the assumptions of the 2019 LRDP EIR. As shown in Table 6, demolition under the Hillcrest Outpatient Pavilion and Parking Structure Project would require a higher number of demolition haul trips per day. As such, demolition would have the potential to result in higher criteria pollutants compared to Phase 1A in the 2019 LRDP EIR. Soil haul trips would be substantially reduced compared to Phase 1A in the 2019 LRDP EIR; however, the disturbance area would be increased. Daily air pollutant emissions during construction of the Hillcrest Outpatient Pavilion and Parking Structure Project were estimated using the CalEEMod Model, Version 2016.3.2, based on these revised assumptions. The start of construction was also adjusted from 2019 and the schedule was adjusted from 45 months to 38 months. The additional disturbance area is assumed to be paved to account for the additional roadway improvements. Modeling includes the portion of the non-OSHDP CUP equipment to be installed in Phase 1B, which provides a worse-case daily construction analysis.

Table 6. Hillcrest Outpatient Pavilion and Parking Structure Project Construction Assumption Summary

Construction Phase	Working Days by Activity	Demolition Material Export (sf)	Demolition Haul Trips	Soil Export (cy)	Soil Haul Trips	Disturbance Area (acres)	Total Building Construction (sf)
2019 LRDP EIR Phase 1A	Demolition – 60 Grading and earthwork – 110 Building construction – 670 Architectural coating – 446 Paving – 55	61,400	13,730 (229/day)	238,000	31,733 (289/day)	5.4	997,000
Hillcrest Outpatient Pavilion and Parking Structure Project	Demolition – 225 Grading and earthwork – 64 Building construction – 396 Architectural coating – 264 Paving – 35	296,698	66,348 (295/day)	65,000	8,667 (135/day)	10.5	942,000
Net Change from 2019 LRDP EIR Phase 1A	Demolition: +165 Grading and earthwork: (-46) Building construction: (-274) Architectural coating: (-182) Paving: (-20)	+235,298	+52,618 (+66/day)	(-173,000)	(-23,066) (-154/day)	+5.1	(-55,000)

Notes: 2019 LRDP = 2019 Long Range Development Plan; cy = cubic yard; sf = square feet; EIR = Environmental Impact Report

Table 7 provides the estimated construction emissions for the Hillcrest Outpatient Pavilion and Parking Structure Project based on the above assumptions. As shown in Table 7, construction of the Hillcrest Outpatient Pavilion and Parking Structure Project, including simultaneous construction with Phase 1B as proposed in the 2019 LRDP EIR, was determined to result in less than significant impacts during construction. Demolition emissions would be increased compared to Phase 1A in the 2019 LRDP EIR but would not exceed the significance thresholds. Earthwork and grading emissions would be reduced compared to Phase 1A in the 2019 LRDP EIR. No building construction emissions were calculated in the 2019 LRDP EIR for Phase 1B; however, as shown in Table 7, building construction for all components of the Outpatient and Parking Structure Project would not exceed significance thresholds. Temporary operation of minimal heavy equipment to install a chiller and cooling tower would result in nominal emissions compared to the building construction emissions calculated in Table 7 and would not result in a significant net increase in Phase 1B emissions.

Table 7. Hillcrest Outpatient Pavilion and Parking Structure Project Construction Daily Maximum Air Pollutant Emissions

Construction Phase	Maximum Daily Emissions (pounds/day)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Demolition	10	125	68	<1	17	6
Earthwork and grading	9	93	66	<1	19	8
Building construction/architectural coating	31	27	43	<1	9	3
Paving	5	19	37	<1	8	3
Worst-case simultaneous construction ¹	41	218	134	<1	36	14
Worst-case Phases 1A/1B simultaneous construction ²	37	177	118	<1	31	12
Significance Threshold	137	250	550	250	100	55
<i>Significant Impact?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

Source: CalEEMod Version 2016.3.2. See Attachment 1 to this memorandum for model output.

Notes:

¹ Worst-case for VOC is emissions is simultaneous building construction/architectural coating and either demolition or earthwork and grading. The worst-case scenario for all other pollutants is simultaneous demolition and earthwork and grading. Highlighted value is the worst-case scenario for each pollutant.

² Worst-case daily emissions for Phase 1B for any activity as reported in the 2019 LRDP EIR (Table 3.2-9) are 6 lbs/day VOCs, 52 lbs/day NO_x, 50 lbs/day CO, <1 lbs/day SO_x, 12 lbs/day PM₁₀, and 5 lbs/day PM_{2.5}.

CO = carbon monoxide; NO_x = nitrogen oxides; PM₁₀ = particulate matter less than 10 micrometers in diameter; PM_{2.5} = particulate matter less than 2.5 micrometers in diameter; SO_x = sulfur oxides; VOC = volatile organic compound

Operation

The Hillcrest Outpatient Pavilion and Parking Structure Project does not propose any new land uses that would result in additional vehicle trips to the campus. The Hillcrest Outpatient Pavilion and Parking Structure Project slightly reduces the total amount of health services that would be provided at buildout of the campus. The 2019 LRDP EIR also assumes operation of a cogeneration facility at the CUP. However, the non-OSHDP portion of the CUP that would be developed under the Hillcrest Outpatient Pavilion and Parking Structure Project would consist of traditional boilers with a heat recovery chiller. A greenhouse gas emissions estimate prepared for the proposed CUP determined that, because this design uses waste heat from chilled water production to produce hot water, it significantly reduces the use of natural gas boilers and partially electrifies heating hot water production. As a result, installation of traditional boilers with a heat recovery chiller reduces greenhouse gas emissions associated with natural gas combustion compared to a cogeneration facility. Greenhouse gas emissions of the proposed non-OSHDP CUP were calculated to be 35 percent less than a cogeneration facility (Glumac 2020; Attachment 2). The Glumac study does not compare criteria pollutant emissions from natural gas consumption between the CUP design options. However, because natural gas combustion would be reduced, operational emissions of criteria pollutants from the CUP under the Hillcrest Outpatient Pavilion and Parking Structure Project would also be reduced compared to the cogeneration facility assumed in the 2019 LRDP EIR. As such, buildout operational

emissions of the 2019 LRDP with the Hillcrest Outpatient Pavilion and Parking Structure Project would be less than those calculated for buildout in the 2019 LRDP EIR. As shown in Table 5, operational emissions from the 2019 LRDP would not exceed the significance thresholds for maximum daily emissions. Following project modeling, a Design Development Energy Summary Report was completed for the project that demonstrates that the Hillcrest Outpatient Pavilion and Parking Structure Project, including CUP operation, would reduce natural gas use by 60 percent compared to ASHRAE 90.1-2010 standards (Glumac 2021). Therefore, air quality impacts associated with operation of the 2019 LRDP with the Hillcrest Outpatient Pavilion and Parking Structure Project would not be potentially significant or cumulatively considerable. This finding is consistent with those of the 2019 LRDP EIR.

Helicopters, and ambulances, the Hillcrest Outpatient Pavilion and Parking Structure Project would not include additional diesel emergency generators or uses that would generate additional helicopter or ambulance trips compared to the assumptions in the 2019 LRDP EIR. New emergency generators would be installed at the CUP in Phase 1A rather than Phase 3 but would result in the same buildout conditions. Monthly testing of the generators would generally be the same as existing generator testing and the assumptions in the 2019 LRDP EIR. The Hillcrest Outpatient Pavilion and Parking Structure Project would result in a less than significant impact for this issue, as identified in the 2019 LRDP EIR.

Summary

Construction of the Hillcrest Outpatient Pavilion and Parking Structure Project and operation of the 2019 LRDP with the Hillcrest Outpatient Pavilion and Parking Structure Project would not exceed the significance threshold for any air quality emission pollutant. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects identified in the 2019 LRDP EIR regarding net increases in criteria pollutant emissions.

Issue 3: Sensitive Receptors

Based on Appendix G of the CEQA Guidelines, implementation of the 2019 LRDP would have a significant impact if it would expose sensitive receptors to substantial pollutant concentrations. The Hillcrest Outpatient Pavilion and Parking Structure Project does not include any new sensitive receptors compared to the 2019 LRDP as proposed in the 2019 LRDP EIR. The analysis of exposure of new sensitive receptors to existing off-site sources of toxic air contaminants (TACs) is not applicable to the Hillcrest Outpatient Pavilion and Parking Structure Project because there are no new sensitive receptors associated with the project. Therefore, this issue is not included in the analysis below.

Summary of 2019 Long Range Development Plan Environmental Impact Report Impacts

The 2019 LRDP EIR addresses the potential for on- and off-site sensitive receptors to be exposed to carbon monoxide (CO) hot spots or TACs during construction and operation associated with the LRDP.

Carbon Monoxide Hot Spots

The Transportation Impact Analysis prepared for the 2019 LRDP (LLG 2019) identified two intersections that would operate at level of service E or F and potentially result in a CO hotspot:

- Hotel Circle Drive South/Interstate 8 eastbound ramps
- Hotel Circle Drive South/Bachman Place

The CALINE 4 Model was used to estimate the potential CO impact at these two intersections during the most congested peak hour. Modeling results indicate that CO concentrations would not exceed the state or federal ambient air quality standards for 1-hour or 8-hour CO concentrations at either intersection. Therefore, the 2019 LRDP EIR concluded that this impact would be less than significant.

Toxic Air Contaminants

A Health Risk Assessment was prepared to determine the public health impacts of TACs emitted during the construction and operation of the 2019 LRDP (Ascent Environmental 2019). Preparation of the Health Risk

Assessment included an inventory of potential emissions sources and review of potential pollutants. Dispersion modeling was conducted using AERMOD, Version 9.6.5, software for construction and net increase in risk as a result of proposed operation of the 2019 LRDP. SDAPCD thresholds were used to determine potential impacts for construction and operation of the 2019 LRDP.

Construction

Construction-related emissions sources of the primary pollutant of concern, diesel particulate matter, include on-site diesel equipment performing various activities and off-site diesel hauling and vendor trucks that travel to and from the Hillcrest Campus. Health risks for construction were determined based on total exposure during the entire 2019 LRDP construction period, including all phases. Annual PM₁₀ emissions were estimated based on results from the previously described CalEEMod modeling prepared for the project-specific Air Quality Technical Report (Harris 2019). Emissions from on-site construction activity were assumed to vary by location based on the proposed building footprints in each phase. Vehicle trips for construction, including trucks, were assumed to access the site from Interstate 8 and Bachman Place. Modeling indicated that construction would result in an incremental increase in cancer risk that exceeds SDAPCD's significance threshold of 10 in 1 million at sensitive receptors and residences on and off site, but would not result in chronic risks that exceed the SDAPCD chronic risk threshold of 1 in 1 million or greater on the hazard index.

Operation

Although many of the existing buildings would be replaced under the 2019 LRDP, the types of emissions sources from buildout of the 2019 LRDP would be similar to existing conditions, with the exception of the natural-gas-fired cogeneration facility assumed in the 2019 LRDP EIR. Emission sources and TACs emitted from laboratories per square foot were assumed the same for the existing and proposed scenarios, although the location of emissions changed according to the 2019 LRDP.

Modeling indicated that operational emissions from buildout of the 2019 LRDP would not result in an incremental increase in cancer risk that exceeds the SDAPCD's significance threshold of 10 in 1 million at any on- or off-site residential or non-residential receptor. At the point of maximum impact, the increase in cancer risk would exceed 10 in 1 million. However, the point of maximum impact would occur at a location that would be a public courtyard between the proposed hospital and the Outpatient Pavilion. Unlike a residence or place of employment, receptors would not spend a significant portion of their time (multiple consecutive hours) in the courtyard each day. Therefore, a significant impact would not occur. Modeling also indicated that operation of the 2019 LRDP would not result in a chronic or acute risk that would exceed the SDAPCD's significance threshold of 1 in 1 million or greater on the hazard index.

Summary

The 2019 LRDP EIR found that operation under the 2019 LRDP would not result in an incremental increase in cancer or non-cancer risk that exceeds the SDAPCD thresholds. However, cancer risk as a result of 2019 LRDP construction would exceed the SDAPCD significance threshold. Construction under the 2019 LRDP would potentially expose sensitive receptors to substantial pollutant concentrations. Implementation of Mitigation Measure AIR-3, which itself requires the construction contractor to use off-road diesel engines that meet high emissions performance standards, would be required. With implementation of Mitigation Measure AIR-3, it would be possible to reduce emissions by the necessary amount (77 percent) to achieve the applicable threshold of 10 in 1 million or lower. The selected construction fleet would be required to comply with Mitigation Measure AIR-3. However, because a construction fleet had not been selected at the time of 2019 LRDP EIR preparation, the selected contractor's fleet ratio of Tier 4 or Tier 3 engines and the availability of high-performance renewable diesel could not be determined with certainty. Therefore, although it is possible to reduce emissions by the necessary amount (77 percent) to achieve the applicable threshold of 10 in 1 million, the likely effective amount of reduction from implementation of Mitigation Measure AIR-3 could not be quantified. Therefore, this impact was determined to be significant and unavoidable.



AIR-3: Construction Equipment Performance Standards. UC San Diego, through bid and contract specifications, shall require the construction contractor to implement the following performance standards for the use of heavy-duty construction equipment during all construction activities:

- 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 shall 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.
- To the extent feasible and available, use high-performance renewable diesel fuel.

Hillcrest Outpatient Pavilion and Parking Structure Project Consistency Evaluation

The following analysis includes impacts related to CO hot spots and TACs during construction and operation of the Hillcrest Outpatient Pavilion and Parking Structure Project.

Carbon Monoxide Hot Spots

The Hillcrest Outpatient Pavilion and Parking Structure Project does not include new or expanded land uses that were not included in buildout of the 2019 LRDP that would result in an increase in vehicle trips to the campus compared to those analyzed in the 2019 LRDP EIR. Therefore, no additional congestion would occur as a result of the Hillcrest Outpatient Pavilion and Parking Structure Project. Therefore, CO concentrations would be the same or improved under the Hillcrest Outpatient Pavilion and Parking Structure Project compared to those in the 2019 LRDP EIR. This impact would be less than significant.

Toxic Air Contaminants

The Hillcrest Outpatient Pavilion and Parking Structure Project is compared to the assumptions of the Health Risk Assessment below for construction and operation.

Construction

As shown in Tables 4 and 7, under the Hillcrest Outpatient Pavilion and Parking Structure Project, maximum construction emissions would be similar to those assumed in Phase 1A in the 2019 LRDP EIR. However, Bachman Place would be closed to traffic during project construction. It is anticipated that construction access would be maintained during some or all of project construction; however, an alternative haul route has been identified utilizing First Avenue, Arbor Drive, and Front Street. Use of this haul route, and impact to sensitive receptors as a result, were not specifically addressed in the Health Risk Assessment. However, maximum daily truck trips during Phase 1A and total activity over implementation of the 2019 LRDP would be the same as the 2019 LRDP. Additionally, use of this truck route would be short-term only during the Bachman Place closure (approximately 2 years). Therefore, the contribution of the Hillcrest Outpatient Pavilion and Parking Structure Project to long-term health impacts as a result of annual particulate matter emissions would be similar to the contribution assumed for Phase 1A in the 2019 LRDP EIR. The incremental increase in cancer risk that exceeds the SDAPCD's significance threshold of 10 in 1 million at sensitive receptors and residences on and off site would still occur. The chronic risk from construction of the 2019 LRDP was calculated to have a health hazard impact of 0.02 at the point of maximum impact, which is well below the threshold of 1.0. Because overall construction would be similar, the changes to the 2019 LRDP would not result in chronic risks that exceed the SDAPCD chronic risk threshold of 1 in 1 million or greater on the hazard index. Mitigation Measure AIR-3 would continue to be required for the Hillcrest Outpatient Pavilion and Parking Structure Project. As identified in the 2019 LRDP EIR, the reduction in emissions attributable to Mitigation Measure AIR-3 cannot be quantified, and therefore, this impact would be significant and unavoidable.

Operation

The revised Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new sources of TACs compared to the assumptions in the 2019 LRDP EIR. The non-OSHPD portion of the cogeneration CUP would be replaced by a system of traditional boilers with a heat recovery chiller. However, as discussed under Issue 2, this design would demand less natural gas and result in fewer emissions than a cogeneration design. Therefore, health risks at buildout of the 2019 LRDP would be the same or reduced compared to those identified in the 2019

LRDP. The locations of proposed uses would generally be the same as those in Phase 1A in the 2019 LRDP EIR; therefore, the point of maximum impact for operational health risk impacts would not be expected to change with implementation of the Hillcrest Outpatient Pavilion and Parking Structure Project. No increase in modeled chronic or acute risk would be expected to occur as a result of the Hillcrest Outpatient Pavilion and Parking Structure Project. Therefore, a significant impact would not occur.

Summary

The Hillcrest Outpatient Pavilion and Parking Structure Project would not result in an increase in health risk from TAC exposure compared to the impacts identified in the 2019 LRDP EIR during construction or operation. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding sensitive receptors.

Issue 4: Odors

Based on Appendix G of the CEQA Guidelines, implementation of the 2019 LRDP would have a significant impact if it would result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Summary of 2019 Long Range Development Plan Environmental Impact Report Impacts

Construction associated with the 2019 LRDP could result in minor amounts of odor compounds associated with diesel heavy equipment exhaust. However, not all diesel equipment would be operating at once, and construction near existing receptors would be temporary. Emissions of the primary pollutant of concern, SO_x, would be minimal (less than 1 pound per day). Therefore, it was determined that construction of the 2019 LRDP would not cause nuisance odors that would result in a significant impact.

Following construction, the 2019 LRDP's proposed land uses would be similar to existing campus conditions, including a hospital, other medical office and research buildings, and residential uses. These types of land uses do not typically cause operational nuisance odors. Therefore, odors would not be considered objectionable. Operational odor impacts were determined to be less than significant.

Hillcrest Outpatient Pavilion and Parking Structure Project Consistency Evaluation

Potential impacts from construction and operation of the Hillcrest Outpatient Pavilion and Parking Structure Project would be the same as those identified in the 2019 LRDP EIR. As shown in Table 7, maximum daily construction emissions of SO_x would be less than 1 pound per day. Following construction, the Hillcrest Outpatient Pavilion and Parking Structure Project would include the same types of land uses addressed in the 2019 LRDP EIR. The design of the non-OSHDP portion of the CUP has been modified; however, as described previously, the use of traditional boilers would be powered by natural gas, as with the cogeneration facility, and would result in the same types of operational emissions, though they would be reduced. No new sources of odor are proposed in the Hillcrest Outpatient Pavilion and Parking Structure Project. Impacts would be less than significant and consistent with the findings of the 2019 LRDP EIR. The Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding odors.

Summary of Air Quality Impacts

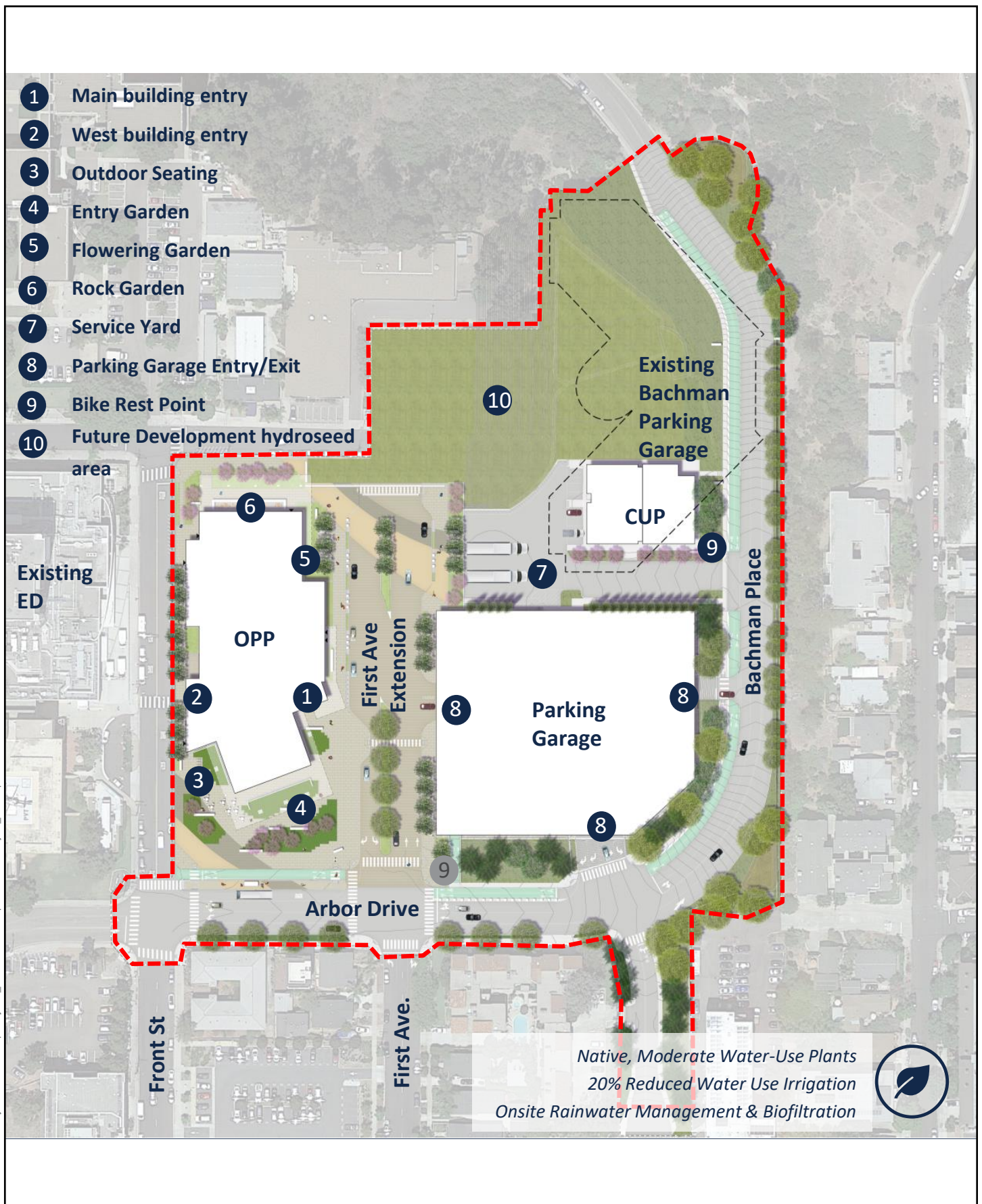
Impacts related to air quality from construction and operation of the Hillcrest Outpatient Pavilion and Parking Structure Project would be the same as those identified in the 2019 LRDP EIR. The Hillcrest Outpatient Pavilion and Parking Structure Project would not include any new sources of criteria air pollutants, TACs, or odors that were not previously addressed, and no new significant impacts would occur compared to those in the 2019 LRDP EIR. Because no new direct or increased impacts would occur, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new or increased contributions to cumulative impacts. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects related to air quality.

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- LLG (Linscott, Law and Greenspan, Engineers). 2019. UC San Diego Hillcrest 2019 Long Range Development Plan – Transportation Impact Analysis. June.
- LSA (LSA Associates, Inc.). 2019. Greenhouse Gas Emissions Reduction Strategy – University of California, San Diego, Hillcrest Campus Long Range Development Plan EIR. June.



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Source: Callisonrtkl Inc. 2020.

Figure 1
Outpatient Pavilion and Parking Structure Site Plan

Figure 2
Outpatient Pavilion and Parking Structure Grading Plan

Attachment 1. Model Outputs

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Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Winter

Phase 1 UCSD Hillcrest 2019 LRDP

San Diego Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	6.53	1000sqft	0.15	6,525.00	0
Medical Office Building	230.00	1000sqft	1.06	230,000.00	0
General Light Industry	12.00	1000sqft	0.28	12,000.00	0
Enclosed Parking with Elevator	2,000.00	Space	3.19	800,000.00	0
Other Non-Asphalt Surfaces	43.00	1000sqft	0.99	43,000.00	0
Parking Lot	210.36	1000sqft	4.83	210,360.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2024
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MW hr)	720.49	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Winter

Project Characteristics -

Land Use - Reduced OPP to 230 (same lot), added CUP, , Non-asphalt parking = building pad for HC-6. Added pavement to up lot to 10.5 acre for offsite improvements.

Construction Phase - adjusted for truck trips in demo, then rest to meet 38 month schedule

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Added drill rig for pile driving

Off-road Equipment -

Off-road Equipment -

Trips and VMT - Based on 15 CY and NTPLL EIR worker/vehicle trips and demo volume

Demolition -

Grading - Based on grading plan and manual calculation

Construction Off-road Equipment Mitigation - Assume minimum of Tier 3

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Winter

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	264.00
tblConstructionPhase	NumDays	300.00	396.00
tblConstructionPhase	NumDays	20.00	225.00
tblConstructionPhase	NumDays	30.00	64.00
tblConstructionPhase	NumDays	20.00	35.00
tblGrading	AcresOfGrading	160.00	10.50
tblGrading	MaterialExported	0.00	65,000.00
tblLandUse	LandUseSquareFeet	6,530.00	6,525.00
tblLandUse	LotAcreage	5.28	1.06
tblLandUse	LotAcreage	18.00	3.19
tblTripsAndVMT	HaulingTripNumber	1,350.00	66,348.00
tblTripsAndVMT	HaulingTripNumber	8,125.00	8,668.00
tblTripsAndVMT	VendorTripNumber	0.00	60.00
tblTripsAndVMT	VendorTripNumber	0.00	60.00
tblTripsAndVMT	VendorTripNumber	213.00	60.00
tblTripsAndVMT	VendorTripNumber	0.00	60.00
tblTripsAndVMT	WorkerTripNumber	15.00	894.00
tblTripsAndVMT	WorkerTripNumber	23.00	894.00
tblTripsAndVMT	WorkerTripNumber	523.00	894.00
tblTripsAndVMT	WorkerTripNumber	15.00	894.00
tblTripsAndVMT	WorkerTripNumber	105.00	0.00

2.0 Emissions Summary

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Winter

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					
2020	9.6578	125.4951	67.4691	0.3527	14.8400	2.0119	16.8519	3.8290	1.8779	5.7069	0.0000	37,357.34 33	37,357.34 33	3.7097	0.0000	37,450.08 48
2021	9.1804	116.0287	66.0037	0.3467	38.6150	2.2492	40.4660	9.6646	2.0738	11.3906	0.0000	36,792.48 54	36,792.48 54	3.6592	0.0000	36,883.96 42
2022	5.2072	23.4259	38.6875	0.1087	7.7502	0.8702	8.6203	2.0649	0.8179	2.8828	0.0000	10,825.48 80	10,825.48 80	1.0222	0.0000	10,848.49 18
2023	24.7823	16.5938	35.2377	0.1016	7.7502	0.5645	8.3147	2.0649	0.5196	2.5845	0.0000	10,185.06 22	10,185.06 22	0.9952	0.0000	10,209.94 20
2024	24.7714	1.2188	1.8101	2.9700e-003	0.0000	0.0609	0.0609	0.0000	0.0609	0.0609	0.0000	281.4481	281.4481	0.0159	0.0000	281.8443
Maximum	24.7823	125.4951	67.4691	0.3527	38.6150	2.2492	40.4660	9.6646	2.0738	11.3906	0.0000	37,357.34 33	37,357.34 33	3.7097	0.0000	37,450.08 48

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Winter

2.1 Overall Construction (Maximum Daily Emission)**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					
2020	9.6578	125.4951	67.4691	0.3527	14.1172	2.0119	16.1291	3.7195	1.8779	5.5974	0.0000	37,357.34 33	37,357.34 33	3.7097	0.0000	37,450.08 47
2021	9.1804	116.0287	66.0037	0.3467	37.8922	2.2492	39.7431	9.5552	2.0738	11.2811	0.0000	36,792.48 54	36,792.48 54	3.6592	0.0000	36,883.96 42
2022	5.2072	23.4259	38.6875	0.1087	7.7502	0.8702	8.6203	2.0649	0.8179	2.8828	0.0000	10,825.48 80	10,825.48 80	1.0222	0.0000	10,848.49 18
2023	24.7823	16.5938	35.2377	0.1016	7.7502	0.5645	8.3147	2.0649	0.5196	2.5845	0.0000	10,185.06 22	10,185.06 22	0.9952	0.0000	10,209.94 20
2024	24.7714	1.2188	1.8101	2.9700e-003	0.0000	0.0609	0.0609	0.0000	0.0609	0.0609	0.0000	281.4481	281.4481	0.0159	0.0000	281.8443
Maximum	24.7823	125.4951	67.4691	0.3527	37.8922	2.2492	39.7431	9.5552	2.0738	11.2811	0.0000	37,357.34 33	37,357.34 33	3.7097	0.0000	37,450.08 47

	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	2.10	0.00	1.95	1.24	0.00	0.97	0.00	0.00	0.00	0.00	0.00	0.00

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Winter

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	7.4937	2.3200e-003	0.2550	2.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004		0.5476	0.5476	1.4300e-003		0.5833
Energy	0.1452	1.3200	1.1088	7.9200e-003		0.1003	0.1003		0.1003	0.1003		1,583.9355	1,583.9355	0.0304	0.0290	1,593.3480
Mobile	10.3131	39.2642	108.6411	0.3686	35.3641	0.2980	35.6621	9.4503	0.2773	9.7276		37,592.1890	37,592.1890	2.0047		37,642.3068
Total	17.9519	40.5865	110.0049	0.3766	35.3641	0.3993	35.7634	9.4503	0.3785	9.8288		39,176.6720	39,176.6720	2.0365	0.0290	39,236.2381

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	7.4937	2.3200e-003	0.2550	2.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004		0.5476	0.5476	1.4300e-003		0.5833
Energy	0.1452	1.3200	1.1088	7.9200e-003		0.1003	0.1003		0.1003	0.1003		1,583.9355	1,583.9355	0.0304	0.0290	1,593.3480
Mobile	10.3131	39.2642	108.6411	0.3686	35.3641	0.2980	35.6621	9.4503	0.2773	9.7276		37,592.1890	37,592.1890	2.0047		37,642.3068
Total	17.9519	40.5865	110.0049	0.3766	35.3641	0.3993	35.7634	9.4503	0.3785	9.8288		39,176.6720	39,176.6720	2.0365	0.0290	39,236.2381

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Winter

	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	1A Demolition	Demolition	4/6/2020	2/12/2021	5	225	
2	1A Grading	Grading	2/13/2021	5/13/2021	5	64	
3	1A Building Construction	Building Construction	5/14/2021	11/18/2022	5	396	
4	1A Paving	Paving	11/19/2022	1/6/2023	5	35	
5	1A Architectural Coating	Architectural Coating	1/7/2023	1/11/2024	5	264	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 9.01

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 372,788; Non-Residential Outdoor: 124,263; Striped Parking Area: 63,202 (Architectural Coating – sqft)

OffRoad Equipment

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
1A Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
1A Demolition	Excavators	3	8.00	158	0.38
1A Demolition	Rubber Tired Dozers	2	8.00	247	0.40
1A Grading	Bore/Drill Rigs	1	8.00	221	0.50
1A Grading	Excavators	2	8.00	158	0.38
1A Grading	Graders	1	8.00	187	0.41
1A Grading	Rubber Tired Dozers	1	8.00	247	0.40
1A Grading	Scrapers	2	8.00	367	0.48
1A Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
1A Building Construction	Cranes	1	7.00	231	0.29
1A Building Construction	Forklifts	3	8.00	89	0.20
1A Building Construction	Generator Sets	1	8.00	84	0.74
1A Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
1A Building Construction	Welders	1	8.00	46	0.45
1A Paving	Pavers	2	8.00	130	0.42
1A Paving	Paving Equipment	2	8.00	132	0.36
1A Paving	Rollers	2	8.00	80	0.38
1A Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Winter

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
1A Demolition	6	894.00	60.00	66,348.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
1A Grading	9	894.00	60.00	8,668.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
1A Building Construction	9	894.00	60.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
1A Paving	6	894.00	60.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
1A Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 1A Demolition - 2020**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					1.3142	0.0000	1.3142	0.1990	0.0000	0.1990			0.0000			0.0000
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419		3,747.7049	3,747.7049	1.0580		3,774.1536
Total	3.3121	33.2010	21.7532	0.0388	1.3142	1.6587	2.9729	0.1990	1.5419	1.7409		3,747.7049	3,747.7049	1.0580		3,774.1536

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Winter

3.2 1A Demolition - 2020**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	2.3954	83.0523	19.9112	0.2269	5.7756	0.2679	6.0435	1.5650	0.2563	1.8214		24,818.1454	24,818.1454	2.3005		24,875.6570
Vendor	0.2348	6.7600	1.9128	0.0160	0.4062	0.0337	0.4399	0.1169	0.0323	0.1492		1,718.7733	1,718.7733	0.1383		1,722.2309
Worker	3.7155	2.4818	23.8919	0.0710	7.3440	0.0515	7.3955	1.9480	0.0475	1.9955		7,072.7197	7,072.7197	0.2129		7,078.0432
Total	6.3457	92.2941	45.7159	0.3139	13.5258	0.3532	13.8790	3.6299	0.3361	3.9660		33,609.6384	33,609.6384	2.6517		33,675.9311

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					0.5914	0.0000	0.5914	0.0896	0.0000	0.0896			0.0000			0.0000
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419	0.0000	3,747.7049	3,747.7049	1.0580		3,774.1536
Total	3.3121	33.2010	21.7532	0.0388	0.5914	1.6587	2.2501	0.0896	1.5419	1.6314	0.0000	3,747.7049	3,747.7049	1.0580		3,774.1536

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Winter

3.2 1A Demolition - 2020**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	2.3954	83.0523	19.9112	0.2269	5.7756	0.2679	6.0435	1.5650	0.2563	1.8214		24,818.14 54	24,818.14 54	2.3005		24,875.65 70
Vendor	0.2348	6.7600	1.9128	0.0160	0.4062	0.0337	0.4399	0.1169	0.0323	0.1492		1,718.773 3	1,718.773 3	0.1383		1,722.230 9
Worker	3.7155	2.4818	23.8919	0.0710	7.3440	0.0515	7.3955	1.9480	0.0475	1.9955		7,072.719 7	7,072.719 7	0.2129		7,078.043 2
Total	6.3457	92.2941	45.7159	0.3139	13.5258	0.3532	13.8790	3.6299	0.3361	3.9660		33,609.63 84	33,609.63 84	2.6517		33,675.93 11

3.2 1A Demolition - 2021**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					1.3142	0.0000	1.3142	0.1990	0.0000	0.1990			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	3.1651	31.4407	21.5650	0.0388	1.3142	1.5513	2.8656	0.1990	1.4411	1.6401		3,747.944 9	3,747.944 9	1.0549		3,774.317 4

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Winter

3.2 1A Demolition - 2021**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	2.2494	76.2395	19.6561	0.2235	29.5506	0.2355	29.7861	7.4007	0.2253	7.6261		24,506.5693	24,506.5693	2.2752		24,563.4499
Vendor	0.1913	6.0935	1.7337	0.0158	0.4062	0.0134	0.4195	0.1169	0.0128	0.1297		1,702.9158	1,702.9158	0.1327		1,706.2324
Worker	3.5067	2.2551	22.2896	0.0686	7.3440	0.0507	7.3947	1.9480	0.0467	1.9947		6,835.0553	6,835.0553	0.1964		6,839.9646
Total	5.9473	84.5881	43.6794	0.3079	37.3008	0.2996	37.6004	9.4656	0.2848	9.7504		33,044.5404	33,044.5404	2.6043		33,109.6468

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					0.5914	0.0000	0.5914	0.0896	0.0000	0.0896			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	3.1651	31.4407	21.5650	0.0388	0.5914	1.5513	2.1427	0.0896	1.4411	1.5307	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Winter

3.2 1A Demolition - 2021**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	2.2494	76.2395	19.6561	0.2235	29.5506	0.2355	29.7861	7.4007	0.2253	7.6261		24,506.5693	24,506.5693	2.2752		24,563.4499
Vendor	0.1913	6.0935	1.7337	0.0158	0.4062	0.0134	0.4195	0.1169	0.0128	0.1297		1,702.9158	1,702.9158	0.1327		1,706.2324
Worker	3.5067	2.2551	22.2896	0.0686	7.3440	0.0507	7.3947	1.9480	0.0467	1.9947		6,835.0553	6,835.0553	0.1964		6,839.9646
Total	5.9473	84.5881	43.6794	0.3079	37.3008	0.2996	37.6004	9.4656	0.2848	9.7504		33,044.5404	33,044.5404	2.6043		33,109.6468

3.3 1A Grading - 2021**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					6.3388	0.0000	6.3388	3.3506	0.0000	3.3506			0.0000			0.0000
Off-Road	4.4493	49.4226	32.9524	0.0714		2.0770	2.0770		1.9108	1.9108		6,919.1058	6,919.1058	2.2378		6,975.0503
Total	4.4493	49.4226	32.9524	0.0714	6.3388	2.0770	8.4158	3.3506	1.9108	5.2614		6,919.1058	6,919.1058	2.2378		6,975.0503

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Winter

3.3 1A Grading - 2021**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	1.0331	35.0166	9.0280	0.1026	2.3666	0.1082	2.4748	0.6486	0.1035	0.7521		11,255.7938	11,255.7938	1.0450		11,281.9189
Vendor	0.1913	6.0935	1.7337	0.0158	0.4062	0.0134	0.4195	0.1169	0.0128	0.1297		1,702.9158	1,702.9158	0.1327		1,706.2324
Worker	3.5067	2.2551	22.2896	0.0686	7.3440	0.0507	7.3947	1.9480	0.0467	1.9947		6,835.0553	6,835.0553	0.1964		6,839.9646
Total	4.7310	43.3652	33.0513	0.1871	10.1168	0.1723	10.2890	2.7135	0.1630	2.8765		19,793.7649	19,793.7649	1.3740		19,828.1158

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					2.8525	0.0000	2.8525	1.5078	0.0000	1.5078			0.0000			0.0000
Off-Road	4.4493	49.4226	32.9524	0.0714		2.0770	2.0770		1.9108	1.9108	0.0000	6,919.1058	6,919.1058	2.2378		6,975.0503
Total	4.4493	49.4226	32.9524	0.0714	2.8525	2.0770	4.9294	1.5078	1.9108	3.4186	0.0000	6,919.1058	6,919.1058	2.2378		6,975.0503

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Winter

3.3 1A Grading - 2021**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	1.0331	35.0166	9.0280	0.1026	2.3666	0.1082	2.4748	0.6486	0.1035	0.7521		11,255.7938	11,255.7938	1.0450		11,281.9189
Vendor	0.1913	6.0935	1.7337	0.0158	0.4062	0.0134	0.4195	0.1169	0.0128	0.1297		1,702.9158	1,702.9158	0.1327		1,706.2324
Worker	3.5067	2.2551	22.2896	0.0686	7.3440	0.0507	7.3947	1.9480	0.0467	1.9947		6,835.0553	6,835.0553	0.1964		6,839.9646
Total	4.7310	43.3652	33.0513	0.1871	10.1168	0.1723	10.2890	2.7135	0.1630	2.8765		19,793.7649	19,793.7649	1.3740		19,828.1158

3.4 1A Building Construction - 2021**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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Winter

3.4 1A Building Construction - 2021**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
Vendor	0.1913	6.0935	1.7337	0.0158	0.4062	0.0134	0.4195	0.1169	0.0128	0.1297		1,702.915 8	1,702.915 8	0.1327		1,706.232 4
Worker	3.5067	2.2551	22.2896	0.0686	7.3440	0.0507	7.3947	1.9480	0.0467	1.9947		6,835.055 3	6,835.055 3	0.1964		6,839.964 6
Total	3.6979	8.3486	24.0233	0.0844	7.7502	0.0641	7.8143	2.0649	0.0595	2.1244		8,537.971 1	8,537.971 1	0.3290		8,546.196 9

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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.363 9	2,553.363 9	0.6160		2,568.764 3
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.363 9	2,553.363 9	0.6160		2,568.764 3

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Winter

3.4 1A Building Construction - 2021**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
Vendor	0.1913	6.0935	1.7337	0.0158	0.4062	0.0134	0.4195	0.1169	0.0128	0.1297		1,702.9158	1,702.9158	0.1327		1,706.2324
Worker	3.5067	2.2551	22.2896	0.0686	7.3440	0.0507	7.3947	1.9480	0.0467	1.9947		6,835.0553	6,835.0553	0.1964		6,839.9646
Total	3.6979	8.3486	24.0233	0.0844	7.7502	0.0641	7.8143	2.0649	0.0595	2.1244		8,537.9711	8,537.9711	0.3290		8,546.1969

3.4 1A Building Construction - 2022**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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Winter

3.4 1A Building Construction - 2022**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
Vendor	0.1779	5.7544	1.6415	0.0157	0.4062	0.0115	0.4177	0.1169	0.0110	0.1279		1,686.615 7	1,686.615 7	0.1284		1,689.826 4
Worker	3.3231	2.0559	20.6827	0.0661	7.3440	0.0496	7.3936	1.9480	0.0457	1.9937		6,584.538 7	6,584.538 7	0.1798		6,589.033 2
Total	3.5010	7.8103	22.3241	0.0817	7.7502	0.0611	7.8113	2.0649	0.0567	2.1216		8,271.154 5	8,271.154 5	0.3082		8,278.859 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					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.333 6	2,554.333 6	0.6120		2,569.632 2
Total	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.333 6	2,554.333 6	0.6120		2,569.632 2

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Winter

3.4 1A Building Construction - 2022**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
Vendor	0.1779	5.7544	1.6415	0.0157	0.4062	0.0115	0.4177	0.1169	0.0110	0.1279		1,686.615 7	1,686.615 7	0.1284		1,689.826 4
Worker	3.3231	2.0559	20.6827	0.0661	7.3440	0.0496	7.3936	1.9480	0.0457	1.9937		6,584.538 7	6,584.538 7	0.1798		6,589.033 2
Total	3.5010	7.8103	22.3241	0.0817	7.7502	0.0611	7.8113	2.0649	0.0567	2.1216		8,271.154 5	8,271.154 5	0.3082		8,278.859 6

3.5 1A Paving - 2022**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	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.660 3	2,207.660 3	0.7140		2,225.510 4
Paving	0.3616					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4644	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.660 3	2,207.660 3	0.7140		2,225.510 4

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Winter

3.5 1A Paving - 2022**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
Vendor	0.1779	5.7544	1.6415	0.0157	0.4062	0.0115	0.4177	0.1169	0.0110	0.1279		1,686.615 7	1,686.615 7	0.1284		1,689.826 4
Worker	3.3231	2.0559	20.6827	0.0661	7.3440	0.0496	7.3936	1.9480	0.0457	1.9937		6,584.538 7	6,584.538 7	0.1798		6,589.033 2
Total	3.5010	7.8103	22.3241	0.0817	7.7502	0.0611	7.8113	2.0649	0.0567	2.1216		8,271.154 5	8,271.154 5	0.3082		8,278.859 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					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.660 3	2,207.660 3	0.7140		2,225.510 4
Paving	0.3616					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4644	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.660 3	2,207.660 3	0.7140		2,225.510 4

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Winter

3.5 1A Paving - 2022**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
Vendor	0.1779	5.7544	1.6415	0.0157	0.4062	0.0115	0.4177	0.1169	0.0110	0.1279		1,686.615 7	1,686.615 7	0.1284		1,689.826 4
Worker	3.3231	2.0559	20.6827	0.0661	7.3440	0.0496	7.3936	1.9480	0.0457	1.9937		6,584.538 7	6,584.538 7	0.1798		6,589.033 2
Total	3.5010	7.8103	22.3241	0.0817	7.7502	0.0611	7.8113	2.0649	0.0567	2.1216		8,271.154 5	8,271.154 5	0.3082		8,278.859 6

3.5 1A Paving - 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					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.584 1	2,207.584 1	0.7140		2,225.433 6
Paving	0.3616					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.3943	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.584 1	2,207.584 1	0.7140		2,225.433 6

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3.5 1A Paving - 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
Vendor	0.1373	4.5253	1.4827	0.0152	0.4062	5.6600e-003	0.4118	0.1169	5.4100e-003	0.1223		1,644.4160	1,644.4160	0.1169		1,647.3384
Worker	3.1554	1.8769	19.1708	0.0635	7.3440	0.0487	7.3927	1.9480	0.0448	1.9928		6,333.0621	6,333.0621	0.1643		6,337.1700
Total	3.2927	6.4022	20.6535	0.0788	7.7502	0.0543	7.8045	2.0649	0.0502	2.1151		7,977.4780	7,977.4780	0.2812		7,984.5084

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	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.3616					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.3943	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Winter

3.5 1A Paving - 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
Vendor	0.1373	4.5253	1.4827	0.0152	0.4062	5.6600e-003	0.4118	0.1169	5.4100e-003	0.1223		1,644.4160	1,644.4160	0.1169		1,647.3384
Worker	3.1554	1.8769	19.1708	0.0635	7.3440	0.0487	7.3927	1.9480	0.0448	1.9928		6,333.0621	6,333.0621	0.1643		6,337.1700
Total	3.2927	6.4022	20.6535	0.0788	7.7502	0.0543	7.8045	2.0649	0.0502	2.1151		7,977.4780	7,977.4780	0.2812		7,984.5084

3.6 1A Architectural Coating - 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					
Archit. Coating	24.5907					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	24.7823	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690

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3.6 1A Architectural Coating - 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
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
Worker	0.0000	0.0000	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		0.0000

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	24.5907					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	24.7823	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690

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3.6 1A Architectural Coating - 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
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
Worker	0.0000	0.0000	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		0.0000

3.6 1A Architectural Coating - 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					
Archit. Coating	24.5907					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	24.7714	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443

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3.6 1A Architectural Coating - 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
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
Worker	0.0000	0.0000	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		0.0000

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	24.5907					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	24.7714	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443

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3.6 1A Architectural Coating - 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
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
Worker	0.0000	0.0000	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		0.0000

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Winter

	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	10.3131	39.2642	108.6411	0.3686	35.3641	0.2980	35.6621	9.4503	0.2773	9.7276		37,592.18 90	37,592.18 90	2.0047		37,642.30 68
Unmitigated	10.3131	39.2642	108.6411	0.3686	35.3641	0.2980	35.6621	9.4503	0.2773	9.7276		37,592.18 90	37,592.18 90	2.0047		37,642.30 68

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Light Industry	83.64	15.84	8.16	184,430	184,430
General Office Building	72.03	16.06	6.86	130,771	130,771
Medical Office Building	8,309.90	2,060.80	356.50	12,293,430	12,293,430
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	8,465.57	2,092.70	371.52	12,608,631	12,608,631

4.3 Trip Type Information

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Winter

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
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
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
Medical Office Building	9.50	7.30	7.30	29.60	51.40	19.00	60	30	10
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.606234	0.039465	0.179154	0.102641	0.014368	0.005395	0.016820	0.024508	0.001929	0.001857	0.005869	0.000761	0.000998
General Light Industry	0.606234	0.039465	0.179154	0.102641	0.014368	0.005395	0.016820	0.024508	0.001929	0.001857	0.005869	0.000761	0.000998
General Office Building	0.606234	0.039465	0.179154	0.102641	0.014368	0.005395	0.016820	0.024508	0.001929	0.001857	0.005869	0.000761	0.000998
Medical Office Building	0.606234	0.039465	0.179154	0.102641	0.014368	0.005395	0.016820	0.024508	0.001929	0.001857	0.005869	0.000761	0.000998
Other Non-Asphalt Surfaces	0.606234	0.039465	0.179154	0.102641	0.014368	0.005395	0.016820	0.024508	0.001929	0.001857	0.005869	0.000761	0.000998
Parking Lot	0.606234	0.039465	0.179154	0.102641	0.014368	0.005395	0.016820	0.024508	0.001929	0.001857	0.005869	0.000761	0.000998

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Winter

	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	0.1452	1.3200	1.1088	7.9200e-003		0.1003	0.1003		0.1003	0.1003		1,583.9355	1,583.9355	0.0304	0.0290	1,593.3480
NaturalGas Unmitigated	0.1452	1.3200	1.1088	7.9200e-003		0.1003	0.1003		0.1003	0.1003		1,583.9355	1,583.9355	0.0304	0.0290	1,593.3480

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Winter

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					
Enclosed Parking with Elevator	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	380.055	4.1000e-003	0.0373	0.0313	2.2000e-004		2.8300e-003	2.8300e-003		2.8300e-003	2.8300e-003		44.7123	44.7123	8.6000e-004	8.2000e-004	44.9780
General Office Building	360.931	3.8900e-003	0.0354	0.0297	2.1000e-004		2.6900e-003	2.6900e-003		2.6900e-003	2.6900e-003		42.4625	42.4625	8.1000e-004	7.8000e-004	42.7148
Medical Office Building	12722.5	0.1372	1.2473	1.0477	7.4800e-003		0.0948	0.0948		0.0948	0.0948		1,496.7607	1,496.7607	0.0287	0.0274	1,505.6552
Other Non-Asphalt Surfaces	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
Parking Lot	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		0.1452	1.3200	1.1088	7.9100e-003		0.1003	0.1003		0.1003	0.1003		1,583.9355	1,583.9355	0.0304	0.0290	1,593.3480

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Winter

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					
Enclosed Parking with Elevator	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	0.380055	4.1000e-003	0.0373	0.0313	2.2000e-004		2.8300e-003	2.8300e-003		2.8300e-003	2.8300e-003		44.7123	44.7123	8.6000e-004	8.2000e-004	44.9780
General Office Building	0.360931	3.8900e-003	0.0354	0.0297	2.1000e-004		2.6900e-003	2.6900e-003		2.6900e-003	2.6900e-003		42.4625	42.4625	8.1000e-004	7.8000e-004	42.7148
Medical Office Building	12.7225	0.1372	1.2473	1.0477	7.4800e-003		0.0948	0.0948		0.0948	0.0948		1,496.7607	1,496.7607	0.0287	0.0274	1,505.6552
Other Non-Asphalt Surfaces	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
Parking Lot	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		0.1452	1.3200	1.1088	7.9100e-003		0.1003	0.1003		0.1003	0.1003		1,583.9355	1,583.9355	0.0304	0.0290	1,593.3480

6.0 Area Detail**6.1 Mitigation Measures Area**

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Winter

	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	7.4937	2.3200e-003	0.2550	2.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004		0.5476	0.5476	1.4300e-003		0.5833
Unmitigated	7.4937	2.3200e-003	0.2550	2.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004		0.5476	0.5476	1.4300e-003		0.5833

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	1.7786					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.6915					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0236	2.3200e-003	0.2550	2.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004		0.5476	0.5476	1.4300e-003		0.5833
Total	7.4937	2.3200e-003	0.2550	2.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004		0.5476	0.5476	1.4300e-003		0.5833

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Winter

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	1.7786					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.6915					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0236	2.3200e-003	0.2550	2.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004		0.5476	0.5476	1.4300e-003		0.5833
Total	7.4937	2.3200e-003	0.2550	2.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004		0.5476	0.5476	1.4300e-003		0.5833

7.0 Water Detail**7.1 Mitigation Measures Water****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
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

Phase 1 UCSD Hillcrest 2019 LRDP - San Diego Air Basin, Winter

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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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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Attachment 2. Heat Recovery CUP and GHG Emissions Memorandum

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MEMORANDUM

To: Harris & Associates: Sharon Toland, Kim Howlett
UCSD: Lauren Lievers

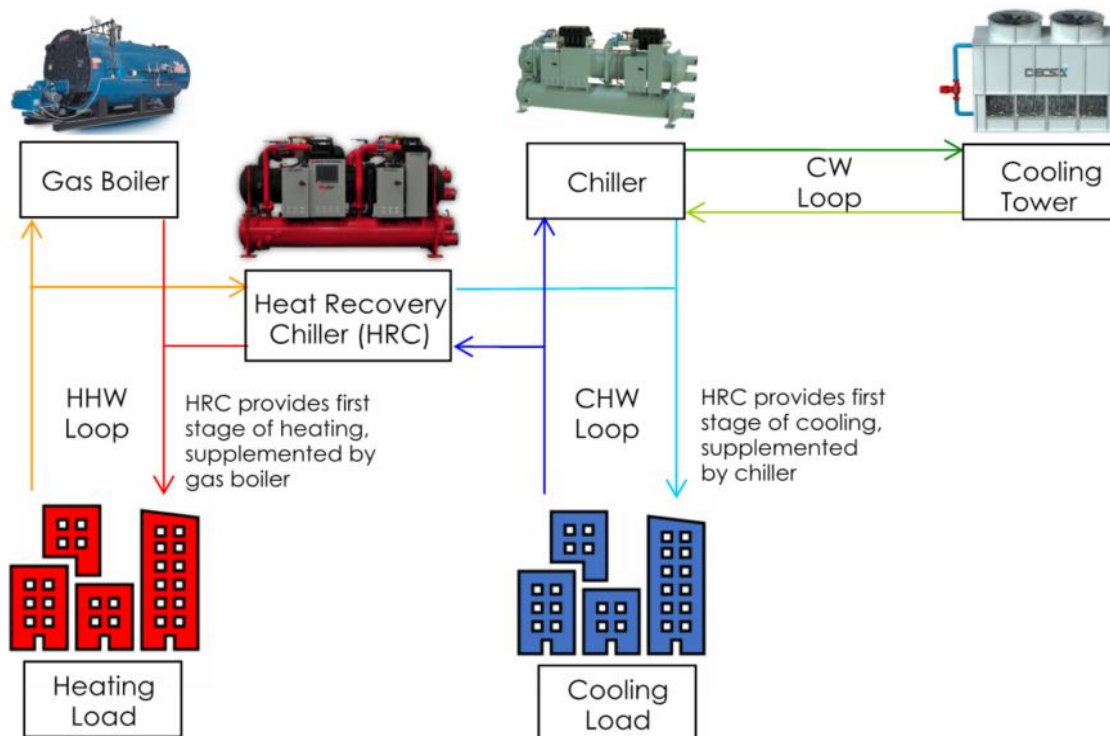
Date: 03/24/2020
From: Yu Zhang yzhang@glumac.com
cc: Nick Spath nspath@glumac.com
Brian Stern bstern@glumac.com

Project Name: UCSD Hillcrest Phase1
Subject: Heat Recovery CUP and GHG Emissions

This memo is to provide a description of the proposed design for phase one (non-OSHPD) central utility plant (CUP) for UCSD Hillcrest campus and to quantify the greenhouse gas (GHG) reductions compared to other system options. Phase one CUP will produce chilled water and hot water to serve outpatient pavilion (OPP) and multi-purpose building (MPB). The CUP will be built out during Phase 1A for OPP and 1B for MPB, equipment built out during Phase 1A will have ability to tie into additional equipment during Phase 1B. This analysis is provided for the phase one central plant in its entirety at the end of Phase 1B.

The proposed heat recovery CUP for phase 1 will have one 350-ton heat recovery chiller that will produce 130F hot water for heating while simultaneously producing a portion of chilled water. The heat recovery chiller runs on electricity and will provide first stage of cooling and heating, the remainder of the chilled water load is met by cooling-only chillers sized up to 1150 ton. Supplemental heating is provided by two 5,500 MBH natural gas fired boilers when heat recovery chiller cannot meet total heating load. The plant also has two 750-ton cooling tower to reject excess heat. See below for system configuration:

Heat Recovery CUP



This design has superior efficiency compared to a traditional chiller-boiler CUP design because it utilizes waste heat from chilled water production to produce hot water. It significantly reduces the usage of natural gas boilers and partially electrifies heating hot water production, as a result, reduces GHG emissions associated with natural gas combustion.

Compared to a cogen plant, a heat recovery plant with supplemental boilers has much less GHG emissions than a gas turbine. In addition, UCSD plans to purchase electricity through UCOP direct access which will be 100% renewable and have zero carbon emissions associated starting in 2025. After 2025, emission is not expected to change and remain at zero for electricity usage.

See below for analysis that quantifies the GHG reduction of proposed heat recovery plant in comparison to traditional plant and cogen plant for phase 1. GHG emission is calculated based on electricity and natural gas usage, using EPA's emission factors: 70.44 kg/MBtu for electricity within eGRID region CAMX, and 53.11 kg/MBtu for natural gas in United States.

2020

CUP Option	Emissions (MTE CO2)	MTE CO2 Reduction	% Reduction
1) Cogen	5,723	-	-
2) Standard CUP	4,757	996	17%
3) Heat Recovery CUP	3,725	1,998	35%

2025

CUP Option	Emissions (MTE CO2)	MTE CO2 Reduction	% Reduction
1) Cogen	5,601	-	-
2) Standard CUP	2,178	3,423	61%
3) Heat Recovery CUP	600	5,001	89%

Appendix C. Energy Memorandum

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MEMORANDUM

To: Lauren Lievers, Senior Environmental Planner, University of California, San Diego
From: Sharon Toland, Project Manager, Harris & Associates
RE: Comparison of Hillcrest Outpatient Pavilion and Parking Structure Project to 2019 LRDP EIR Phase 1A Project Components – Energy Impacts
Date: August 31, 2021
CC: Diane Sandman, Kim Howlett, Kristin Blackson, Harris & Associates
Att: 1, Construction Energy Use Calculation; 2, Screening Table; 3, 100% Design Development Energy Summary Report; 4, Heat Recovery CUP and GHG Emissions Memorandum

The University of California, San Diego (UC San Diego), 2019 Long Range Development Plan (2019 LRDP) Hillcrest Campus Environmental Impact Report (2019 LRDP EIR) was certified in November 2019 (SCH No. 2018031003). Following certification, the project components of Phase 1A of the 2019 LRDP have been revised and are referred to in this analysis as the Hillcrest Outpatient Pavilion and Parking Structure Project. The purpose of this memorandum is to compare the components of the Hillcrest Outpatient Pavilion and Parking Structure Project to those in Phase 1A in the 2019 LRDP to determine whether the potential impacts of the Hillcrest Outpatient Pavilion and Parking Structure Project are adequately addressed in the certified 2019 LRDP EIR. For each issue addressed in Section 3.5, Energy, of the 2019 LRDP EIR, the following analysis summarizes the energy impacts of Phase 1A in the 2019 LRDP EIR and provides a comparison to the potential impacts of the Hillcrest Outpatient Pavilion and Parking Structure Project.

Project Description

The Hillcrest Outpatient Pavilion and Parking Structure Project includes construction of the proposed Outpatient Pavilion, the Spine, the reduced size Canyon Parking Structure, the Main Parking Structure, and the non-Office of Statewide Health Planning Department (OSHPD) portion of the Central Utility Plant (CUP) (see Figure 1, Outpatient Pavilion and Parking Structure Site Plan). The pad for the OSHPD CUP would also be constructed, but the future OSHPD CUP would be installed in a later phase.

The Hillcrest Outpatient Pavilion and Parking Structure Project does not include new uses that were not addressed in the 2019 LRDP EIR. The proposed size of the Outpatient Pavilion has been reduced from 272,000 gross square feet (gsf) in the 2019 LRDP EIR to 251,000 gsf. The 25,000 gsf Outpatient Pavilion Annex addressed in the 2019 LRDP EIR would not be constructed under implementation of the Hillcrest Outpatient Pavilion and Parking Structure Project. Proposed parking in the Spine would be reduced to approximately 70 spaces compared to 675 spaces in the 2019 LRDP EIR. The footprint of the Main Parking Structure has also been redesigned and would accommodate approximately 1,780 parking spaces compared to 1,325 spaces as described in the 2019 LRDP EIR.

In the 2019 LRDP EIR, the entire CUP was assumed to be constructed in Phase 3. Under the Hillcrest Outpatient Pavilion and Parking Structure Project, the non-OSHPD portion of the CUP would primarily be constructed in Phase 1A. The remaining OSHPD portion of the CUP would be constructed in a later phase. The non-OSHPD CUP would include traditional chillers and boilers with a heat recovery chiller rather than the cogeneration facility assumed in the 2019 LRDP EIR. Emergency power would be provided as part of the CUP from a diesel-fueled generator.

The Hillcrest Outpatient Pavilion and Parking Structure Project also includes the redesign of a service road connection from Bachman Place to the Canyon Parking Structure and the CUP. Instead of terminating in the underground portion of the structure, the service road would terminate at the parking area of the Spine but would also provide service vehicle access to the CUP and the Outpatient Pavilion at the western end of the access road.

In addition, the Hillcrest Outpatient Pavilion and Parking Structure Project would include two drainage basins. One basin is proposed in the southeastern corner of the project site and was previously included as part of Phase 1A. The second basin would be east of Bachman Place in the northeastern area of the Hillcrest Campus and was previously proposed as part of Phase 2B.

Overall, the Hillcrest Outpatient Pavilion and Parking Structure Project would result in the construction of 251,000 gsf of health services and 9,500 gsf of campus support utilities compared to 297,000 gsf of health services in Phase 1A in the 2019 LRDP EIR. Table 1 summarizes the changes in land use between Phase 1A in the 2019 LRDP EIR and the Hillcrest Outpatient Pavilion and Parking Structure Project.

Table 1. Comparison of 2019 LRDP EIR Phase 1A Project Components with Hillcrest Outpatient Pavilion and Parking Structure Project Components – Construction

2019 LRDP EIR Phase 1A – Construction	Proposed Hillcrest Outpatient Pavilion and Parking Structure Project – Construction
Outpatient Pavilion (272,000 gsf)	Outpatient Pavilion (251,000 gsf)
Outpatient Pavilion Annex (25,000 gsf)	No longer proposed
Canyon Parking Structure (subgrade) (675 parking spaces)	The Spine (approximately 70 parking spaces and a 2,417-square-foot parking and security office)
Main Parking Structure (1,325 parking spaces)	Main Parking Structure (approximately 1,780 parking spaces)
	CUP – Non-OSHPD portion (9,500 gsf)
Total: 297,000 gsf campus development; 2,000 parking spaces	Total: 260,500 gsf campus development; 1,850 parking spaces

Notes: 2019 LRDP = 2019 Long Range Development Plan; CUP = Central Utility Plant; EIR = Environmental Impact Report; gsf = gross square feet; OSHPD = Office of Statewide Health Planning Department

To accommodate the construction of the non-OSHPD portion of the CUP, the construction area of the Hillcrest Outpatient Pavilion and Parking Structure Project would be extended north compared to Phase 1A in the 2019 LRDP EIR and south to include improvements to Bachman Place south of Arbor Drive identified as mitigation for the 2019 LRDP addressed in the 2019 LRDP EIR. With the exception of these improvements to Bachman Place, the construction area would be within the total construction area for the 2019 LRDP in the 2019 LRDP EIR. The Hillcrest Outpatient Pavilion and Parking Structure Project would result in a total disturbance area of approximately 10.5 acres. The extended portion to the north was previously addressed in Phases 2B and 3 in the 2019 LRDP EIR. As a result, the Hillcrest Outpatient Pavilion and Parking Structure Project would include the demolition of the existing Bachman Parking Structure that was previously planned for future Phase 2B. Demolition export would be approximately 41,800 gsf compared to the 61,400 gsf assumed in the 2019 LRDP EIR. Table 2 compares the demolition required for the Hillcrest Outpatient Pavilion and Parking Structure Project to the demolition required for Phase 1A in the 2019 LRDP EIR, when construction of the Hillcrest Outpatient Pavilion and Parking Structure Project would occur. Only minor construction would be required for equipment installation at the non-OSHPD CUP during Phase 1B. Construction of the Hillcrest Outpatient Pavilion and Parking Structure Project would require the closure of Bachman Place for approximately 23 month; however, truck and construction vehicle access to Bachman Place would be maintained from the project site, and no change in the truck route is anticipated compared to Phase 1A in the 2019 LRDP EIR. Soil export of 48,700 cubic yards is estimated for the Hillcrest Outpatient Pavilion and Parking Structure Project compared to the 238,000 cubic yards in Phase 1A in the 2019 LRDP EIR (see Figure 2, Outpatient Pavilion and Parking Structure Grading Plan). The difference is primarily due to less underground parking proposed in the Hillcrest Outpatient Pavilion and Parking Structure Project compared to the amount of underground parking proposed in the 2019 LRDP EIR, and because excavated material from the



location of the existing Bachman Parking Structure would be used for fill at the CUP site. No building construction was previously assumed in Phase 1B in the 2019 LRDP EIR. Under the Hillcrest Outpatient Pavilion and Parking Structure Project, minor construction would be required for equipment installation at the non-OSHDP CUP. Additional building construction is not proposed. The most intensive construction activity for the non-OSHDP CUP, including earthwork and pad construction, would occur in Phase 1A.

Table 2. Comparison of 2019 LRDP EIR Phase 1A Project Components with Hillcrest Outpatient Pavilion and Parking Structure Project Components – Existing Buildings to Be Demolished

2019 LRDP EIR Phase 1A – Demolition	Proposed Hillcrest Outpatient Pavilion and Parking Structure Project – Demolition
Mail Services, 138 Dickinson Street (2,100 gsf)	Not included in Phase 1A scope
136 Dickinson Street (2,900 gsf)	Not included in Phase 1A scope
134 Dickinson Street (1,800 gsf)	Not included in Phase 1A scope
150 Dickinson Street (800 gsf) ¹	Not included in Phase 1A scope
Camelot (1,700 gsf)	Not included in Phase 1A scope
135 Dickinson Street (3,800 gsf) ¹	Not included in Phase 1A scope
125 Dickinson Street (2,600 gsf) ¹	Not included in Phase 1A scope
Dickinson Housing Cluster (10,500 gsf)	Not included in Phase 1A scope
4235 Front Street (3,500 gsf)	Not included in Phase 1A scope
Crest Chateau (5,500 gsf) ¹	Not included in Phase 1A scope
Crest Trailer (900 gsf) ¹	Not included in Phase 1A scope
112 Arbor Drive (7,700 gsf)	112 Arbor Drive (7,700 gsf)
140 Arbor Drive (27,700 gsf)	140 Arbor Drive (27,700 gsf)
114 Arbor Drive (6,400 gsf)	114 Arbor Drive (6,400 gsf)
140 Arbor Parking Structure (80 parking spaces)	140 Arbor Parking Structure (80 parking spaces)
4194 First Avenue (3,800 gsf for both units)	Not included in Phase 1A scope
Surface Parking Lot (23 parking spaces)	Surface Parking Lot (23 parking spaces)
Valet Parking Lot (50 parking spaces)	Valet Parking Lot (50 parking spaces)
Bachman East Surface Lot (118 parking spaces)	Bachman East Surface Lot (118 parking spaces)
First Avenue End Parking Lot (7 parking spaces)	First Avenue End Parking Lot (7 parking spaces)
	Existing Bachman Parking Structure (1,032 parking spaces)

Notes: 2019 LRDP = 2019 Long Range Development Plan; EIR = Environmental Impact Report; gsf = gross square feet

¹ The building has been demolished/removed as a separate project in accordance with the approved 2019 LRDP and 2019 LRDP EIR.

The construction assumptions developed for the 2019 LRDP EIR, which were based on a similar major UC San Diego project, determined that no more than 150 two-way truck trips would feasibly occur in a workday. Construction is estimated to begin in November 2021 and take approximately 40 months to complete. Therefore, for the Hillcrest Outpatient Pavilion and Parking Structure Project, the demolition phase is assumed to be extended from 60 days for Phase 1A in the 2019 LRDP EIR to 225 days to accommodate the additional demolition materials.

Issue 1: Wasteful or Inefficient Energy Usage

Based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines, implementation of the 2019 LRDP would have a significant impact if it would result in the wasteful, inefficient, or unnecessary use of energy. The project would result in wasteful, inefficient, or unnecessary use of energy if it would not implement construction or operational practices that strive to reduce energy use beyond typical demand.



Summary of 2019 Long Range Development Plan Environmental Impact Report Impacts

Energy usage associated with construction and operation of the proposed 2019 LRDP as identified in the 2019 LRDP EIR is summarized below. The analysis of energy usage was based on the construction and operation modeling in the Air Quality Technical Study prepared for this 2019 LRDP EIR by Harris & Associates (2019), and the Greenhouse Gas (GHG) Reduction Strategy prepared for the proposed 2019 LRDP by LSA Associates, Inc. (2019).

Construction

Construction under the 2019 LRDP was not anticipated to require construction practices that would result in unusually high energy use. Fuel consumption as a result of project construction was calculated using the annual carbon dioxide equivalent (CO₂e) emissions calculated by CalEEMod, Version 2016.3.2, and kilograms per CO₂ conversion factors from the U.S. Environmental Protection Agency for diesel fuel and motor gasoline. Phase 1A was estimated to require 358,854 gallons of diesel fuel and 322,016 gallons of gasoline. Limitations on idling of vehicles and equipment and requirements that equipment be properly maintained, as required by California regulations (13 CCR 2449[d][3], 2485) and enforced by the California Air Resources Board, would result in fuel savings. At the time of the 2019 LRDP EIR preparation, it was determined that contractors and owners would have a financial incentive to avoid wasteful, inefficient, and unnecessary consumption of energy during construction given the cost of fuel. UC San Diego anticipates achievement of LEED Silver certification standards or higher for new structures, which would involve consideration of local or lower life cycle cost building materials that would result in less than typical energy use for construction materials. However, the 2019 LRDP would not include construction practice requirements that strive to reduce diesel and gasoline use beyond typical demand. The 2019 LRDP EIR identified this impact as potentially significant. Mitigation Measure ENE-1 would be required to reduce fossil fuel use during construction beyond typical demand to reduce this impact to less than significant.

ENE-1: Construction Fuel Use. For all construction activities, the construction contractor shall implement the following measures during construction:

1. When more than one piece of construction equipment is available to complete a task, the contractor shall use the most fuel-efficient equipment.
2. Newer or more fuel-efficient models shall be selected from the contractor fleet for use.
3. Workers shall be encouraged to carpool or use public transit to access the campus during construction. Construction contractor shall facilitate carpooling by providing means to organize carpools or request transit center pickups.
4. When haul trucks are available with a haul capacity larger than 15 cubic yards but a fuel efficiency similar to a 15-cubic-yard-capacity truck, the larger capacity trucks shall be used to reduce total truck trips.

Operations

Electricity, natural gas, fossil fuel consumption, and demand for water treatment and transport that would result from operation of the 2019 LRDP are summarized below.

Electricity

Operation of the 2019 LRDP would consume electrical energy for several purposes, including but not limited to lighting and operation of commercial equipment. The campus would use electricity from the following two sources: (1) electricity generated on campus at the new CUP's cogeneration facility assumed in the 2019 LRDP EIR and (2) 100 percent carbon-free electricity purchased from the UC Regents Direct Access Program and delivered by SDG&E. Heat generated as a result of the cogeneration plant's natural gas combustion would be used for other purposes, such as hot water to heat buildings on campus and/or a steam cooler to provide cold water, which would reduce energy demand compared to structures with only traditional energy service. Additionally, overall building energy conservation characteristics, through implementation of the GHG Reduction Strategy, would reduce electricity consumption compared to existing conditions. As a result, the 2019 LRDP would not result in wasteful, inefficient, or unnecessary use of electricity.



Natural Gas

Operation of the 2019 LRDP would consume natural gas for several purposes, including but not limited to heating buildings. Without implementation of the GHG Reduction Strategy, natural gas consumption would increase compared to existing conditions from 160,821 MMBTU/yr to 424,473 MMBTU/yr as part of the increase in building square footage primarily associated with the residential buildings and operation of the new cogeneration facility assumed in the 2019 LRDP EIR. However, with implementation of the GHG Reduction Strategy, which includes energy efficiency and biogas use requirements, natural gas consumption would be reduced compared to typical average demand for similar buildings. Additionally, all buildings constructed as part of 2019 LRDP implementation would conform to both Title 24 energy efficiency requirements and University of California Office of the President (UCOP) and UC San Diego policies through the GHG Reduction Strategy. Implementation of the 2019 LRDP would include practices that would reduce natural gas use beyond typical demand. The 2019 LRDP would not result in wasteful, inefficient, or unnecessary use of natural gas. Therefore, the 2019 LRDP EIR identified this impact as less than significant.

Diesel and Vehicle Fuel

Diesel usage for emergency electric generation would be similar to the relatively low consumption that currently exists because it would be used primarily for testing these facilities on a monthly basis and, in the rare instance, when other sources of electricity are unavailable. Similar to existing conditions, diesel fuel would continue to be used only when necessary. Generators would also be newer models that would likely be more fuel efficient than existing generators. Therefore, the 2019 LRDP EIR determined that usage of the emergency electric generator would not result in wasteful, inefficient, or unnecessary energy use and identified this impact as less than significant impact.

The 2019 LRDP EIR also determined that implementation of the GHG Reduction Strategy, which is a part of the 2019 LRDP, would reduce vehicle miles traveled (VMT) because of the increase in land use density and the inclusion of residential and retail uses on the site, which would, in turn, reduce annual gasoline usage compared to existing conditions. Furthermore, the 2019 LRDP EIR determined that implementation of the 2019 LRDP would include practices that strive to reduce fossil fuel use beyond typical demand and would not result in wasteful, inefficient, or unnecessary use of fossil fuels. Therefore, the 2019 LRDP EIR identified this impact as less than significant.

Water Demand

Water consumption at the Hillcrest Campus would continue to require treatment and transport of potable water with implementation of the 2019 LRDP. The treatment and transport of water requires the use of energy; however, this energy use cannot be quantified, and UC San Diego has no control over the energy use of water service providers serving the campus. However, the UC Sustainable Practices Policy requires all UC campuses to reduce their potable water use by 36 percent by the year 2025 and to develop a water action plan that outlines how they will achieve their water reductions (UCOP 2018). The Hillcrest Campus does not have its own water action plan, but would comply with the goals and policies of the UC San Diego La Jolla Campus Water Action Plan to implement a variety of water-saving features. Thus, the LRDP EIR determined that operation of uses assumed in the 2019 LRDP would reduce water use compared to typical demand and would not result in wasteful, inefficient, or unnecessary consumption of energy required for water treatment or transport. Therefore, the 2019 LRDP EIR identified this impact as less than significant.

Hillcrest Outpatient Pavilion and Parking Structure Project Consistency Evaluation

Construction and operational energy usages are addressed separately below.

Construction

Table 3 provides a comparison between the construction assumptions for the Hillcrest Outpatient Pavilion and Parking Structure Project and the assumptions of the 2019 LRDP EIR. As shown in Table 3, demolition under the Hillcrest Outpatient Pavilion and Parking Structure Project would require a higher number of demolition haul trips per day than originally assumed for Phase 1A in the 2019 LRDP EIR because demolition of Bachman Parking Structure was previously accounted for in Phase 2B construction. As such, demolition emissions would have the



potential to result in higher fuel use compared to Phase 1A in the 2019 LRDP EIR, although total anticipated demolition trips over buildout of the 2019 LRDP would remain the same. However, soil haul trips would be substantially reduced compared to Phase 1A in the 2019 LRDP EIR because there is less underground parking proposed in the Hillcrest Outpatient Pavilion and Parking Structure Project compared to the amount of underground parking proposed in Phase 1A of the 2019 LRDP EIR, and because excavated material from the location of the existing Bachman Parking Structure would be used for fill at the CUP site. GHG emissions from construction of the Outpatient Pavilion and Structure Parking Project used to estimate fuel usage were estimated using the CalEEMod Model, Version 2016.3.2, based on these revised assumptions. The start of construction was also adjusted from 2019, and the schedule was adjusted from 45 months to 38 months. Modeling includes the portion of the non-OSHPD CUP equipment to be installed in Phase 1B to calculate total construction emissions (Attachment 1, Construction Energy Use Calculation).

**Table 3. Proposed Hillcrest Outpatient Pavilion and Parking Structure Project
Construction Assumption Summary**

Construction Phase	Working Days by Activity	Demolition Material Export (sf)	Demolition Haul Trips	Soil Export (cy)	Soil Haul Trips	Disturbance Area (acres)	Total Building Construction (sf)
2019 LRDP EIR Phase 1A	Demolition – 60 Grading and earthwork – 110 Building construction – 670 Architectural coating – 446 Paving – 55	61,400	13,730	238,000	31,733	5.4	997,000
Hillcrest Outpatient Pavilion and Parking Structure Project	Demolition – 225 Grading and earthwork – 64 Building construction – 396 Architectural coating – 264 Paving – 35	296,698	66,348	65,000	8,667	10.5	942,000
Net Change from 2019 LRDP EIR Phase 1A	Demolition – +165 Grading and earthwork – (-46) Building construction – (-274) Architectural coating – (-182) Paving – (-20)	+235,298	+52,618	(-173,000)	(-23,066)	+5.1	(-55,000)

Notes: 2019 LRDP = 2019 Long Range Development Plan; cy = cubic yard; EIR = Environmental Impact Report; sf = square feet

The Hillcrest Outpatient Pavilion and Parking Structure Project would not require any construction practices or building materials that would result in unusually high energy use or that were not accounted for in the 2019 LRDP EIR. With the Hillcrest Outpatient Pavilion and Parking Structure Project, construction of Phase 1A is estimated to require 447,796 gallons of diesel fuel and 255,923 gallons of gasoline. Diesel fuel consumption would increase by 88,942 gallons for Phase 1A compared to the 2019 LRDP EIR; however, the increase in diesel fuel use would be



partially offset by the reduction in estimated fuel use for Phase 2B and Phase 3 as assumed in the 2019 LRDP EIR because demolition of the Bachman Parking Structure and partial construction of the CUP that were assumed in these phases are now included in Hillcrest Outpatient Pavilion and Parking Structure Project emissions. Gasoline consumption would be reduced by 66,093 gallons compared the 2019 LRDP EIR. Additionally, limitations on idling of vehicles and equipment, requirements that equipment be properly maintained, and financial incentives to avoid wasteful, inefficient, and unnecessary consumption of energy during construction would continue to apply to construction. Mitigation Measure ENE-1 would continue to be required to reduce fossil fuel use during construction beyond typical demand. This impact would be the same as the impact identified in the 2019 LRDP EIR.

Operation

Electricity, natural gas, fossil fuel consumption, and demand for water treatment and transport that would result from operation of the Hillcrest Outpatient Pavilion and Parking Structure Project compared to the assumptions of the 2019 LRDP EIR are summarized below.

Electricity

The Hillcrest Outpatient Pavilion and Parking Structure Project does not propose any new land uses that were not assumed in the 2019 LRDP EIR. The Hillcrest Outpatient Pavilion and Parking Structure Project would not interfere with the ability of the campus to use 100 percent carbon-free electricity purchased from the UC Regents Direct Access Program, as identified in the 2019 LRDP EIR. The proposed non-OSHPD CUP would include traditional chillers and boilers with a heat recovery chiller rather than the cogeneration facility. Additionally, overall building energy conservation characteristics, through implementation of the GHG Reduction Strategy, would reduce electricity consumption compared to existing conditions. As shown in the GHG Reduction Strategy Screening Table provided as Attachment 2, Screening Table, the Hillcrest Outpatient Pavilion and Parking Structure Project would implement its fair share of energy-reducing features, including cool roofs and high efficiency lighting. Additionally, a Design Development Energy Summary Report has been completed for the project that demonstrates that the Hillcrest Outpatient Pavilion and Parking Structure Project, including CUP operation, would reduce total energy use by 30 percent compared to ASHRAE 90.1-2010 standards, consistent with the UC Sustainable Practices Policy (Glumac 2021; Attachment 3, 100% Design Development Energy Summary Report). As a result, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in wasteful, inefficient, or unnecessary use of electricity. This impact would be the same as the impact identified in the 2019 LRDP EIR.

Natural Gas

The Hillcrest Outpatient Pavilion and Parking Structure Project does not propose any new land uses that were not assumed in the 2019 LRDP EIR. Additionally, the proposed non-OSHPD CUP would result in reduced natural gas consumption compared to the cogeneration facility addressed in the 2019 LRDP EIR. A GHG emissions estimate prepared for the non-OSHPD CUP concluded that a heat recovery plant with supplemental boiler significantly reduces the use of natural gas boilers and partially electrifies heating hot water production, using much less natural gas than gas turbines in a cogeneration plant, as proposed in the 2019 LRDP EIR. This results in an approximately 35 percent reduction in GHG reduction associated with CUP energy use compared to a cogeneration facility (Glumac 2020). This study is provided as Attachment 4, Heat Recovery CUP and GHG Emissions Memorandum. Additionally, the GHG Reduction Strategy included an estimate of GHG emissions from operation of a CUP with traditional boilers compared to a cogeneration facility (LSA 2019). Buildout of the campus with a traditional boiler CUP was estimated to result in GHG emissions that were below existing conditions without implementation of the GHG Reduction Strategy because of reduced natural gas consumption. Therefore, it can be assumed that buildout natural gas consumption from the Hillcrest Outpatient Pavilion and Parking Structure Project would not exceed those calculated for campus buildout in the 2019 LRDP EIR. Additionally, as shown in Attachment 2, the Hillcrest Outpatient Pavilion and Parking Structure Project would implement its fair share of energy-reducing features. The Design Development Energy Summary Report completed for the project also demonstrates that the Hillcrest Outpatient Pavilion and Parking Structure Project, including CUP operation, would reduce natural gas use by 60 percent compared to ASHRAE 90.1-2010 standards, consistent with the UC Sustainable Practices Policy (Glumac 2021; Attachment 3). The Hillcrest Outpatient Pavilion and Parking Structure

Project would not result in wasteful, inefficient, or unnecessary use of natural gas. This impact would be the same as the impact identified in the 2019 LRDP EIR.

Diesel and Vehicle Fuel

The Hillcrest Outpatient Pavilion and Parking Structure Project does not propose any new land uses that were not assumed in the 2019 LRDP EIR. Potential impacts related to diesel usage for emergency electric generation would be the same as those in the 2019 LRDP EIR. Additionally, the Hillcrest Outpatient Pavilion and Parking Structure Project does not propose any new land uses that would result in additional vehicle trips to the campus compared to the assumptions of the 2019 LRDP EIR. Additionally, as shown in Attachment 2, the Hillcrest Outpatient Pavilion and Parking Structure Project would implement their fair share of VMT-reducing features, consistent with the GHG Reduction Strategy. VMT-reduction features that would be implemented for the Hillcrest Outpatient Pavilion and Parking Structure Project include alternative work schedules, car/vanpool programs, employee bicycle commute facilities, shuttle programs, and trip reduction incentives. Therefore, implementation of the Hillcrest Outpatient Pavilion and Parking Structure Project would include practices that strive to reduce fossil fuel use beyond typical demand, and the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in wasteful, inefficient, or unnecessary use of fossil fuels. This impact would be the same as the impact identified in the 2019 LRDP EIR.

Water Demand

The Hillcrest Outpatient Pavilion and Parking Structure Project does not propose any new land uses that were not assumed in the 2019 LRDP EIR. The Hillcrest Campus does not have its own water action plan but would comply with the goals and policies of the UC San Diego La Jolla Campus Water Action Plan. The Hillcrest Outpatient Pavilion and Parking Structure Project would not conflict with the goals and policies of the UC San Diego La Jolla Campus Water Action Plan to implement a variety of water-saving features. As shown in Attachment 2, the Hillcrest Outpatient Pavilion and Parking Structure Project would implement applicable water-saving features, including water-efficient faucets, toilets, showers, and landscaping. Thus, operation of the Hillcrest Outpatient Pavilion and Parking Structure Project would reduce water use compared to typical demand and would not result in wasteful, inefficient, or unnecessary consumption of energy required for water treatment or transport. This impact would be the same as the impact identified the 2019 LRDP EIR.

Summary

Construction of the Hillcrest Outpatient Pavilion and Parking Structure Project would result in increased construction fuel use compared to Phase 1A in the 2019 LRDP EIR, but would reduce construction fuel use in later phases. Mitigation Measure ENE-1 would continue to reduce impacts to a less than significant level. Operation of the 2019 LRDP with the Hillcrest Outpatient Pavilion and Parking Structure Project would result in similar or reduced utility use for campus buildout compared to buildout in the 2019 LRDP EIR, and would implement GHG Reduction Strategy measures so that energy use would not be wasteful, inefficient, or unnecessary. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding energy usage. This impact would be the same as the impact identified in the 2019 LRDP EIR.

Issue 2: Conflict with Renewable Energy or Energy Efficiency Plan

Based on Appendix G of the CEQA Guidelines, implementation of the 2019 LRDP would have a significant impact if it would conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Summary of 2019 Long Range Development Plan Environmental Impact Report Impacts

Development of the 2019 LRDP would follow Title 24 Building Energy Efficiency Standards to reduce energy use, which establish minimum efficiency standards related to various building features, including appliances, water and space heating and cooling equipment, building installation and roofing, and lighting. Furthermore, UCOP and UC San Diego, as well as other state regulations, include design features that reduce energy use, improve energy

efficiency, and increase reliance on renewable energy sources that would be used in the operation of the Hillcrest Campus to reduce energy usage.

Implementation of the 2019 LRDP would be required to comply with Title 24 and other applicable building regulations. Energy-reducing features would be implemented through the GHG Reduction Strategy to comply with UCOP and UC San Diego requirements related to energy reduction and carbon-free energy use, including the UC Sustainable Practices Policy and purchase of carbon-free electricity from the UC Regents Direct Access Program. In addition, use of biofuels at the cogeneration facility assumed in the 2019 LRDP EIR would support statewide goals, such as Executive Order S-06-06, to expand use of renewable energy sources, including biofuels. With implementation of the GHG Reduction Strategy, the 2019 LRDP would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, the 2019 LRDP EIR determined that the 2019 LRDP would not result in a policy impact that would result in a significant impact on the environment.

Hillcrest Outpatient Pavilion and Parking Structure Project Consistency Evaluation

As described under Issue 1, the proposed project does not propose any new land uses that were not assumed in the 2019 LRDP EIR. Operation of the 2019 LRDP with the Hillcrest Outpatient Pavilion and Parking Structure Project would result in similar or reduced utility use for campus buildout compared to buildout in the 2019 LRDP EIR. The Hillcrest Outpatient Pavilion and Parking Structure Project demonstrates implementation of energy and water use reduction measures through the Screening Table (Attachment 2). The modified non-OSHPD CUP, which utilizes traditional boilers and heat recovery equipment, would require substantially less natural gas consumption compared to the cogeneration facility assumed in the 2019 LRDP EIR and would not preclude use of biofuel to replace natural gas consumption on the campus. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. The impact would be the same as the impact identified in the 2019 LRDP EIR.

Summary of Energy Impacts

Impacts related to energy from construction and operation of the Hillcrest Outpatient Pavilion and Parking Structure Project would be the same as those identified in the 2019 LRDP EIR. Construction of the Hillcrest Outpatient Pavilion and Parking Structure Project would implement Mitigation Measure ENE-1 to minimize energy use, and operation of the 2019 LRDP with the Hillcrest Outpatient Pavilion and Parking Structure Project would result in similar or reduced utility use for campus buildout compared to buildout in the 2019 LRDP EIR. No new significant impacts would occur compared to those in the 2019 LRDP EIR. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects related to energy.

References

Glumac. 2020. Heat Recovery CUP and GHG Emissions Memorandum. March 24.

Glumac. 2021. 100% Design Development Energy Summary Report – UCSD Hillcrest Phase 1A. May 21.

Harris (Harris & Associates). 2019. Air Quality Technical Report for the UC San Diego Hillcrest Campus 2019 Long Range Development Plan. June.

LSA (LSA Associates, Inc.). 2019. Greenhouse Gas Emissions Reduction Strategy – University of California, San Diego, Hillcrest Campus Long Range Development Plan EIR. June.

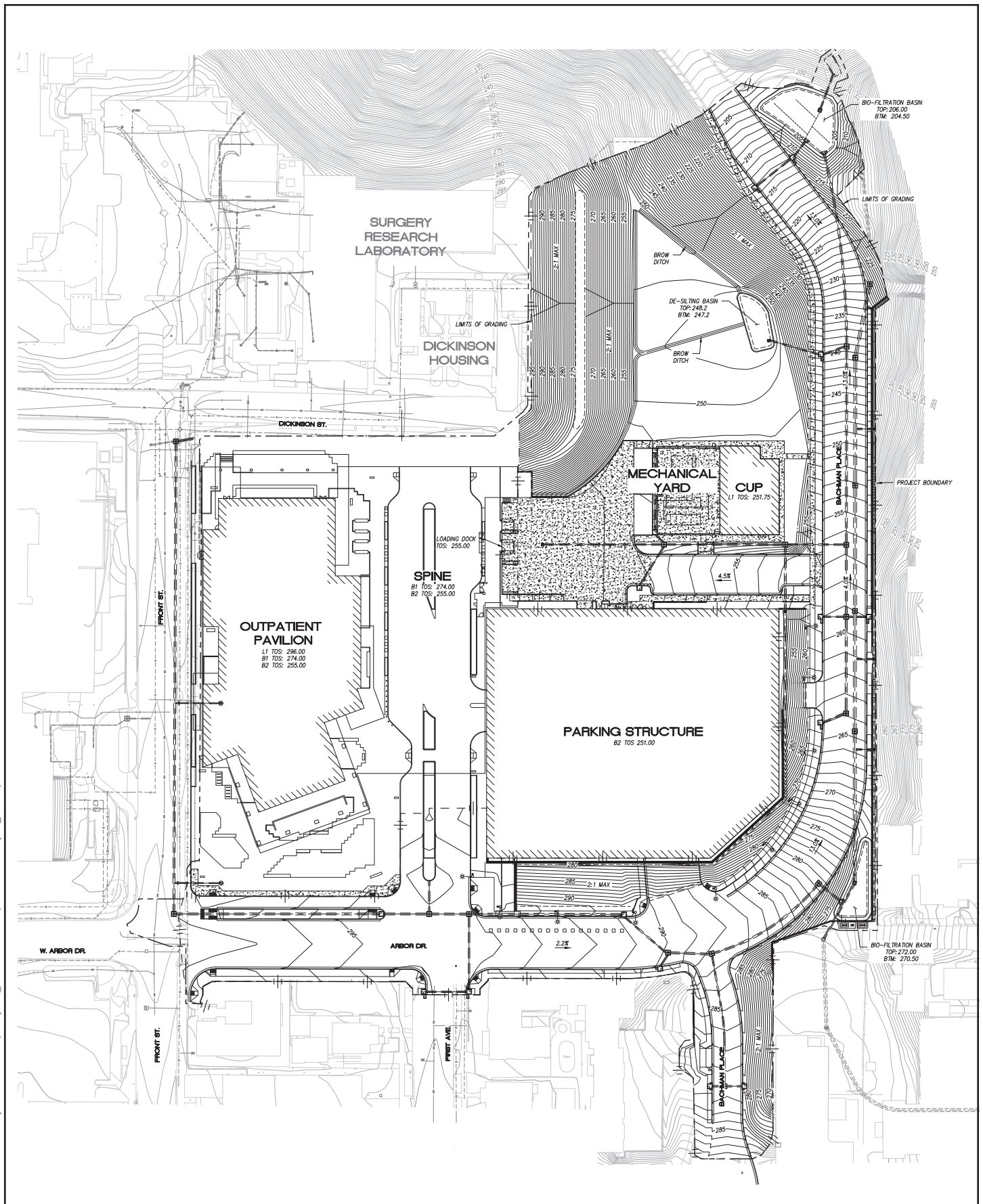
UCOP (University of California Office of the President). 2018. UC Sustainable Practices Policy.



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Source: Callisonrtkl Inc. 2020.

Figure 1
Outpatient Pavilion and Parking Structure Site Plan



Source: Latitude 33 2021.

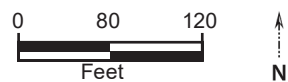


Figure 2
Outpatient Pavilion and Parking Structure Grading Plan

Attachment 1. Construction Energy Use Calculation

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Construction Phase	Construction Activity	Source	CalEEMod CO2e (MT/year)	Fuel Type	Factor (kg CO2/gallon)	Gallons
Outpatient Pavilion and Parking Project	Demolition	Offroad Equipment	385	Diesel	10.21	37,708
		Hauling	2560	Diesel	10.21	250,735
		Vendor	178	Diesel	10.21	17,434
		Worker	726	Motor Gasoline	8.78	82,688
	Grading	Offroad Equipment	202	Diesel	10.21	19,785
		Hauling	331	Diesel	10.21	32,419
		Vendor	50	Diesel	10.21	4,897
		Worker	201	Motor Gasoline	8.78	22,893
	Paving	Offroad Equipment	35	Diesel	10.21	3,428
		Vendor	27	Diesel	10.21	2,644
		Worker	106	Motor Gasoline	8.78	12,073
	Building Construction	Offroad Equipment	461	Diesel	10.21	45,152
		Vendor	309	Diesel	10.21	30,264
		Worker	1214	Motor Gasoline	8.78	138,269
	Coating	Offroad Equipment	34	Diesel	10.21	3,330

Source for conversion factor: U.S. Environmental Protection Agency. "Emissions Factors for Greenhouse Gas Inventories". Last Modified March 9, 2018.

1 MT = 1,000 kg

Total Diesel Use

Phase	CO2e Emissions	Gallons
Phase 1A	4,572	447,796

Total Vehicle Fuel Use

Phase	CO2e Emissions	Gallons
Phase 1A	2,247	255,923

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Attachment 2. Screening Table

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GREENHOUSE GAS (GHG) EMISSIONS REDUCTION STRATEGY - TABLE 7.A

Project:	UCSD Hillcrest Campus Redevelopment Phase One
Project No.:	UCSD 5171 ; CRTKL 040-180089

Feature	Description	Assigned Point Values	Project Points
Reduction Measure: Hospital/Medical Facility/Lab Energy Efficiency Development			
Overall Energy Rating of Building			
HEA Energy Audits	<p>The Hospital Energy Alliance (HEA) in collaboration with the USEPA has developed an Energy Star efficiency benchmarking system depending upon how efficient the facility is in comparison to other medical facilities within the United States. A subset scoring system was also developed using medical facilities in California. The following scoring system is based on the California subset database:</p> <ul style="list-style-type: none"> <input type="checkbox"/> HEA Energy Star Score of below 60 <input type="checkbox"/> HEA Energy Star Score between 60 and 65 <input type="checkbox"/> HEA Energy Star Score between 66 and 70 <input type="checkbox"/> HEA Energy Star Score between 71 and 75 <input type="checkbox"/> HEA Energy Star Score between 76 and 80 <input type="checkbox"/> HEA Energy Star Score between 81 and 85 <input type="checkbox"/> HEA Energy Star Score between 86 and 90 <input type="checkbox"/> HEA Energy Star Score between 91 and 100 	<p>0 point</p> <p>5 points</p> <p>10 points</p> <p>20 points</p> <p>35 points</p> <p>50 points</p> <p>75 points</p> <p>100 points</p>	0
<i>If gaining points with HEA Energy Audits, skip the choices under the titles "Building Envelope" and "Indoor Space Efficiencies" because the HEA Energy Audits already account for these types of features (no double counting).</i>			0
Building Envelope			
Insulation	<ul style="list-style-type: none"> <input type="checkbox"/> 2017 baseline (walls R-13; roof/attic R-30) <input type="checkbox"/> Modestly Enhanced Insulation (walls R-15, roof/attic R-38) <input type="checkbox"/> Enhanced Insulation (rigid wall insulation R-15, roof/attic R-38) <input type="checkbox"/> Greatly Enhanced Insulation (spray foam insulated walls R-18 or higher, roof/attic R-38 or higher) 	<p>0 point</p> <p>20 points</p> <p>22 points</p> <p>24 points</p>	0

Feature	Description	Assigned Point Values	Project Points
Windows	<input type="checkbox"/> 2017 Baseline Windows (0.57 U-factor, 0.4 SHGC) <input type="checkbox"/> Modestly Enhanced Window Insulation (0.4 U-factor, 0.32 SHGC) <input type="checkbox"/> Enhanced Window Insulation (0.32 U-factor, 0.25 SHGC) <input type="checkbox"/> Greatly Enhanced Window Insulation (0.28 or less U-factor, 0.22 or less SHGC)	0 point 3 points 6 points 8 points	3
Cool Roof	<input type="checkbox"/> Modest Cool Roof (CRRC Rated 0.15 aged solar reflectance, 0.75 thermal emittance) <input type="checkbox"/> Enhanced Cool Roof (CRRC Rated 0.2 aged solar reflectance, 0.75 thermal emittance) <input type="checkbox"/> Greatly Enhanced Cool Roof (CRRC Rated 0.35 aged solar reflectance, 0.75 thermal emittance)	11 points 12 points 14 points	14
Air Infiltration	Minimizing leaks in the building envelope is as important as the insulation properties of the building. Insulation does not work effectively if there is excess air leakage. <input type="checkbox"/> Air barrier applied to exterior walls, caulking, and visual inspection such as the HERS Verified Quality Insulation Installation (QII or equivalent) <input type="checkbox"/> Blower Door HERS Verified Envelope Leakage or equivalent	12 points 9 points	12
Thermal Storage of Building	Thermal storage is a design characteristic that helps keep a constant temperature in the building. Common thermal storage devices include strategically placed water-filled columns, water storage tanks, and thick masonry walls. <input type="checkbox"/> Modest Thermal Mass (10 percent of floor or 10 percent of walls 12" or more thick exposed concrete or masonry with no permanently installed floor covering such as carpet, linoleum, wood or other insulating materials) <input type="checkbox"/> Enhanced Thermal Mass (20 percent of floor or 20 percent of walls 12" or more thick exposed concrete or masonry with no permanently installed floor covering such as carpet, linoleum, wood or other insulating materials)	4 points 6 points	0
Indoor Space Efficiencies			

Feature	Description	Assigned Point Values	Project Points
Heating/Cooling Distribution System	<input type="checkbox"/> Minimum Duct Insulation (R-4.2 required) <input type="checkbox"/> Modest Duct insulation (R-6) <input type="checkbox"/> Enhanced Duct Insulation (R-8) <input type="checkbox"/> Distribution loss reduction with inspection (HERS Verified Duct Leakage)	0 point 8 points 9 points 12 points	9
Medical Facility Heat Recovery Systems	Heat recovery strategies employed with laundry, cooking equipment, and other commercial heat sources for reuse in HVAC air intake or other appropriate heat recovery technology. Point values for these types of systems would be determined based upon design and engineering data documenting the energy savings. Use the GHG emission reduction per point value shown in Appendix B to calculate the points based upon the specific design.	Points for this option must be calculated at the time that the heat recovery system is designed based upon expected energy savings.	0
Water Heaters	<input type="checkbox"/> 2017 Minimum Efficiency (0.57 Energy Factor) <input type="checkbox"/> Improved Efficiency Water Heater (0.675 Energy Factor) <input type="checkbox"/> High Efficiency Water Heater (0.72 Energy Factor) <input type="checkbox"/> Very High Efficiency Water Heater (0.92 Energy Factor) <input type="checkbox"/> Solar Pre-heat System (0.2 Net Solar Fraction) <input type="checkbox"/> Enhanced Solar Pre-heat System (0.35 Net Solar Fraction)	0 point 11 points 12 points 15 points 3 points 6 points	15
Daylighting	Daylighting is the ability of each room within the building to provide outside light during the day, reducing the need for artificial lighting during daylight hours. <input type="checkbox"/> All peripheral rooms within the building have at least one window or skylight <input type="checkbox"/> All rooms within the building have daylight (through use of windows, solar tubes, skylights, etc.) <input type="checkbox"/> All rooms daylighted	1 point 4 points 5 points	0

Feature	Description	Assigned Point Values	Project Points
Artificial Lighting (generic lighting throughout the buildings)	<input type="checkbox"/> 2017 Minimum Efficiency (required) <input type="checkbox"/> Efficient Lights (25 percent of in-unit fixtures considered high efficacy. High efficacy is defined as 40 lumens/watt for 15 watt or less fixtures, 50 lumens/watt for 15-40 watt fixtures, 60 lumens/watt for fixtures >40 watt) <input type="checkbox"/> High Efficiency Lights (50 percent of in-unit fixtures are high efficacy) <input type="checkbox"/> Very High Efficiency Lights (100 percent of in-unit fixtures are high efficacy)	0 point 7 points 9 points 11 point	11
Examination and Surgical Lighting	<input type="checkbox"/> LED Exam room portable lighting (60 lumens/watt) <30,000 lux/M <input type="checkbox"/> LED Surgical lighting (60 lumens/watt) 31,000-80,000 lux/M <input type="checkbox"/> LED Surgical lighting (60 lumens/watt) 81,000-100,000 lux/M <input type="checkbox"/> LED Surgical lighting (60 lumens/watt) >100,000 lux/M with multi-stage dimming switch	7 points 12 points 18 points 25 points	25
Appliances	<input type="checkbox"/> Energy Star Commercial Refrigerator (new) <input type="checkbox"/> Energy Star Commercial Dishwasher (new) <input type="checkbox"/> Energy Star Commercial Clothes Washer <input type="checkbox"/> Energy Star Commercial Fan	1 point 1 point 1 point 1 point	1
Misc. Hospital/Medical Facility and Lab Building Efficiencies			
Building Placement	North/south alignment of building or other building placement such that the orientation of the buildings optimizes conditions for natural heating, cooling, and lighting.	4 points	0
Shading	At least 90 percent of south-facing glazing would be shaded by vegetation or overhangs at noon on June 21.	4 points	0
Other	This allows innovation by the applicant to provide design features that increase the energy efficiency of the project that are not provided in the table. Note that engineering data would be required documenting the energy efficiency of innovative designs and point values given based on the proven efficiency beyond the Title 24 Energy Efficiency Standards.	Points for this option must be calculated at the time that the energy efficiency feature is designed based upon expected energy savings.	0
Reduction Measure: Hospital/Medical Facility/Lab Renewable Energy			

Feature	Description	Assigned Point Values	Project Points
Photovoltaic	<p>Solar photovoltaic panels installed on commercial buildings or in collective arrangements within a commercial development such that the total power provided augments:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Solar Ready Roofs (sturdy roof and electric hookups) <input type="checkbox"/> 400 kW Capacity <input type="checkbox"/> 600 kW Capacity <input type="checkbox"/> 800 kW Capacity <input type="checkbox"/> 1.2 MW Capacity <input type="checkbox"/> 1.6 MW Capacity <input type="checkbox"/> 2.4 MW Capacity <input type="checkbox"/> 2.8 MW Capacity <input type="checkbox"/> 3.2 MW Capacity <input type="checkbox"/> 3.6 MW Capacity <input type="checkbox"/> 4 MW Capacity 	<p>2 points 8 points 14 points 20 points 26 points 32 points 38 points 44 points 50 points 56 points 60 points</p>	2
Offsite Renewable Power	<p>Electricity purchases by UC San Diego used to meet this menu option must include acquisition/retentions of sufficient environmental attributes to ensure zero GHG emissions:</p> <ul style="list-style-type: none"> <input type="checkbox"/> 1 MWh annually <input type="checkbox"/> 2 MWh annually <input type="checkbox"/> 4 MWh annually <input type="checkbox"/> 8 MWh annually <input type="checkbox"/> 12 MWh annually <input type="checkbox"/> 26 MWh annually <input type="checkbox"/> 32 MWh annually <input type="checkbox"/> 36 MWh annually <input type="checkbox"/> All electricity purchased as 100 percent zero emission renewable energy 	<p>2 points 5 points 11 points 22 points 33 points 72 points 88 points 99 points 112 points</p>	112
Other Renewable Energy Generation	<p>The applicant may have innovative designs or unique site circumstances (such as geothermal) that allow the project to generate electricity from renewable energy not provided in the table. The point values allowed would be decided based upon engineering data showing the generation capacity.</p>	<p>Points for this option must be calculated at the time that the system is designed.</p>	0
Reduction Measure: Hospital/Medical Facility/Lab Water Conservation			
Irrigation and Landscaping			

Feature	Description	Assigned Point Values	Project Points
Water Efficient Landscaping	<input type="checkbox"/> Eliminate conventional turf from landscaping <input type="checkbox"/> Only moderate water using plants <input type="checkbox"/> Only low water using plants <input type="checkbox"/> Only California native landscape that requires no or only supplemental irrigation	0 point 2 points 3 points 6 points	2
Trees	<input type="checkbox"/> Increase tree planting in parking areas 50 percent beyond City Code	Points for this option must be calculated at the time that the system is designed.	0
Water Efficient Irrigation Systems	<input type="checkbox"/> Low precipitation spray heads <0.75"/hour or drip irrigation <input type="checkbox"/> Weather-based irrigation control systems combined with drip irrigation (demonstrate 20 percent reduced water use)	1 point 4 points	4
Recycled Water	<input type="checkbox"/> Recycled water connection (purple pipe) to irrigation system on site	5 points	0
Storm Water Reuse Systems	Innovative on-site storm water collection, filtration, and reuse systems are being developed that provide supplemental irrigation water and provide vector control. These systems can greatly reduce the irrigation needs of a project. Point values for these types of systems would be determined based on design and engineering data documenting the water savings.	Points for this option must be calculated at the time that the system is designed.	0
Potable Water			
Showers	Water efficient showerheads (2.0 gpm)	2 points	2
Toilets	<input type="checkbox"/> Water efficient toilets/urinals (1.5 gpm) <input type="checkbox"/> Waterless urinals (note that commercial buildings having both waterless urinals and high-efficiency toilets would have a combined point value of 6 points)	2 points 3 points	2
Faucets	<input type="checkbox"/> Water efficient faucets (1.28 gpm)	2 points	2
Commercial Dishwashers	<input type="checkbox"/> Water efficient dishwashers (20 percent water savings)	3 points	0
<input type="checkbox"/> Commercial Laundry Washers	<input type="checkbox"/> Water efficient laundry (15 percent water savings) <input type="checkbox"/> High efficiency laundry equipment that captures and reuses rinse water (30 percent water savings)	2 points 4 points	0

Feature	Description	Assigned Point Values	Project Points
Commercial Water Operations Program	Establish an operational program to reduce water loss from pools, water features, etc., by covering pools, adjusting fountain operational hours, and using water treatment to reduce drawdown and replacement of water. Point values for these types of plans would be determined based on design and engineering data documenting the water savings.	Points for this option must be calculated at the time that the water operations program is designed based upon expected water savings.	0
Reduction Measure Transportation: Bicycle Infrastructure			
Bicycle Infrastructure	<p>Campus mobility includes Class I, Class II, and Class III bikeways to build on the current bikeways.</p> <p><input type="checkbox"/> Provide bicycle paths within project boundaries.</p> <p><input type="checkbox"/> Provide bicycle path linkages between project site and other land uses.</p> <p><input type="checkbox"/> Provide bicycle path linkages between project site and transit.</p>	<p>1 point</p> <p>2 points</p> <p>6 points</p>	6
Reduction Measure Transportation: Electric Vehicle Infrastructure			
Neighborhood Electric Vehicles	<p><input type="checkbox"/> Provide safe NEV routes within the facility</p> <p><input type="checkbox"/> Provide safe NEV routes between the facility and other land uses</p>	<p>5 points</p> <p>10 points</p>	0
Electrical Vehicles	<p><input type="checkbox"/> Provide staff-only charging station for use by facility-owned electric vehicle</p> <p><input type="checkbox"/> Provide public charging station for use by an electric vehicle</p>	<p>5 points</p> <p>7 points</p>	7
Reduction Measure Transportation: Employee Based Trip & VMT Reduction Policy			
Compressed Work Week	<p>Reducing the number of days per week that employees need to be on site would reduce the number of vehicle trips associated with commercial/industrial development. A compressed work week such that full-time employees are on site:</p> <p><input type="checkbox"/> 4 days per week</p> <p><input type="checkbox"/> 3 days per week</p>	<p>3 points</p> <p>6 points</p>	3
Car/Vanpools	<p><input type="checkbox"/> Car/vanpool program</p> <p><input type="checkbox"/> Car/vanpool program with preferred parking</p> <p><input type="checkbox"/> Car/vanpool with guaranteed ride home program</p> <p><input type="checkbox"/> Subsidized employee incentive car/vanpool program</p> <p><input type="checkbox"/> Combination of all the above</p>	<p>3 points</p> <p>4 points</p> <p>4 points</p> <p>5 points</p> <p>7 points</p>	4

Feature	Description	Assigned Point Values	Project Points
Employee Bicycle/ Pedestrian Programs	<input type="checkbox"/> Complete sidewalk to residential within 0.5 mile <input type="checkbox"/> Complete bike path to residential within 3 miles <input type="checkbox"/> Bike lockers and secure racks <input type="checkbox"/> Showers and changing facilities <input type="checkbox"/> Subsidized employee walk/bike program (Note: Combine all applicable points for total value.)	3 points 3 points 1 point 2 points 2 points	9
Shuttle/Transit Programs	<input type="checkbox"/> Local bus stop at the medical facility <input type="checkbox"/> Light rail transit within 0.25 mile <input type="checkbox"/> Light rail transit within 0.5 mile <input type="checkbox"/> Shuttle service to light rail transit station <input type="checkbox"/> Guaranteed ride home program <input type="checkbox"/> Subsidized transit passes (Note: Combine all applicable points for total value.)	3 points 7 points 3 points 3 points 3 points 4 points	10
Commute Trip Reduction	Employer-based CTR. CTRs apply to commercial, offices, or industrial projects that include a reduction of vehicle trip or VMT goal using a variety of employee CTR methods. <input type="checkbox"/> Incentive-based CRT programs <input type="checkbox"/> Mandatory CRT programs	5 points 11 points	0
Other Trip Reductions	Other trip or VMT reduction measures not listed above with a TIA and/or other traffic data supporting the trip and/or VMT for the project.	Point values for this option must be calculated at the time the VMT reduction measure is designed based on the reduction of VMT.	0
			255

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Attachment 3. 100% Design Development Energy Summary Report

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100% Design Development Energy Summary Report

UCSD Hillcrest Phase 1A

Prepared for:

**University of California,
San Diego**

Prepared by:

GLUMAC
A Tetra Tech Company

707 Wilshire Blvd, 23rd Floor
Los Angeles, CA 90017

May 21, 2021

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1. EXECUTIVE SUMMARY

This report summarizes the estimated energy performance of the proposed UCSD Hillcrest Redevelopment project, phase 1A. This project includes a new 6-story Outpatient Pavilion (OPP) building with gross area of 250,000 sf, a 10-story parking structure, and a new central utility plant (CUP).

The project has several energy goals developed based on University of California Office of the President (UCOP) Green Building energy efficiency policy goals, and UCSD's ongoing sustainability goals. UCOP Sustainable Practices Policy sets goal for Acute care/hospital facilities and medical office buildings to outperform ASHRAE 90.1-2010 by 30% or more. This assessment evaluates energy usage of the proposed design in order to demonstrate whole building energy savings as designed. In addition, this report summarizes strategies for reducing onsite fossil fuel combustion where economically feasible and achieve carbon neutrality from scope 1 and 2 sources by 2025.

Energy simulation software IES VE was used to analyze the energy use of the building, and central plant energy is evaluated through custom Python programming package. The following sections include a description of all energy modeling inputs and assumptions, as well as a summary of results.

These performance estimates are intended to be used for relative comparisons between the proposed design and the baseline model at the schematic design stage of the project. While assumptions are made per engineer's best judgement, the results are not intended to accurately predict actual building energy usage.

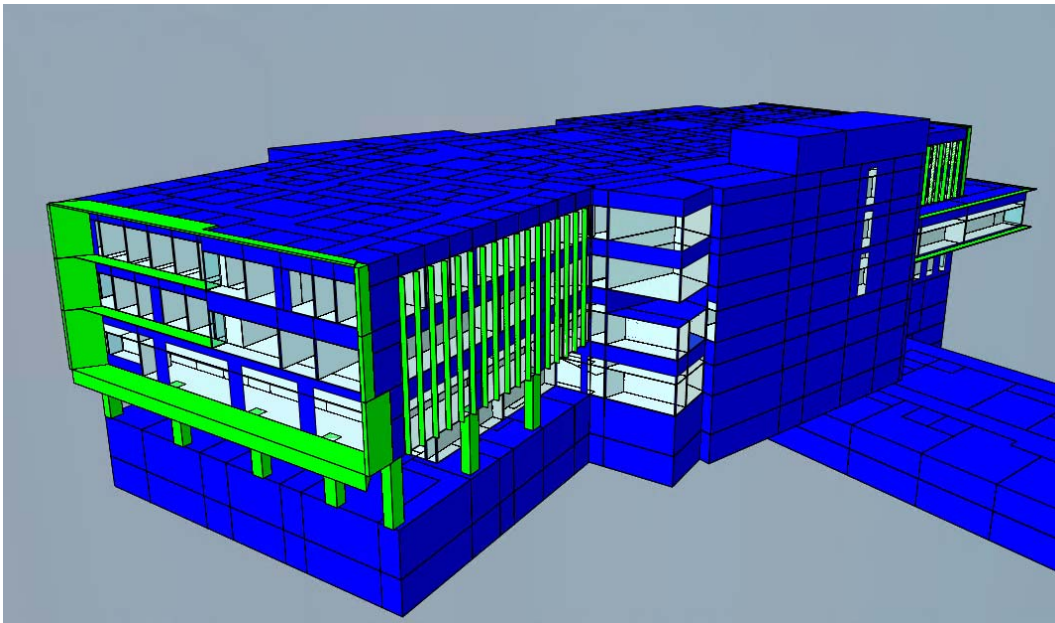


Figure 1: IES VE Energy Model

Based on this energy assessment, the proposed design will use approximately **30% less energy than ASHRAE 90.1 2010 baseline**. The following table shows the energy end use breakdown of the proposed and baseline energy models.

Table 1: Annual Energy Usage Intensity (EUI) for Proposed and Baseline Models

Energy End Use	ASHRAE-90.1 2010 Baseline			Proposed Design			
	Electricity (kWh)	Natural Gas (therms)	EUI (kBtu/sf)	Electricity (kWh)	Natural Gas (therms)	EUI (kBtu/sf)	Savings (%)
Heating	-	60,512	26.1	142,886	25,625	13.1	50%
Cooling	707,944	-	10.4	496,259	-	7.3	30%
Indoor Fans	1,343,856	-	19.8	1,379,498	-	20.3	-3%
Heat Rejection	418,180	-	6.2	49,710	-	0.7	88%
Pumps	87,197	-	1.3	85,803	-	1.3	2%
Domestic Hot Water	0	3,783	1.6	13,581	-	0.2	88%
Interior Lighting	600,342	-	8.8	407,461	-	6.0	32%
Misc. Equipment	1,682,337	-	24.7	1,682,337	-	24.7	0%
Parking and Site Lighting	730,520	-	10.7	191,971	-	2.8	74%
Total	5,570,375	64,295	109.6	4,449,507	25,625	76.5	30.2%

There are several energy efficiency measures that were used to achieve greater energy efficiency compared to an ASHRAE baseline. Significant energy reduction comes from space heating and cooling. These are a result of central plant electrification with high-performance modular heat recovery chillers. As designed, the system produces hot water and chilled water simultaneously to serve the air conditioning needs of OPP, reduces waste heat rejection and improves operational flexibility and energy usage. Other energy efficiency measures in the design include:

- 1) High efficiency water-to-water heat pump for domestic hot water
- 2) All-LED lighting for interior, exterior and parking
- 3) Automatic lighting control for daylight and occupancy dimming/shutoff
- 4) Air handling unit with return air, outside air economizers and nighttime setbacks
- 5) High performance glazing and opaque envelope system

The following figure shows a graphical representation of the energy use break down for the ASHRAE Baseline and Basis of Design (BOD) energy models.

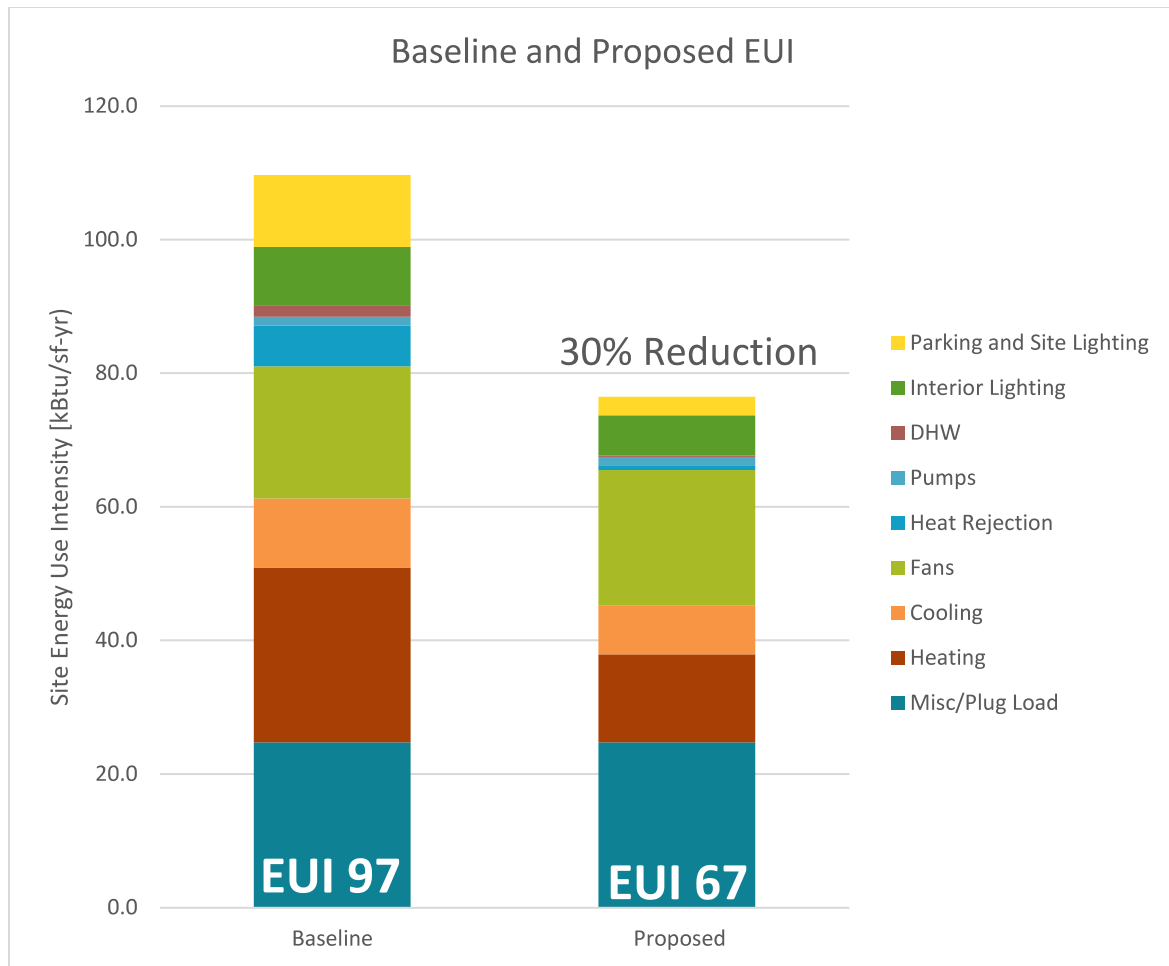


Figure 2: Proposed Energy Savings over ASHRAE-90.1 2010

The project performed extensive analysis on options for the CUP that serves OPP and future buildings, including one multipurpose building and a new hospital tower. This analysis was performed for the campus as a whole to account for future uses and provide best design to accommodate all loads while reducing fossil fuel combustion, a life cycle cost analysis was performed to identify a heat recovery chiller plant as best option. **Compared to ASHRAE 90.1-2010, the proposed design for OPP will reduce natural gas usage by 60%.**

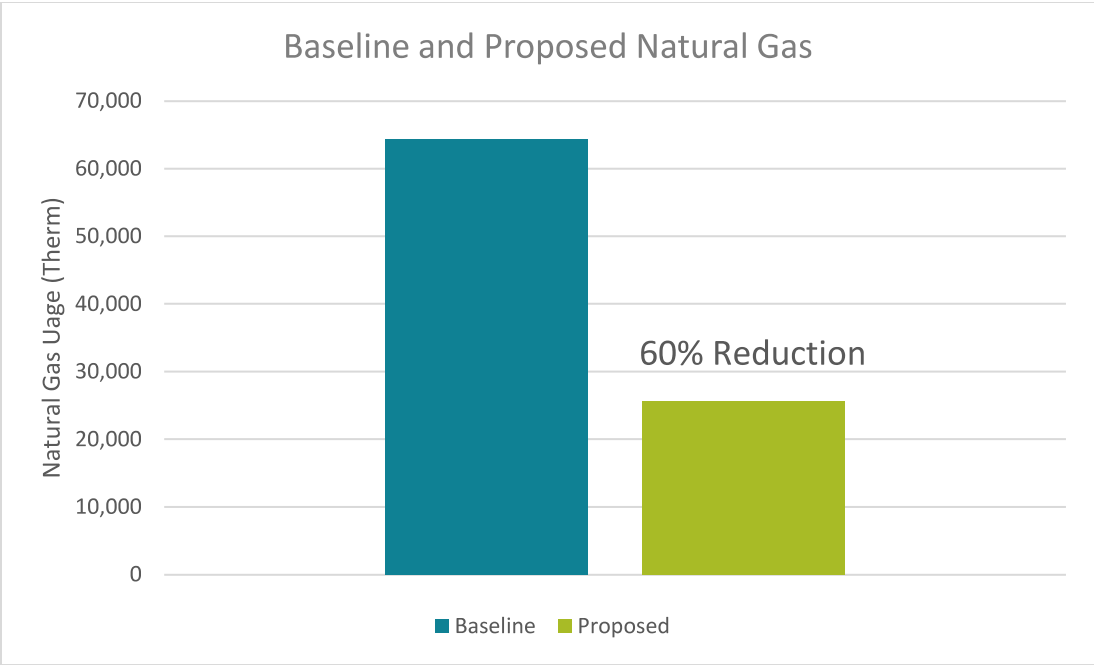
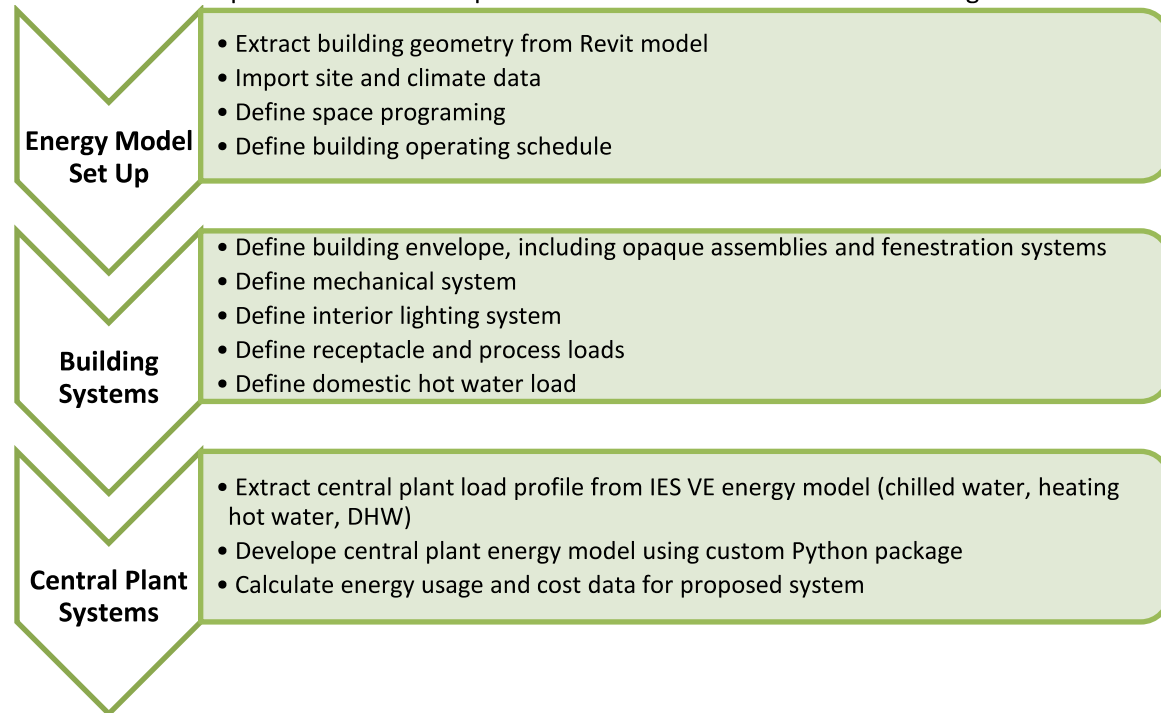


Figure 3: Proposed Natural Gas Reduction

2. ENERGY MODELING PROCESS SUMMARY

This section documents the energy model process for assessing the proposed energy usage of UCSD Hillcrest Outpatient Pavilion compared to ASHRAE 90.1-2010 baseline design.



3. ENERGY MODEL SET UP

3.1. Energy Model Geometry

The energy analysis was conducted by first creating the building geometry in Revit 2019, based on the latest architectural Revit model. By using this integrated building information management (BIM) process, the physical building geometry can be modeled at a much higher accuracy and yield more reliable results.

The building geometry was then exported via gbXML into IES VE where site properties, building constructions, and building systems were defined. This was then compared to a baseline energy model that was constructed using the energy modeling guidelines for ASHRAE-90.1 2010.

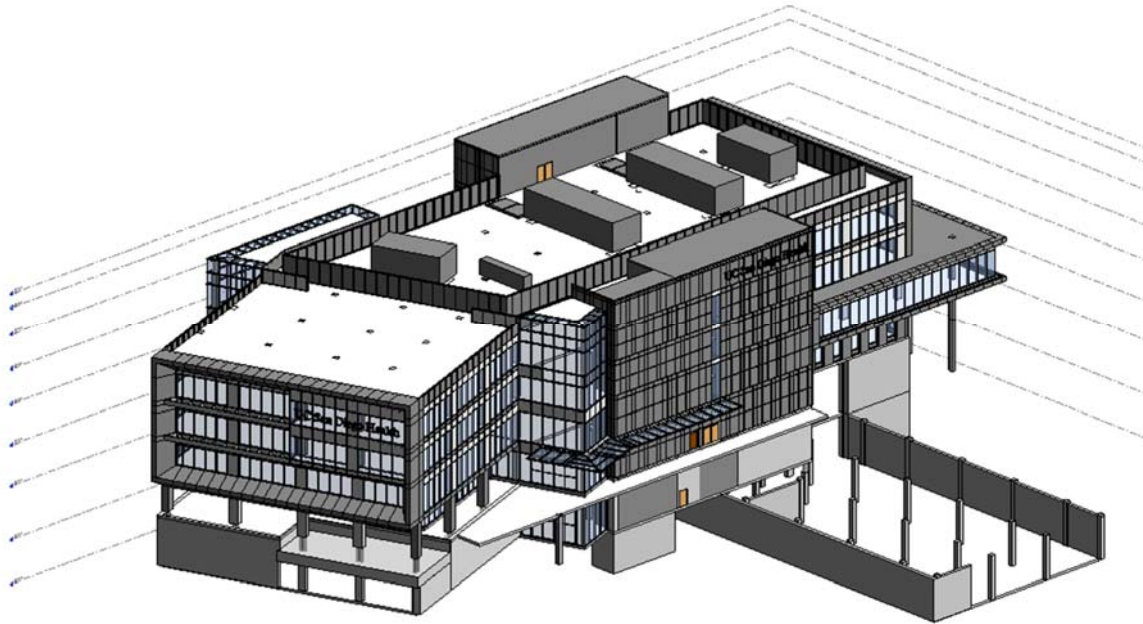


Figure 3: Architectural Revit Model

3.2. Site & Climate Data

One key component that impacts building's energy usage is the location and climate. The project is located in Hillcrest neighborhood of San Diego, CA which is in California climate zone 7, and ASHRAE climate zone 3C. This coastal climate is very mild, weather in the summer is warm and comfortable but cooling will be required for hot summer days. There are two set of weather data that can be used for simulation:

- 1) Weather file used for Title-24 calculations from California Energy Commission (CEC) for climate zone 7, which includes period of recording from 1996-2009.
- 2) Weather file developed from US NOAA's Integrated Surface Database at San Diego International Airport weather station. The weather file is derived from data from 2004-2018: USA_CA_San.Diego.Intl.AP-Lindbergh.Field.722900_TMYx.2004-2018.epw

Table 2: Project Site Location & Weather

	Description
Project Address	200 West Arbor Dr, San Diego, CA 92103
Latitude / Longitude	32.73° N / 117.18° W
Climate Zone	ASHRAE-90.1 2010 – 3C
Weather File	USA_CA_San.Diego.Intl.AP-Lindbergh.Field.722900_TMYx.2004-2018.epw
Cooling Design DB/WB	83F / 69F
Heating Design DB	42F

When comparing the two weather files to actual weather from 2018-2019, the weather file that best represents current weather conditions at Hillcrest campus is the TMYx file, and hence it's chosen for energy simulation.

Recent climate conditions in San Diego have been significantly warmer compared to the TMY3 weather files. The bar chart below shows the number of hours in each temperature range between 2015 and the TMY data (1991-2005). There was a consistent trend of warmer weather.

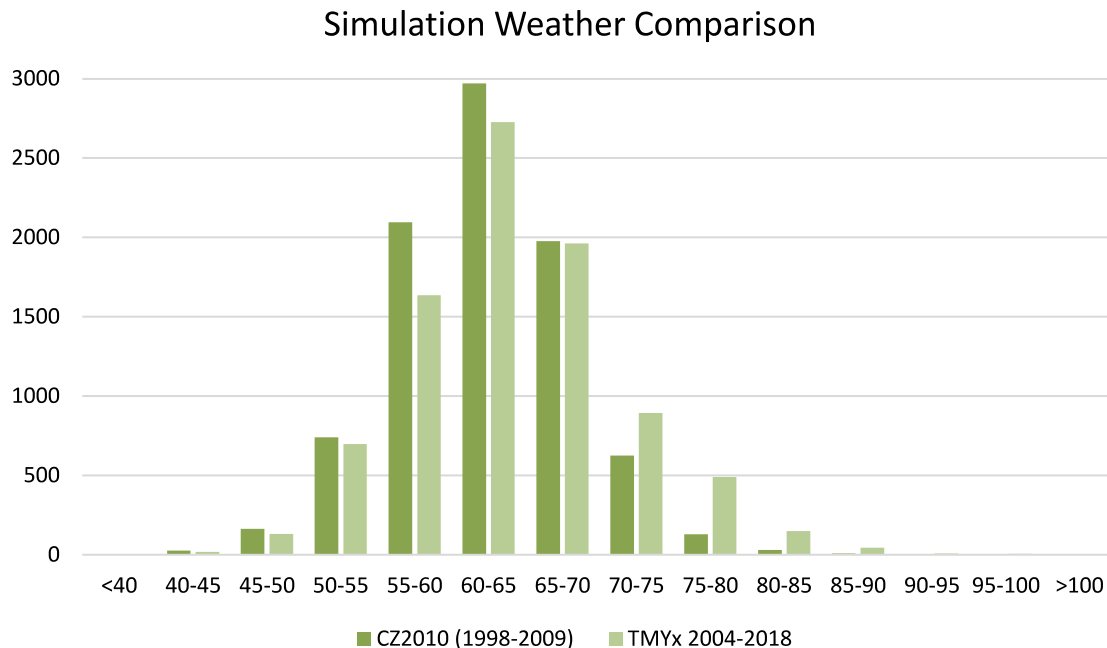


Figure 4: TMY3 vs. Actual 2015 Hourly Weather Distribution

3.3. Space Program & Occupancy Density

The program of the building was developed in consultation with the Owner and Architect, based on the proposed building design. These spaces were then zoned into various space types, based on the ASHRAE space functions. ASHRAE-90.1 2010 code requires that the spaces are modeled

with the occupancy density identically in the baseline and proposed energy models, per ASHRAE-90.1 2010 code. The overall building area of each space type and the occupancy density values provided by ASHRAE are shown in Table 2 below.

Table 3: Space Programing & Occupancy Density

Occupancy Density	
Space Function Type	Occupancy Density (SF/person)
Pharmacy ante room	200
Audio booths	200
Lounge, Staff Physician, Lounge + Workroom	30
Clean supply	500
Clean linen	500
Clean cart hold Clean core Clean scope storage Clean work Scope Processing, clean Workroom, Procedure	200
Conference	20
Non-patient corridor	200
CT Scan	100
Decontamination Soiled Soiled corridor	100
Draw	200
Non-hazardous drug storage Pharmacy workroom	500
CT Elec Electrical Emergency Power	-
Elevator Machine Room Elevator Control	-
Endo Procedure	100
Breath test Consult Exam Genetic Counsel Intake Uptake	100
Blocking & shielding fabrication	200
Fire control	500
R/F Control/Med Prep. Rad/Fluoro.	100
FM storage	500
Grab & go	30
Hazardous Clean Room	500
Chemo Waste Hazardous Waste Pharmacy Waste Radioactive Waste	500
Hazardous Drug Storage	500
Housekeeping	500
IDF DAS Telecom (TER)	-
Infusion	100
Lactation	500
Biomed PTS	40
Anesthesia Workroom Lab, Hearing Aid	40
Frozen section, Grossing	40

Loaner drop off	200
Loaner pick up	200
Locker room	20
Detergent RO/DI P-Tube Blower	500
Anesthesia Eq Gas Cylinder storage Med Gas	500
Medication Room	500
Telecom (MPOE)	-
MRI room	100
Non Haz Clean Room	500
Hot Lab Isotope Lab	40
Brachy Therapy DEXA Gen Rad Linear Accelerator Stereotactic	100
Waiting area (nuclear medicine)	33
Nourish	30
PET CT	100
Nurse station Brachy Control Cast Tech Control Linac. Control MRI Control PET CT Control Workstation Workstation, MA/LVN	33
Cancer resource center Care Team center Documentation Office Scheduler Security Staff Touchdown Tech Work Workroom Workroom, MD Workroom, Physician Workroom, Registration Workroom, Sonog. Workroom, Team Workstation, Admin X-ray Tech	100
Operating room	100
Corridor Elevator Lobby Entry Lobby Entry Vestibule Kiosk Public Corridor Vestibule	200
Pharmacy storage	100
Photo Room	100
Patient preparation	100
Procedure	100
Receiving	200
Pre-op/Recovery	100
Radiology waiting room	33
Receiving/Breakout	200
Scope processing, dirty	100
Cart wash	100
Shower Room	100
Soiled Holding Soiled Utility	500
Soiled Linen	-
Specimen Collection	100
AV Storage Valet storage	500
Sterile Storage DME Storage	100
Toilet Toilet, Specimen	100

Trash room Waste management	500
Treatment Cast bay	100
Block supply CT EQ Storage DEXA EQ Storage EQ Storage File Room Material Management MRI Eq Storage Storage, Pat Belonging Supply, Eq	500
Ultrasound Vascular ultrasound	100
Waiting Sub-wait Check-in/Registration Dressing room Front Desk Patient hold Reading Reception	33
X-ray Mammogram Future Imaging	100

3.4. Building Schedules

The OPP building is expected to be operational Monday – Friday, 7am – 5pm. Hourly operational schedules for occupancy, lighting, process/receptacle loads, and HVAC are incorporated into the model. These are based on expected building operations for each distinct space type category. Several benchmark data and industry studies were referenced in development of building operating schedules and are based on engineer’s best estimate. Actual building operations may differ depending on factors such as installed medical equipment power, process load functionality, and usage patterns. See below for estimated schedule for the building.

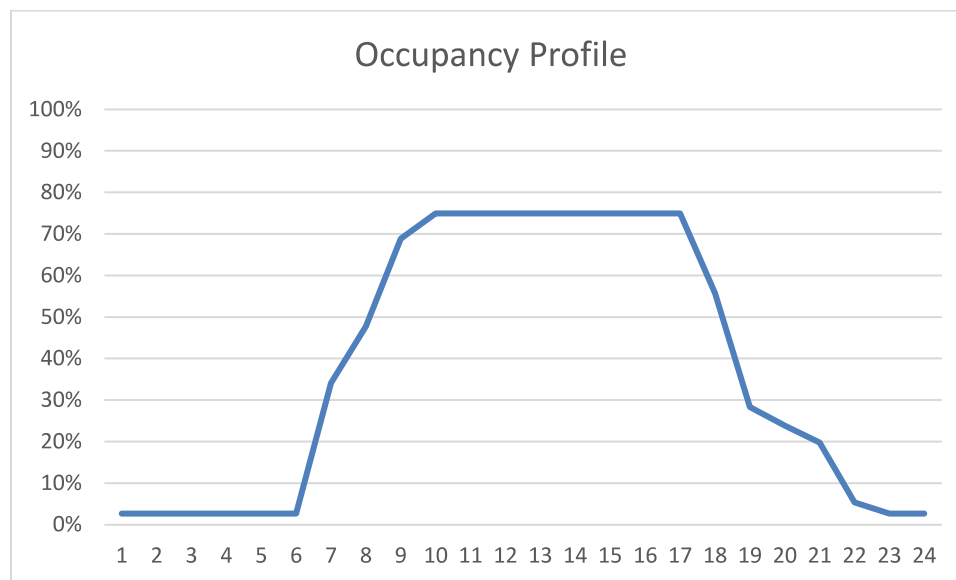


Figure 5: Typical Day Occupancy Schedule

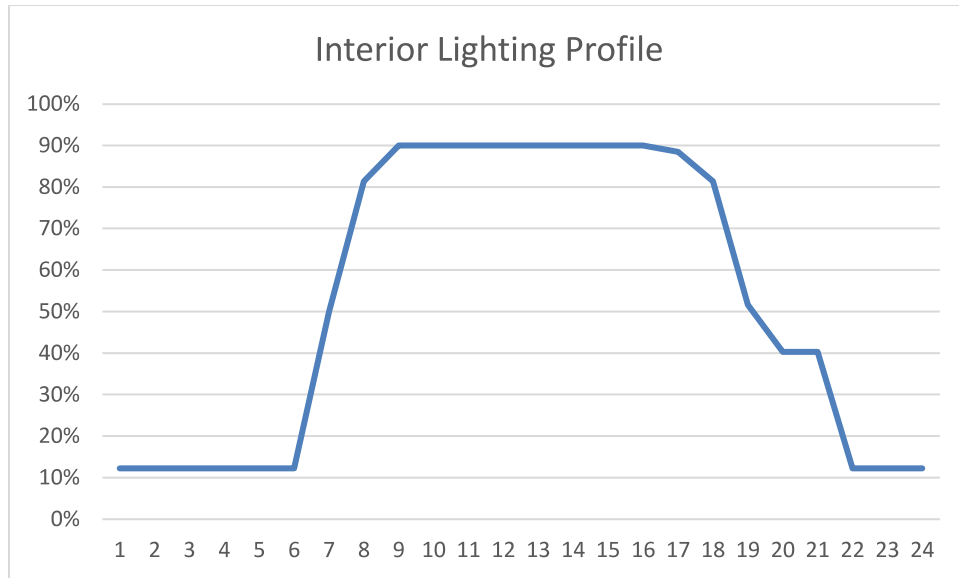


Figure 6: Typical Day Lighting Schedule

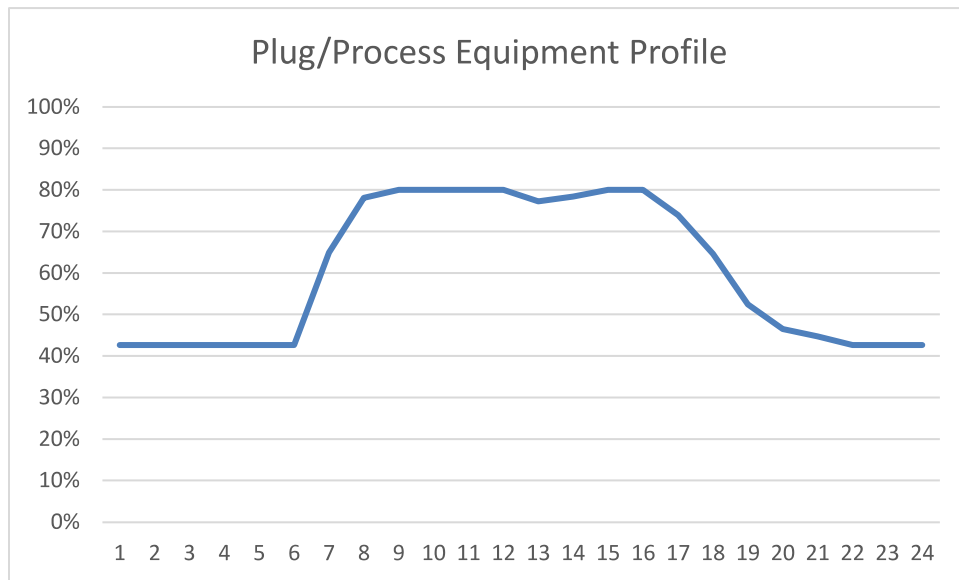


Figure 7: Typical Day Equipment Load Schedule

4. BUILDING SYSTEMS

4.1. Building Envelope

4.1.1. FENESTRATION SYSTEM

All vertical glazing for the building is a part of the fenestration system, this includes all windows and curtain walls on the building. Based on the current architectural design, high-performance curtain wall will be installed using Viracon VRE 1-46 or similar. The proposed design has a window-to-wall ratio of roughly 35%. The ASHRAE-90.1 baseline model has the same window-to-wall ratio but without any external overhangs or shading devices, as prescribed in ASHRAE modeling guidelines. The following performance values were used for the fenestration system in the baseline and proposed models.

Table 4: Fenestration Properties

Glazing System Properties			
Energy Model	Glazing SHGC*	Assembly U-Factor**	Visible Light Transmittance
Baseline	0.25	0.60	70%
Proposed Design	0.27	0.43	60%

*Solar Heat Gain Coefficient (SHGC): fraction of incident solar radiation admitted through a window

**U-factor: a measure of the heat transmission through an envelope component, whole assembly U-factor accounts for glazing and the framing

4.1.2. OPAQUE ENVELOPE ASSEMBLIES

External walls, roofs, and floors are considered opaque envelope assemblies of a building. These elements define the envelope of the building and provide a barrier for the building from the outside climate. The following table describes each of the exterior wall systems that have been modeled in the baseline and proposed buildings. Each assembly has been modeled with the heat capacity of the constructions below. All baseline constructions were modeled per ASHRAE-90.1 2010, as is required by code.

Table 5: Opaque Construction Properties

Opaque Construction Properties				
	ASHRAE-90.1 2010 Baseline		Proposed Design	
	Description	U-Factor	Description	U-Factor
Roof	R-20 rigid insulation above concrete deck	0.048	R-30 rigid insulation above concrete deck	0.037
External Wall	6" Metal Stud with R-13 batt and R-3.8 continuous insulation	0.064	6" Metal Stud w. R-12 batt & R-8 continuous insulation with thermal break	0.08
			Spandrel: insulated glazing unit with R-23 semi-rigid insulation without thermal break	0.17
Exterior Floor	Concrete mass floor with R-6.3 continuous insulation	0.107	Uninoculated concrete floor	0.27

4.2. Mechanical System

The mechanical systems design for the UCSD Hillcrest OPP facility will serve providing heating, cooling and ventilation to ensure occupant comfort, health and safety. A variety of systems can be used depending on the needs of the project. For an outpatient facility, California Mechanical Code dictates mechanical ventilation requirements and pressure relationship to prevent cross-contamination and spread of airborne infections. Spaces identified as sensitive such as operating rooms and endoscopy procedure rooms have additional requirements to prevent excessive fluctuation of air movements. To address these requirements, dedicated air handling units (AHUs) are provided for OR, pharmacy and procedure areas. These ventilation and airflow requirements are identical between baseline and proposed models.

The table below outlines the HVAC systems general parameters for the ASHRAE Baseline and the BOD, for more detail regarding proposed design, please refer to Mechanical section in the basis of design document.

Table 6: ASHRAE Baseline & Proposed HVAC Systems

HVAC System Description		
	ASHRAE-90.1 2010 Baseline	Proposed Design
Primary HVAC System	VAV with Reheat, one AHU per floor, separate AHUs for OR, Pharmacy and Procedure spaces	VAV with Reheat, one AHU every 3 floors, separate AHUs for OR, Pharmacy and Procedure spaces
Cooling Type	Chilled Water via 2 centrifugal chillers	Chilled water via heat recovery chiller as primary source, and high efficiency magnetic bearing centrifugal chiller to supplement
Heating Type	Hot water fossil fuel boiler	Hot water via heat recovery chiller as primary source, and condensing boiler to supplement
Fan Control	Operate continuously when spaces are occupied, reduce supply airflow to approximately 30% during unoccupied hours.	
	Spaces required to meet California Mechanical Code for OSHPD	

4.3. Interior Lighting

The lighting power densities used in the models are shown in the table below. The lighting levels for the proposed design energy model were calculated from lighting design drawings. The baseline lighting power densities were modeled per ASHRAE-90.1 2010 requirements. Proposed design for the project will be all LED with a goal to reach 20% better than Title-24 prescriptive requirements, as a result of high efficacy lighting, proposed lighting power density is 37% less than ASHRAE 90.1 baseline.

Table 7: Lighting Power Densities (LPD)

Space Type	ASHRAE 90.1 W/sf	Proposed W/sf
Pharmacy ante room Ante room	0.60	0.98
Audio booths	0.70	0.98
Lounge, Staff Physician, Lounge + Workroom	0.65	1.07
Clean supply	0.60	1.27
Clean linen	0.60	0.63
Clean cart hold Clean core Clean scope storage Clean work Scope Processing, clean Workroom, Procedure	0.60	0.63
Conference	0.85	1.23
Non-patient corridor	0.60	0.89
CT Scan	1.00	1.32
Decontamination Soiled Soiled corridor	1.00	0.89
Draw	0.70	1.66
Non-haz drug storage Pharmacy workroom	0.40	1.14
CT Elec Electrical Emergency Power	0.40	0.95
Elevator Machine Room Elev Control	0.40	0.95
Endo Procedure	1.15	1.66
Breath test Consult Exam Genetic Counsel Intake Uptake	1.15	1.66
Blocking & shielding fabrication	1.00	0.98
Fire control	0.40	0.95
R/F Control/Med Prep Rad/Fluoro	1.00	1.66
Grab & go	0.65	1.07
Hazardous Clean Room	0.40	1.14
Chemo Waste Hazardous Waste Pharmacy Waste Radioactive Waste	0.40	0.63
Hazardous Drug Storage	0.40	1.14
Housekeeping	0.40	0.63
IDF DAS Telecom (TER)	0.40	0.95
Infusion	1.15	1.66
Isolation	1.15	1.66
Lactation	0.60	0.88

Biomed PTS	1.00	1.66
Anesthesia Workroom Lab, Hearing Aid	1.00	0.98
Frozen section, Grossing	1.00	0.63
Loaner	0.70	0.63
Locker room	0.45	0.75
Anesthesia Eq Gas Cylinder storage Med Gas	0.40	1.27
Medication Room	0.60	1.27
Telecom (MPOE)	0.40	0.95
MRI room	1.00	1.32
Non Haz Clean Room	0.60	1.14
Brachy Therapy DEXA Gen Rad Linear Accelerator Stereotactic	1.00	1.32
PET CT	1.00	1.32
Nurse station Brachy Control Cast Tech Control Linacc Control MRI Control PET CT Control Workstation Workstation, MA/LVN	0.65	0.87
Cancer resource center Care Team center Documentation Office Scheduler Security Staff Touchdown Tech Work Workroom Workroom, MD Workroom, Physician Workroom, Registration Workroom, Sonog Workroom, Team Workstation, Admin X-ray Tech	0.70	0.98
Operating room	1.90	1.89
Post anesthesia care unit	0.90	1.15
Corridor Elev Lobby Entry Lobby Entry Vestibule Kiosk Public Corridor Vestibule	0.60	0.89
Pharmacy storage	1.10	1.14
Photo Room	1.00	0.66
Patient preparation	1.15	0.62
Procedure	1.90	1.66
Receiving	0.60	0.63
Pre-op/Recovery	0.90	1.15
Waiting Subwait Check-in/Registration Dressing room Front Desk Patient hold Reading Reception Custodial Holding	0.65	1.07
Scope processing, dirty	1.15	1.66
Cart wash	1.15	1.66
Soiled Holding Soiled Utility	0.40	0.63
Specimen Collection	1.15	1.66
AV Storage Valet storage	0.40	0.95
Sterile Storage DME Storage	1.15	1.27
To Be Determined	0.70	0.66
Toilet Toilet, Specimen	0.65	0.98
Trash room Waste management	0.40	0.66

Treatment Cast bay	1.15	1.66
Block supply CT EQ Storage DEXA EQ Storage EQ Storage File Room Material Management MRI Eq Storage Storage, Pat Belonging Supply,Eq	0.40	0.63
Ultrasound Vascular ultrasound	1.00	1.32
Waiting Subwait Check-in/Registration Dressing room Front Desk Patient hold Reading Reception Custodial Holding	0.65	1.07
X-ray Mammogram Future Imaging	1.00	1.32
Detergent RO/DI P-Tube Blower	0.70	0.95
Hot Lab Isotope Lab	1.00	1.81
Receiving/Breakout	0.60	0.63
Shower Room	0.40	0.75
Soiled Linen	0.40	0.63
Total Installed W/sf	1.04	0.65

4.4. Receptacle Loads

The miscellaneous equipment loads are presented in the table below, these include estimated for office and medical equipment. The equipment power densities are identical in the baseline and proposed energy models. The table below summarizes equipment power density for major space function categories, note this is different than mechanical load assumption and is developed by referencing industry studies and benchmarked data from previous projects.

Table 8: Equipment Power Densities (EPD)

Equipment Loads	
Space Function Type	EPD (W/sf)
Corridor	0.30
Exam Rooms	2.0
Imaging	3.0
IDF/Telecom Rooms	12
Medical Supply	0.8
Nurse's Station	1.0
Office	1.0
Operating Room	4
Waiting Room	0.3

4.5. Service Water Heating

The table below defines service hot water (SHW) parameters in both the baseline and proposed energy models. The proposed design for UCSD Hillcrest OPP building will utilize high performance water-to-water heat pumps with an average COP of 4. The modular heat pump will connect to heating hot water loop and harvest heat from the supply line to provide domestic water heating.

This provides better efficiency as the design uses heat recovery chiller to produce hot water majority of the time.

Table 9: Service Hot Water

SHW System Description		
	ASHRAE-90.1 2010 Baseline	Proposed Design
Water Temperature	Cold water 60F Hot water 140F	Cold water 60F Hot water 140F
System Type	Gas storage water heater	Heat pump water heater
Efficiency	80% thermal efficiency	5.3 heat pump COP 4.14 total system COP

5. CENTRAL PLANT SYSTEMS

Chilled water and hot water production is accomplished at the central plant, and piped to the OPP. Prior to schematic design, the team analyzed several options for Hillcrest campus central utility plant, which includes phase 1 plant serving the OPP and future multipurpose room, as well as an OSHPD central plant serving the hospital. The team accounted for energy use of chillers, boilers, cooling towers and heat recovery chillers and performed a LCCA to quantify the difference in operational and maintenance costs as well as first cost of all options. During schematic design, the project defined specific equipment for the heat recovery plant, and the central plant model was updated with chilled water and hot water load from the IES-VE model. This section summarizes the proposed design and baseline system for comparison, for more detail about the proposed mechanical system, please refer to the Mechanical section of the Basis of Design document as well as central plant drawings.

5.1. Chilled Water

The proposed design uses modular heat recovery chiller (HRC) as main source of cooling and heating, and high efficiency chiller to supplement when there's not enough heat recovery to meet the entire load. Based on our analysis, 33% of the cooling load for OPP can be met through heat recovery. Heat recovery system design is much more efficient, because it's making use of waste heat instead of rejecting through cooling tower. This is compared against ASHRAE 90.1 2010 baseline of standard centrifugal chillers without any heat recovery to produce hot water. See table below for summary of system comparison.

Table 10: Chilled Water System

CHW System Description		
	ASHRAE-90.1 2010 Baseline	Proposed Design
System Type	2 centrifugal chillers	1 modular heat recovery chiller 1 centrifugal chiller
Efficiency	Full load 0.6 kW/ton IPLV 0.4 kW/ton	<u>HRC</u> Simultaneous heating and cooling average 0.5 kW/ton <u>Centrifugal Chiller</u> Full load 0.56 kW/ton NPLV: 0.3022 kW/ton
Design temperature	44F supply and 56F return	42F supply and 56F return
Temperature reset	Reset based on outside air: 44F at 80F and above, 54F at 60F and below, ramped linearly between 80F and 60F	Reset based on return temperature, maintain 10F temperature differential
Heat rejection	Axial fan cooling tower with two-speed fans	Cooling tower with variable speed fans

5.2. Hot Water

Hot water will be mainly produced through heat recovery chiller, with condensing boiler supplementing the load where heat recovery is not enough. Based on the analysis, 68% of the heating load for OPP can be met through heat recovery. The system is compared against ASHRAE 90.1-2010 baseline of non-condensing natural gas boiler with 80% efficiency. Proposed hot water system yields an average COP of 2.14, which offers superior energy savings and GHG emission reductions by reducing the reliance on natural gas. The table below summarizes the system comparison.

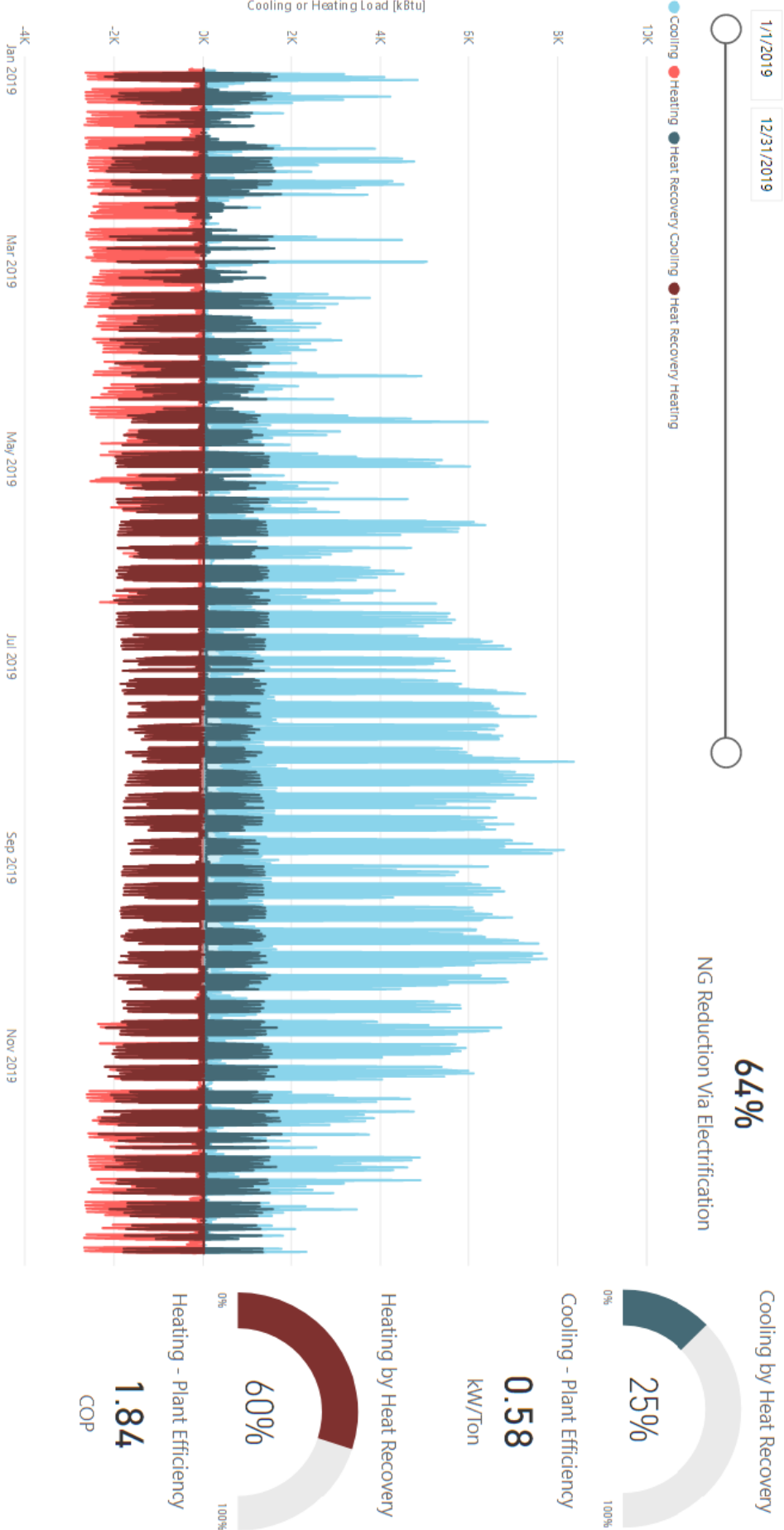
Table 11: Heating Hot Water System

HHW System Description		
	ASHRAE-90.1 2010 Baseline	Proposed Design
System Type	2 natural gas boilers, staged as required by load	1 modular heat recovery chiller 1 condensing boiler
Efficiency	80% efficiency	<u>HRC</u> Heating average COP 7.1 <u>Condensing Boiler</u> 96% efficiency
Design Temperature	180F supply and 130F return	130F supply and 110F return
Temperature Reset	Based on outside air dry-bulb temperature: 180F at 20F and below, 150F at 50F or above, ramped linearly between 20F and 50F	Based on outside air temperature: 130F at 42F and below and 120 and 80 or above

5.3. Python Model Results

As discussed in previous section, the heat recovery potential for the central plant is defined as the percentage of time where heating and cooling can be met through heat recovery chiller. Please see below for graphical representation of building expected load and heat recovery potential of the proposed plant.

UCSD Hillcrest Phase1A CUP Load Profile



Attachment 4. Heat Recovery CUP and GHG Emissions Memorandum

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MEMORANDUM

To: Harris & Associates: Sharon Toland, Kim Howlett
UCSD: Lauren Lievers

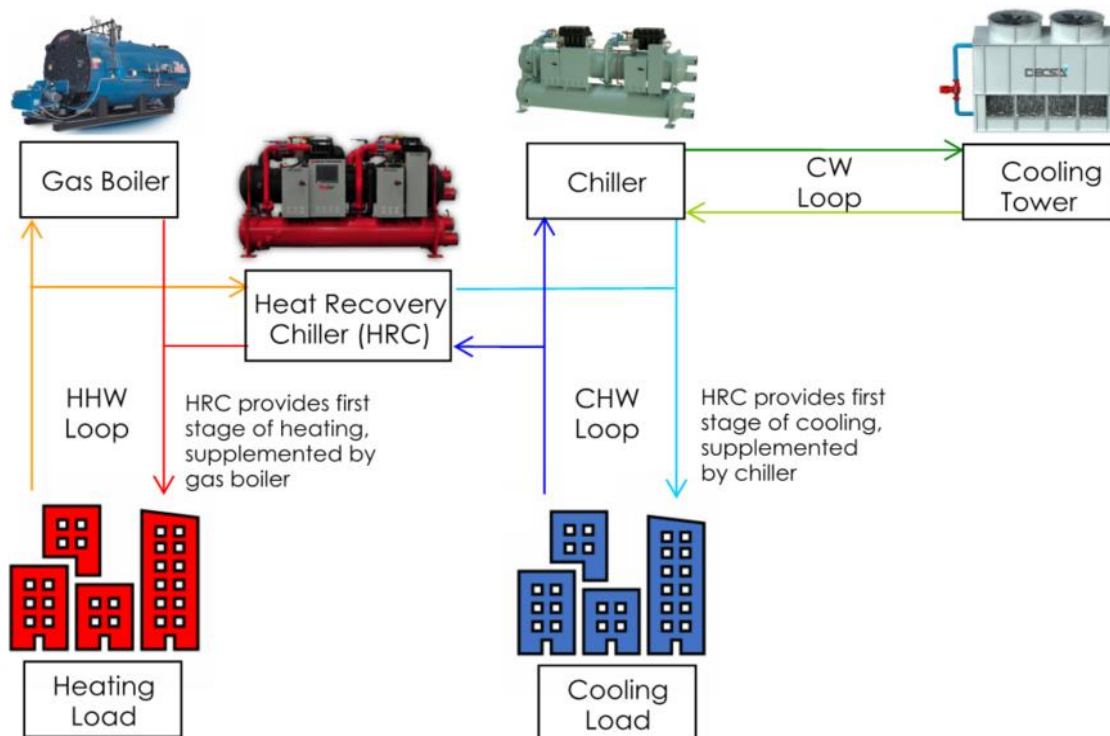
Date: 03/24/2020
From: Yu Zhang yzhang@glumac.com
cc: Nick Spath nspath@glumac.com
Brian Stern bstern@glumac.com

Project Name: UCSD Hillcrest Phase1
Subject: Heat Recovery CUP and GHG Emissions

This memo is to provide a description of the proposed design for phase one (non-OSHPD) central utility plant (CUP) for UCSD Hillcrest campus and to quantify the greenhouse gas (GHG) reductions compared to other system options. Phase one CUP will produce chilled water and hot water to serve outpatient pavilion (OPP) and multi-purpose building (MPB). The CUP will be built out during Phase 1A for OPP and 1B for MPB, equipment built out during Phase 1A will have ability to tie into additional equipment during Phase 1B. This analysis is provided for the phase one central plant in its entirety at the end of Phase 1B.

The proposed heat recovery CUP for phase 1 will have one 350-ton heat recovery chiller that will produce 130F hot water for heating while simultaneously producing a portion of chilled water. The heat recovery chiller runs on electricity and will provide first stage of cooling and heating, the remainder of the chilled water load is met by cooling-only chillers sized up to 1150 ton. Supplemental heating is provided by two 5,500 MBH natural gas fired boilers when heat recovery chiller cannot meet total heating load. The plant also has two 750-ton cooling tower to reject excess heat. See below for system configuration:

Heat Recovery CUP



This design has superior efficiency compared to a traditional chiller-boiler CUP design because it utilizes waste heat from chilled water production to produce hot water. It significantly reduces the usage of natural gas boilers and partially electrifies heating hot water production, as a result, reduces GHG emissions associated with natural gas combustion.

Compared to a cogen plant, a heat recovery plant with supplemental boilers has much less GHG emissions than a gas turbine. In addition, UCSD plans to purchase electricity through UCOP direct access which will be 100% renewable and have zero carbon emissions associated starting in 2025. After 2025, emission is not expected to change and remain at zero for electricity usage.

See below for analysis that quantifies the GHG reduction of proposed heat recovery plant in comparison to traditional plant and cogen plant for phase 1. GHG emission is calculated based on electricity and natural gas usage, using EPA's emission factors: 70.44 kg/MBtu for electricity within eGRID region CAMX, and 53.11 kg/MBtu for natural gas in United States.

2020

CUP Option	Emissions (MTE CO2)	MTE CO2 Reduction	% Reduction
1) Cogen	5,723	-	-
2) Standard CUP	4,757	996	17%
3) Heat Recovery CUP	3,725	1,998	35%

2025

CUP Option	Emissions (MTE CO2)	MTE CO2 Reduction	% Reduction
1) Cogen	5,601	-	-
2) Standard CUP	2,178	3,423	61%
3) Heat Recovery CUP	600	5,001	89%

Appendix D. Noise Memorandum

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MEMORANDUM

To: Lauren Lievers, Senior Environmental Planner, University of California, San Diego
From: Sharon Toland, Project Manager, Harris & Associates
RE: Comparison of Hillcrest Outpatient Pavilion and Parking Structure Project Components to 2019 LRDP EIR Phase 1A Project Components – Noise Impacts
Date: August 23, 2021
CC: Diane Sandman, Kim Howlett, Kristin Blackson, Harris & Associates

The University of California, San Diego (UC San Diego), 2019 Long Range Development Plan (2019 LRDP) Hillcrest Campus Environmental Impact Report (2019 LRDP EIR) was certified in November 2019 (SCH No. 2018031003). Following certification, the project components of Phase 1A of the 2019 LRDP have been revised and are referred to in this analysis as the Hillcrest Outpatient Pavilion and Parking Structure Project. The purpose of this memorandum is to compare the components of the Hillcrest Outpatient Pavilion and Parking Structure Project to those in Phase 1A in the 2019 LRDP EIR to determine whether the potential noise impacts of the Hillcrest Outpatient Pavilion and Parking Structure Project are adequately addressed in the certified 2019 LRDP EIR. For each issue addressed in Section 3.11, Noise, of the 2019 LRDP EIR, the following analysis summarizes the noise impacts of Phase 1A in the 2019 LRDP EIR and provides a comparison to the potential impacts of the Hillcrest Outpatient Pavilion and Parking Structure Project.

Project Description

The Hillcrest Outpatient Pavilion and Parking Structure Project includes construction of the proposed Outpatient Pavilion, the Spine, the reduced size Canyon Parking Structure, the Main Parking Structure, and the non-Office of Statewide Health Planning Department (OSHPD) portion of the Central Utility Plant (CUP) (see Figure 1, Outpatient Pavilion and Parking Structure Site Plan). The topographic pad for the OSHPD CUP would also be graded, but the future OSHPD CUP would be installed in a later phase.

The Hillcrest Outpatient Pavilion and Parking Structure Project does not include new uses that were not addressed in the 2019 LRDP EIR. The proposed size of the Outpatient Pavilion has been reduced from 272,000 gross square feet (gsf) in the 2019 LRDP EIR to 251,000 gsf. The 25,000 gsf Outpatient Pavilion Annex addressed in the 2019 LRDP EIR would not be constructed under implementation of the Hillcrest Outpatient Pavilion and Parking Structure Project. Proposed parking in the Spine would be reduced to approximately 70 spaces compared to 675 spaces in the 2019 LRDP EIR. The footprint of the Main Parking Structure has also been redesigned and would accommodate approximately 1,780 parking spaces compared to 1,325 spaces as described in the 2019 LRDP EIR. As a result, there would be a net decrease in total parking from approximately 2,000 to 1,850 parking spaces.

In the 2019 LRDP EIR, the entire CUP was assumed to be constructed in Phase 3. Under the Hillcrest Outpatient Pavilion and Parking Structure Project, the non-OSHPD portion of the CUP would primarily be constructed in Phase 1A. The non-OSHPD CUP would include traditional boilers with a heat recovery chiller rather than the cogeneration facility assumed in the 2019 LRDP EIR. Emergency power would be provided as part of the CUP from a diesel-fueled generator.

The Hillcrest Outpatient Pavilion and Parking Structure Project also includes the redesign of a service road connection from Bachman Place to the Canyon Parking Structure and the CUP. Instead of terminating in the

underground portion of the structure, the service road would terminate at the surface parking area of the Spine but would also provide service vehicle access to the CUP and the Outpatient Pavilion at the western end of the access road. In addition, the Hillcrest Outpatient Pavilion and Parking Structure Project would include two drainage basins. One basin is proposed in the southeastern corner of the project site and was previously included as part of Phase 1A. The second basin would be east of Bachman Place in the northeastern area of the Hillcrest Campus and was previously proposed as part of Phase 2B.

Overall, the Hillcrest Outpatient Pavilion and Parking Structure Project would result in the construction of 251,000 gsf of health services and 9,500 gsf of campus support utilities compared to 297,000 gsf of health services in Phase 1A in the 2019 LRDP EIR. Table 1 summarizes the changes in land use between Phase 1A in the 2019 LRDP EIR and the Hillcrest Outpatient Pavilion and Parking Structure Project.

Table 1. Comparison of 2019 LRDP EIR Phase 1A Project Components with Hillcrest Outpatient Pavilion and Parking Structure Project Components – Construction

2019 LRDP EIR Phase 1A – Construction	Proposed Hillcrest Outpatient Pavilion and Parking Structure Project – Construction
Outpatient Pavilion (272,000 gsf)	Outpatient Pavilion (251,000 gsf)
Outpatient Pavilion Annex (25,000 gsf)	No longer proposed
Canyon Parking Structure (subgrade) (675 parking spaces)	The Spine (approximately 70 parking spaces and a 2,417-square-foot parking and security office)
Main Parking Structure (1,325 parking spaces)	Main Parking Structure (approximately 1,780 parking spaces)
	CUP – Non-OSHDP portion (9,500 gsf)
Total: 297,000 gsf campus development; 2,000 parking spaces	Total: 260,500 gsf campus development; 1,850 parking spaces

Notes: 2019 LRDP = 2019 Long Range Development Plan; CUP = Central Utility Plant; EIR = Environmental Impact Report; gsf = gross square feet; OSHDP = Office of Statewide Health Planning Department

To accommodate the construction of the non-OSHDP portion of the CUP, the construction area of the Hillcrest Outpatient Pavilion and Parking Structure Project would be extended north compared to Phase 1A in the 2019 LRDP EIR and south to include improvements to Bachman Place south of Arbor Drive identified as mitigation for the 2019 LRDP in the 2019 LRDP EIR. With the exception of these improvements to Bachman Place, the construction area would be within the entire construction area for the 2019 LRDP addressed in the 2019 LRDP EIR. The Hillcrest Outpatient Pavilion and Parking Structure Project would result in a total disturbance area of 10.5 acres. The extended portion to the north was previously addressed in Phases 2B and 3 in the 2019 LRDP EIR. As a result, the Hillcrest Outpatient Pavilion and Parking Structure Project would include the demolition of the existing Bachman Parking Structure that was previously planned for future Phase 2B. Demolition export would be approximately 296,698 gsf compared to the 61,400 gsf assumed in the 2019 LRDP EIR. Table 2 compares the demolition required for Phase 1A in the 2019 LRDP EIR to the demolition required for the Hillcrest Outpatient Pavilion and Parking Structure Project.

Construction of the Hillcrest Outpatient Pavilion and Parking Structure Project would require the closure of Bachman Place for approximately 23 months; however, truck and construction vehicle access to Bachman Place would be maintained from the project site, and no change in the truck route is anticipated compared to Phase 1A in the 2019 LRDP EIR. Soil export of 48,700 cubic yards is estimated for the Hillcrest Outpatient Pavilion and Parking Structure Project compared to the 238,000 cubic yards in Phase 1A in the 2019 LRDP EIR (see Figure 2, Outpatient Pavilion and Parking Structure Grading Plan). The difference is primarily due to approximately 150 fewer underground parking spaces proposed in the Hillcrest Outpatient Pavilion and Parking Structure Project compared to the number of parking spaces proposed in the 2019 LRDP EIR. No building construction was previously assumed in Phase 1B. Under the Hillcrest Outpatient Pavilion and Parking Structure Project, minor construction would be required to install a chiller and cooling towers at the non-OSHDP CUP. The most intensive construction activity for the non-OSHDP CUP, including earthwork and pad construction, would occur in Phase 1A.



Table 2. Comparison of 2019 LRDP EIR Phase 1A Project Components with Hillcrest Outpatient Pavilion and Parking Structure Project Components – Existing Buildings to Be Demolished

2019 LRDP EIR Phase 1A – Demolition	Proposed Hillcrest Outpatient Pavilion and Parking Structure Project – Demolition
Mail Services, 138 Dickinson Street (2,100 gsf)	Not included in Phase 1A scope
136 Dickinson Street (2,900 gsf)	Not included in Phase 1A scope
134 Dickinson Street (1,800 gsf)	Not included in Phase 1A scope
150 Dickinson Street (800 gsf) ¹	Not included in Phase 1A scope
Camelot (1,700 gsf)	Not included in Phase 1A scope
135 Dickinson Street (3,800 gsf) ¹	Not included in Phase 1A scope
125 Dickinson Street (2,600 gsf) ¹	Not included in Phase 1A scope
Dickinson Housing Cluster (10,500 gsf)	Not included in Phase 1A scope
4235 Front Street (3,500 gsf)	Not included in Phase 1A scope
Crest Chateau (5,500 gsf) ¹	Not included in Phase 1A scope
Crest Trailer (900 gsf) ¹	Not included in Phase 1A scope
112 Arbor Drive (7,700 gsf)	112 Arbor Drive (7,700 gsf)
140 Arbor Drive (27,700 gsf)	140 Arbor Drive (27,700 gsf)
114 Arbor Drive (6,400 gsf)	114 Arbor Drive (6,400 gsf)
140 Arbor Parking Structure (80 parking spaces)	140 Arbor Parking Structure (80 parking spaces)
4194 First Avenue (3,800 gsf for both units)	Not included in Phase 1A scope
Surface Parking Lot (23 parking spaces)	Surface Parking Lot (23 parking spaces)
Valet Parking Lot (50 parking spaces)	Valet Parking Lot (50 parking spaces)
Bachman East Surface Lot (118 parking spaces)	Bachman East Surface Lot (118 parking spaces)
First Avenue End Parking Lot (7 parking spaces)	First Avenue End Parking Lot (7 parking spaces)
	Existing Bachman Parking Structure (1,032 parking spaces)

Notes: 2019 LRDP = 2019 Long Range Development Plan; EIR = Environmental Impact Report; gsf = gross square feet

¹ The building has been demolished/removed as a separate project in accordance with the approved 2019 LRDP and 2019 LRDP EIR. The construction assumptions developed for the 2019 LRDP EIR, which were based on a similar major UC San Diego project, determined that no more than 150 two-way truck trips would feasibly occur in a workday. Construction of the Hillcrest Outpatient Pavilion and Parking Structure Project is estimated to begin in November 2021 and take approximately 40 months to complete. Therefore, for the Hillcrest Outpatient Pavilion and Parking Structure Project, the demolition phase is assumed to be extended from 60 days for Phase 1A in the 2019 LRDP EIR to 225 days to accommodate the additional demolition materials.

Issue 1: Exceed Noise Standards

Based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines, implementation of the 2019 LRDP would have a significant impact if it would result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the 2019 LRDP in excess of standards established in the local General Plan or noise ordinance or applicable standards of other agencies. No residences, hospital beds, or classrooms are included in the Hillcrest Outpatient Pavilion and Parking Structure Project. No change related to the introduction of new noise-sensitive land uses (NSLUs) as a result of 2019 LRDP implementation would occur. Mitigation Measure NOI-1D, which is related to reducing interior noise levels, in the 2019 LRDP EIR does not apply to the Hillcrest Outpatient Pavilion and Parking Structure Project because the proposed project components do



not include any new sensitive receptors. Therefore, this analysis does not apply to the Hillcrest Outpatient Pavilion and Parking Structure Project, and it is not included below.

Summary of 2019 Long Range Development Plan Environmental Impact Report Impacts

Impacts related to potential exposure to excessive noise levels as a result of project implementation were assessed based on a comparison of the land uses assumed in the 2019 LRDP EIR to the noise levels generated by existing on-site land uses and off-site noise sources. Estimated noise levels are based on a variety of sources, including noise technical reports for similar facilities. The potential for implementation of the 2019 LRDP to permanently increase ambient noise levels as a result of increased traffic noise is assessed using standard noise modeling equations adapted from the Federal Highway Administration noise prediction model based on traffic data provided in the project-specific Transportation Impact Analysis prepared by Linscott, Law & Greenspan, Engineers (LLG 2019). Impacts related to temporary increases in ambient noise levels from operation of construction equipment were assessed using estimates of sound levels from typical construction equipment provided by the Federal Highway Administration in the Roadway Construction Noise Model (RCNM) (FHWA 2008). Construction and operational impacts are summarized below.

Construction Impacts

Construction under the 2019 LRDP would generate noise that could expose nearby receptors to elevated noise levels that may disrupt communication and routine activities. Construction activities in Phase 1A would involve demolition, grading, earthwork, utilities installation, surface improvements, and building construction and external/internal building work. Pile driving was anticipated for shoring as part of construction in Phase 1A to maintain operation at the existing Bachman Parking Structure and proposed Main Parking Structure at the end of Phase 1A construction.

A construction-related traffic noise impact would occur if ambient noise levels would exceed 65 A-weighted decibels (dBA) community noise equivalent level (CNEL) for on- and off-site sensitive receptors or would result in an increase of more than 3 dBA if the roadway already exceeds the standard without the addition of construction traffic. Construction traffic was anticipated to primarily use Arbor Drive, Bachman Place, and Hotel Circle Drive to reach Interstate 8. Calculated noise levels determined that construction of Phase 1A would not result in a noise level increase of more than 3 dBA CNEL along any roadway segment that currently exceeds 65 dBA CNEL or cause a roadway segment to exceed 65 dBA CNEL. Traffic noise levels assumed the maximum of 300 truck trips (150 trucks), 60 vendor trips, and 894 worker vehicle trips that would occur in any phase. Therefore, the 2019 LRDP EIR determined that construction under Phase 1A/1B would not result in a temporary significant impact related to traffic noise. The 2019 LRDP EIR identified that a significant impact would occur during later phases when existing buildings had not yet been demolished and new buildings developed under the 2019 LRDP would be operating simultaneously with construction. However, no new uses would be operating during construction of Phase 1A, and the interim scenario does not apply. Mitigation Measure NOI-1A, which is related to construction noise best management practices, was not required for Phase 1A construction.

The 2019 LRDP EIR determined that a significant impact related to construction equipment would occur if construction noise would result in a noise level that exceeds 75 dBA equivalent continuous sound level (L_{eq}) averaged over a 12-hour period (7:00 a.m. to 7:00 p.m.), Monday through Saturday, at the nearest on-site residence or inpatient facility or off-site residence. Construction would normally take place between 7:00 a.m. and 7:00 p.m., Monday through Saturday, consistent with the construction hours identified in the City of San Diego's (City's) Noise Ordinance. With the exception of pile driving, the five noisiest pieces of construction equipment (concrete saw, excavator, dozer, grader, and jackhammer) anticipated for any project construction activity were assumed to operate simultaneously in the same location and would have the potential to generate noise levels up to 87.5 dBA at 50 feet from the construction site. As such, normal construction activities would have the potential to exceed 75 dBA L_{eq} up to 210 feet from active construction. With pile driving, the five noisiest pieces of equipment (concrete saw, impact pile driver, dozer, grader, and jackhammer) could generate noise levels up to 95.1 dBA at 50 feet from the construction area. Construction involving pile driving could exceed 75 dBA L_{eq} up to 500 feet from the construction area.

The existing Inpatient Tower would be within 210 feet of the construction area of Phase 1A and would be exposed to normal construction noise. No additional on-campus NSLUs would be within 500 feet of Phase 1A. The existing residences on Dickinson Street and First Avenue would be demolished and would not be exposed to construction noise. Off-site residences southwest of the campus are within 210 feet of the proposed construction area, including across Arbor Drive from the proposed Main Parking Structure. Hotel uses would be within 210 feet of the Bachman Place widening. Other residences to southwest, south, southeast, and east are within 500 feet of the Phase 1A construction area and would be exposed to normal construction and pile-driving noise. The 2019 LRDP EIR determined that a significant impact would occur to on- and off-campus receptors during normal construction and pile-driving activities.

Nighttime construction would have the potential to occur during Phase 1A to avoid daytime road closures. Nighttime construction would likely be more disturbing to on- and off-campus NSLUs than daytime construction noise because it would occur during typical sleeping hours. UC San Diego has not established criteria for nighttime construction noise; however, the 2019 LRDP EIR used City permit criteria to consider whether nighttime construction would be a nuisance to receptors. Nighttime construction under the 2019 LRDP would generally meet the City approval criteria related to the necessity of nighttime work, although UC San Diego is not subject to permitting from the City. However, nighttime construction, if required, would likely disturb surrounding sensitive receptors, and the 2019 LRDP EIR identified this impact as a potentially significant impact.

Mitigation Measure NOI-1A would reduce daytime and nighttime construction noise. However, due to uncertainties related to future construction activities, such as the actual required construction fleet and duration of construction in any location or when and where nighttime construction would be required, it could not be demonstrated that future construction activities would be reduced to noise levels that would not exceed 75 dBA CNEL at on- or off-campus NSLUs during normal daytime construction or would cause a significant disturbance to NSLUs in the event of necessary nighttime construction. The 2019 LRDP EIR identified impacts related to construction equipment noise as significant and unavoidable.

NOI-1A: Construction Noise. For all construction activities, the construction contractor shall implement the following measures during construction:

1. The construction contractor shall work with proper administrative controls on equipment in order to not 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.
2. The construction contractor shall provide written notification to the noise-sensitive uses within 210 feet of normal construction activities and 500 feet of pile driving at least 3 weeks prior to the start of construction activities, informing them of the estimated start date and duration of construction activities.
3. Construction activities that could generate high noise levels, such as pile driving, shall be scheduled during times that would have the least impact on sensitive receptor locations. This could include restricting the noisiest construction activities in the areas of potential impact to hours when staff and students would most likely be taking lunch and medical procedures and operation of equipment would be least likely to be scheduled or required. Days of activity shall be adjusted to avoid holidays or scheduled exam days.
4. Stationary construction noise sources, such as temporary generators, shall be located as far from nearby noise-sensitive receptors as possible.
5. Trucks shall be prohibited from idling along streets serving the construction site where noise-sensitive receptors are located.
6. 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.
7. Position (to the extent practical) construction laydown and vehicle staging areas as far from noise-sensitive land uses as feasible.



8. If the hourly average noise level is anticipated to exceed 75 dBA L_{eq} for a particular activity, limit simultaneous operation of construction equipment or limit construction time within another hour to reduce the 12-hour average noise level.
9. If feasible and determined to be an effective option, install temporary noise barriers around the perimeter of the construction area to minimize construction noise.

Operational Impacts

Applicable impacts related to operation of the 2019 LRDP include new transportation and stationary noise sources.

Transportation Noise

The 2019 LRDP EIR determined that implementation of the 2019 LRDP would result in a significant impact if it would result in an ambient noise level that exceeds 65 dBA CNEL for on- and off-site sensitive receptors or an increase of 3 dBA or greater if the roadway would exceed the standard without project implementation. The Opening Day (Year 2022) transportation noise scenario included development of Phase 1A. Phase 1B was also assumed in this scenario; however, Phase 1B did not include construction of any traffic-generating uses. No significant impacts were identified for this scenario. The Opening Day scenario best represents potential impacts from Phase 1A because project traffic generation under this scenario is attributable only to Phase 1A. In later phases, the uses developed in Phase 1A represent a smaller proportion of the 2019 LRDP and cumulative trip generation. However, no significant transportation noise impacts were identified in the 2019 LRDP EIR under the Interim Year 2025 scenario or Buildout Year 2035 scenario for the 2019 LRDP.

Operational Noise Associated with Proposed Development

Operational noises identified in the 2019 LRDP EIR included heating, ventilation, and air conditioning (HVAC) equipment, truck deliveries, parking lots, CUP operations, residences, recreational amenities, emergency vehicles, and emergency generator testing. No change to truck deliveries, residences, recreational amenities, emergency vehicles, or emergency generator testing would occur because of the Hillcrest Outpatient Pavilion and Parking Structure Project compared to the 2019 LRDP as assumed in the 2019 LRDP EIR. Therefore, these sources are addressed below. Mitigation Measure NOI-1C regarding special event noise does not apply to the Hillcrest Outpatient Pavilion and Parking Structure Project because the proposed components do not include special event space.

Heating, Ventilation, and Air Conditioning Equipment

HVAC equipment would be required on new buildings across the Hillcrest Campus. Additionally, parking structures may require ventilation and exhaust equipment. Depending on where the HVAC equipment is located, it could have the potential to generate noise that may exceed the exterior noise level threshold of 65 dBA CNEL at uses within 55 feet of the building requiring an HVAC system. Existing NSLUs in the neighborhood surrounding the Hillcrest Campus would continue to be separated from the proposed new campus buildings by existing roadways by more than 55 feet. Buildings constructed under the 2019 LRDP would generally be separated from each other by more than 55 feet due to walkways, roadways, and open spaces, with the exception of the Outpatient Pavilion and Annex, the Hospital Annex, and New Hospital. However, proposed uses would likely require HVAC systems that are larger than typical commercial operations. While HVAC systems currently operate in on-campus facilities, and future operation would be similar to existing conditions, individual systems would have the potential to exceed the 65 dBA CNEL and 60 dBA L_{eq} thresholds. Shielding and building design would reduce indoor and exterior noise exposure to equipment operation, but the level of shielding required could not be determined due to lack of project design information. Therefore, impacts related to building or parking structure HVAC systems were determined to be potentially significant in the 2019 LRDP EIR. Mitigation Measure NOI-1B would reduce impacts to a less than significant level.

NOI-1B: Mechanical Equipment Shielding. Concurrent with design development and prior to construction of the CUP and any new building requiring HVAC equipment, a report prepared by a qualified Acoustical Specialist shall demonstrate that equipment is designed to ensure that noise levels from the equipment shall not exceed an exterior noise level of 65 dBA CNEL at the nearest on- and off-site NSLU. Noise from

the CUP or HVAC equipment may be reduced through implementation of any individual measure or a combination of the following measures:

- Locate noisiest equipment, such as cooling towers, as far from sensitive receptors as possible.
- Utilize elevation and/or placement of equipment within the CUP strategically to attenuate noise from larger and noise producing equipment.
- Install a permanent noise barrier or shielding surrounding all equipment, or apply acoustical treatment to building surfaces.
- Install a permanent noise enclosure that completely encompasses equipment when access doors are shut. Install sound attenuation louvers and silencers on exhaust stacks where necessary, or make use of natural ventilation.
- Install noise enclosures, barriers, or acoustical treatment surrounding individual pieces of equipment or exhaust.
- Place equipment below grade in basement space.
- Use technologies to reduce noise, such as Whisper Quiet technology, when equipment is available. Other technology may include low-speed fans, baffles, or mufflers.
- Apply acoustical treatment to cooling tower intake and discharge.

Parking Lots

Parking lots have the potential to generate noise levels that exceed 65 dBA depending on the location of the source; however, noise sources from a parking lot would be different from each other in kind, duration, and location. Therefore, the overall effects would be separate and, in most cases, would not affect noise-sensitive receptors at the same time. Additionally, three of the four proposed parking areas were assumed to be located underground (parking under the Multi-Use Building, Mixed-Use Residential/Wellbeing Center, Residential Sites A and B, and the Canyon Parking Structure) and would not result in noise impacts to the surrounding area. Parking noise would be limited to the Main Parking Structure at the southeastern edge of the campus, approximately 150 feet from the nearest off-campus receptors, and approximately 50 feet from the nearest on-campus receptor. Therefore, noise generated from parking areas was determined to be less than significant in the 2019 LRDP EIR.

Central Utility Plant

Based on measured noise levels at the La Jolla Campus CUP, adjusted to account for additional proposed equipment, the CUP was determined to have the potential to generate noise levels of approximately 81 dBA CNEL at 25 feet without a sound barrier and to exceed 65 dBA CNEL up to 160 feet from the CUP. The CUP would be approximately 230 feet from the nearest off-site receptor, and therefore, CUP noise levels would not be expected to exceed 65 dBA CNEL at the off-site receptors. Only one on-campus NSLU, the proposed Multi-Use Building, would be within the 160-foot screening distance of the CUP. The CUP would be approximately 75 feet from the proposed Multi-Use Building and would potentially exceed the allowable 65 dBA noise level at this building. Similar to the CUP on the La Jolla Campus, the proposed Hillcrest Campus CUP would include a sound barrier that would reduce noise exposure. Based on the measurements on the La Jolla Campus CUP, a reduction of at least 7 dBA can be expected from barrier installation. However, because the design of the CUP assumed in the 2019 LRDP EIR, including barrier location design, was unknown, the CUP was assumed to have the potential to exceed 65 dBA at the Multi-Use Building. An impact was also conservatively assumed at the closest off-site receptors east of the campus (approximately 230 feet away) that would not be shielded from the CUP by other campus development, even though these receptors are anticipated to be outside of the potential impact area. A potentially significant impact was identified in the 2019 LRDP EIR related to CUP operation. Mitigation Measure NOI-1B would reduce impacts to a less than significant level.

Hillcrest Outpatient Pavilion and Parking Structure Project Consistency Evaluation

Construction and operational impacts of the Hillcrest Outpatient Pavilion and Parking Structure Project compared to those identified in the 2019 LRDP EIR are addressed below.



Construction Impacts

Construction activities, including demolition, grading, earthwork, utilities installation, surface improvements, and building construction and external/internal building work, under the Hillcrest Outpatient Pavilion and Parking Structure Project would be same as those identified in Phase 1A in the 2019 LRDP EIR. Pile driving was anticipated for shoring as part of construction in Phase 1A to maintain operation at the existing Bachman Parking Structure and proposed Main Parking Structure at the end of Phase 1A construction. However, the Bachman Parking Structure would be demolished as part of the Hillcrest Outpatient Pavilion and Parking Structure Project. Additionally, the area north of the Main Parking Structure that was included in Phase 3 in the 2019 LRDP EIR would be developed with the CUP under the Hillcrest Outpatient Pavilion and Parking Structure Project rather than remained unfinished after demolition. Therefore, shoring for the Main Parking Structure is unlikely to be required. Therefore, noise impacts related to pile driving identified for Phase 1A in the 2019 LRDP EIR would be reduced or eliminated under the Hillcrest Outpatient Pavilion and Parking Structure Project. Impacts related to construction traffic and other construction equipment are addressed below.

As described previously, the Hillcrest Outpatient Pavilion and Parking Structure Project would require more total demolition truck trips compared to the assumptions in the 2019 LRDP EIR. As a result, the demolition timeline would be extended to accommodate the additional demolition required under the Hillcrest Outpatient Pavilion and Parking Structure Project. Total building construction would be reduced; therefore, the building construction timeline would be reduced accordingly. No change to the assumption of vendor or worker trips is required as a result of the Hillcrest Outpatient Pavilion and Parking Structure Project because construction activities would be similar. The proposed project would result in more total demolition truck trips during construction than the total number of truck trips identified in the 2019 LRDP EIR; however, it was determined during 2019 LRDP EIR preparation that no more than 300 truck trips could feasibly occur in 1 day during construction. Therefore, the demolition timeline would be extended to accommodate the additional demolition required under the Hillcrest Outpatient Pavilion and Parking Structure Project, and no more than 300 truck trips would occur in a day during construction. Construction traffic. Therefore, the construction traffic levels assumed for Phase 1A in the 2019 LRDP EIR (a maximum of 300 truck trips, 60 vendor trips, and 894 worker vehicle trips) would be the same under the Hillcrest Outpatient Pavilion and Parking Structure Project. As a result, the proposed project components would not result in a temporary significant impact related to construction traffic noise.

Construction activities under the Hillcrest Outpatient Pavilion and Parking Structure Project would be the same as those in the 2019 LRDP EIR. No building construction was assumed in Phase 1B in the 2019 LRDP EIR; however, installation of a chiller and a cooling tower during Phase 1B would require minimal heaving equipment for a short time and would not result in additional construction noise beyond what was addressed for the CUP site in Phase 3. Therefore, consistent with the 2019 LRDP EIR, normal construction activities for the Hillcrest Outpatient Pavilion and Parking Structure Project would have the potential to exceed 75 dBA L_{eq} up to 210 feet from active construction. As identified in the 2019 LRDP EIR, the existing Inpatient Tower would be the only on-campus NSLU within 210 feet of the construction area of the Hillcrest Outpatient Pavilion and Parking Structure Project. The existing residences on Dickinson Street and First Avenue would be demolished prior to the construction of the Hillcrest Outpatient Pavilion and Parking Structure Project and would not be exposed to construction noise. A significant impact would occur to on- and off-campus receptors during normal construction activities. As identified for Phase 1A in the 2019 LRDP EIR, nighttime construction would potentially occur during roadway construction. Mitigation Measure NOI-1A would be required for the Hillcrest Outpatient Pavilion and Parking Structure Project but may not reduce impacts to a less than significant level. Therefore, impacts related to daytime and nighttime construction of the Hillcrest Outpatient Pavilion and Parking Structure Project would be the same as those identified in the 2019 LRDP EIR.

Operational Impacts

Impacts related to operation of the Hillcrest Outpatient Pavilion and Parking Structure Project include new transportation and stationary noise sources, which are addressed below.

Transportation Noise

Implementation of the 2019 LRDP would result in a significant impact if it would result in an ambient noise level that exceeds 65 dBA CNEL for on- and off-site sensitive receptors or in an increase of 3 dBA or greater if the roadway would exceed the standard without project implementation. The Hillcrest Outpatient Pavilion and Parking Structure Project does not propose any new land uses that would result in additional vehicle trips to the campus at buildout. As such, long-term traffic impacts would be the same as those identified in the 2019 LRDP EIR. On Opening Day, operation of the non-OSHPD CUP may result in new employee trips compared to Phase 1A in the 2019 LRDP EIR; however, these trips would likely offset by the reduction in health services building space that would be provided during this phase. Impacts under the Opening Day (Year 2022) scenario would be the same as those identified in the 2019 LRDP EIR.

Heating, Ventilation, and Air Conditioning Equipment

The Hillcrest Outpatient Pavilion and Parking Structure Project does not include any new uses that would require HVAC systems that were not included in the 2019 LRDP EIR. The Outpatient Pavilion Annex would be eliminated, and the proposed Outpatient Pavilion would not be within 55 feet of an existing or proposed sensitive receptor. While the specifications of the future HVAC systems for the Hillcrest Outpatient Pavilion and Parking Structure Project are not known, HVAC systems would be selected to comply with the requirements of Mitigation Measure NOI-1B identified in the 2019 LRDP EIR or be designed with the appropriate shielding that would meet the noise requirement. Compliance with Mitigation Measure NOI-1B would reduce impacts to a less than significant level. Therefore, impacts and mitigation measures would be the same as those identified in the 2019 LRDP EIR. A memorandum has been prepared by Acentech as part of design development that demonstrates how the requirements of NOI-1B will be met for the proposed project (Acentech 2021). The memorandum identified measures such as duct design to accommodate sounds traps, unit siting, and recommended air velocities.

Parking Lots

The Spine would include limited surface parking that was not addressed in the 2019 LRDP EIR. However, as described in the 2019 LRDP EIR, noise sources from a typical parking lot would vary in kind, duration, and location. Therefore, the overall effects of individual parking lot noise events, such as an alarm or door slam, would be separate and short in duration and, in most cases, would not affect the same noise-sensitive receptors at the same time. The Main Parking Structure has been expanded compared to the structure analyzed in the 2019 LRDP EIR but would continue to be on the southeastern edge of the campus, approximately 150 feet from the nearest off-campus receptors, and approximately 100 feet from the nearest on-campus receptor. Distance would further reduce the potential for exposure to nuisance noise. Therefore, noise generated from parking areas would be less than significant. This impact would be the same as the impact identified in the 2019 LRDP EIR.

Central Utility Plant

The non-OSHPD CUP that would be developed under the Hillcrest Outpatient Pavilion and Parking Structure Project would consist of a traditional boiler CUP rather than a cogeneration facility as addressed in the 2019 LRDP EIR. Pursuant to Mitigation Measure NOI-1B, the CUP would be constructed to ensure noise levels from its equipment do not exceed an exterior noise level of 65 dBA CNEL at the nearest on- and off-site NSLU. Due to the proximity of the CUP equipment to the nearest NSLU and equipment and shielding/enclosure types being considered, the CUP is anticipated to meet this requirement. Once final equipment selections are made, the appropriate shielding and sound absorption measures required to meet the required noise level would be determined. Following selection of equipment and shielding design, a qualified Acoustical Specialist would prepare a report demonstrating compliance with Mitigation Measure NOI-1B. This report has been prepared by Acentech as part of design development and demonstrates how the requirements of NOI-1B will be met for the CUP (Acentech 2021). Therefore, the impact of the CUP as proposed in the Hillcrest Outpatient Pavilion and Parking Structure Project would be the same as the impact identified in the 2019 LRDP EIR. Mitigation Measure NOI-1B in the 2019 LRDP EIR would reduce impacts to a less than significant level.

Summary

The Hillcrest Outpatient Pavilion and Parking Structure Project would modify 2019 LRDP land uses and include some project components from future 2019 LRDP phases. However, it does not include any new project components that would result in additional vehicle noise beyond what was accounted for in the 2019 LRDP EIR analysis or new sources of construction or operational noise. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding noise standards.

Issue 2: Excessive Groundborne Vibration or Noise

Based on Appendix G of the CEQA Guidelines, implementation of the 2019 LRDP would result in the generation of excessive groundborne vibration or groundborne noise levels. The project was determined to result in a significant impact if it would generate groundborne vibration in excess of the California Department of Transportation (Caltrans 2013) or the Federal Transit Administration (FTA 2018) criteria.

Summary of 2019 Long Range Development Plan Environmental Impact Report Impacts

Construction and operational impacts are summarized separately below.

Construction Impacts

Potential groundborne vibration impacts are divided into three categories: structural damage, human annoyance, and interference with use.

Structural Damage

The applicable threshold for the buildings in the neighborhood that surrounds the Hillcrest Campus, including historic resources, is 0.5 peak particle velocity, which is equal to approximately 102 vibration decibels (VdB). The nearest off-site historic resource is the Hillcrest Receiving Home School Building, which is approximately 450 feet east of the Hillcrest Campus and is outside of the potential 2019 LRDP EIR impact area. One on-campus residence at 102 Dickinson Street was constructed in 1920 and was identified to be more sensitive to vibration than other surrounding development. However, this residence was assumed to be demolished in Phase 1A, and structural damage was determined not to be a concern. Additionally, based on reference vibration levels from the Federal Transit Administration, construction equipment required for the 2019 LRDP would not exceed 102 VdB, except pile driving equipment. At 25 and 30 feet, pile driving would result in vibration levels that meet or exceed 102 VdB. The construction area for some roadway improvements would be within 30 feet of off-site structures; however, pile driving would not be required for those improvements. As such, it was determined that construction under the 2019 LRDP would not result in vibration levels that would have the potential for structural damage.

Human Annoyance

With the exception of pile-driving equipment, construction equipment associated with the 2019 LRDP would not exceed the 80 VdB threshold for residences beyond 75 feet from the construction area or the 83 VdB threshold for classrooms and other daytime uses beyond 60 feet from the construction area. The use of a pile driver would have the potential to exceed 80 VdB up to 160 feet from the construction area and 83 VdB up to 125 feet from the construction area.

No existing on-campus residences or inpatient facilities were identified within 75 feet of Phase 1A construction, and no institutional uses were identified within 60 feet of construction activities. The existing Inpatient Tower and the Clinical Teaching Facility would be within 160 feet and 125 feet, respectively, of construction activities and would not be exposed to construction vibration from normal construction activities. However, use of a pile driver, if required, could result in a potential impact to either or both existing buildings. The existing residences on Dickinson Street and First Avenue would be demolished prior to construction of Phase 1A and, therefore, would not be exposed to any construction vibration. Off-site residences south of the Hillcrest Campus are within 75 feet of construction, and additional residences are within 160 feet of the construction area, within the potential impact area for pile-driving impacts. Therefore, the 2019 LRDP EIR identified that, as a result of Phase 1A, a significant impact would occur to off-

campus receptors from normal construction and on- and off-campus receptors during pile-driving activities. The CUP was addressed as part of Phase 3 in the 2019 LRDP EIR. Impacts to on-campus receptors identified for Phase 3 in the 2019 LRDP do not apply to the CUP location because impacts were identified for Phase 3 construction west of the CUP. The CUP construction area would not be within the impact screening distances of any on-campus receptors. Furthermore, no off-campus impacts were identified for Phase 3 in the 2019 LRDP EIR, which included the CUP.

Implementation of Mitigation Measures NOI-2A and NOI-2B, coupled with Mitigation Measure NOI-1A, would lessen impacts by allowing uses that would be potentially affected by vibration time to anticipate and prepare for impacts. However, similar to construction equipment, due to uncertainties related to future construction activities, such as the construction equipment fleet and duration of construction activities in any location, it could not be demonstrated that vibration levels from future construction activities would be below applicable significant impact thresholds. Therefore, the 2019 LRDP EIR identified this impact as significant and unavoidable.

NOI-2A: Construction Notification. The construction contractor shall provide written notification to the vibration-sensitive uses within the following screening distances at least 3 weeks prior to the start of construction activities informing them of the estimated start date and duration of daytime vibration-generating construction activities:

- Existing or new residences within 75 feet of normal construction or 160 feet of pile driving
- Institutional buildings with primarily daytime uses that do not require vibration-sensitive equipment within 60 feet of normal construction or 125 feet of pile driving
- Uses requiring vibration-sensitive equipment, such as the hospital, within 210 feet of normal construction or 450 feet of pile driving

This notification shall include information warning about the potential for impacts related to vibration-sensitive equipment. UC San Diego shall provide a phone number for the affected businesses and residents to call if they have vibration-sensitive equipment on their sites. Notification requirements shall also apply to any new businesses within 450 feet of the Hillcrest Campus potentially containing vibration-sensitive uses for which licenses are issued prior to completion of construction.

NOI-2B: Vibration Best Management Practices. Prior to the commencement of construction projects that would involve heavy earth-moving equipment within the following applicable screening distances, UC San Diego shall retain a qualified acoustician to prepare a construction vibration mitigation program to be implemented by the construction contractor(s):

- Existing or new residences within 75 feet of normal construction or 160 feet of pile driving.
- Institutional buildings with primarily daytime uses that do not require vibration-sensitive equipment within 60 feet of normal construction or 125 feet of pile driving.
- Structures potentially requiring vibration-sensitive equipment within 210 feet of normal construction or 450 feet of pile driving. If, during the notification process outlined in Mitigation Measure NOI-2A, existing receptors are identified that involve activities that are vibration-sensitive at a level more stringent than VC-A (as defined by the Federal Transit Administration as medium- to high-power optical microscopes (400X), microbalances, optical balances, and similar specialized equipment), vibration shall be estimated at this structure, regardless of distance, and this measure shall apply if a potential impact is identified.
- The construction vibration mitigation program shall identify and require measures to reduce vibration, such as maintaining equipment and operating equipment as far from sensitive receptors as possible, 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, vibration monitoring.
- Vibration monitoring shall be performed during construction to establish the level of vibration produced by high impact activities. Baseline vibration levels at specified locations shall be established prior to the construction activity. Monitoring shall be conducted when any construction activity would



occur within the above-described screening distances. 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 all feasible alternative work methods and equipment intended to reduce vibration levels have been implemented.

Interference with Use

A maximum vibration level of 66 VdB is considered acceptable for vibration-sensitive uses on the campus, such as operating rooms and lab equipment. Impacts to vibration-sensitive uses were calculated to occur within 210 feet for normal construction activities and 450 feet for pile-driving activities. The existing hospital, South Wing, Medical Offices South, Medical Offices North, Bachman Building, Theodore Gildred Facility, and Clinical Teaching Facility were determined to be within 210 feet of the construction area of Phase 1A and would potentially be impacted by normal construction and pile-driving activities. The West Wing and Magnetic Resonance Institute and research buildings were determined to be within 450 feet. The off-site uses within 450 feet of the construction area are existing residences and commercial uses that would not be considered vibration sensitive because they do not typically require use of vibration-sensitive equipment. The CUP was addressed as part of Phase 3 in the 2019 LRDP EIR. Because implementation of Phase 3 would potentially require use of a pile driver, the existing Inpatient Tower and Medical Offices South were determined to be within the pile-driving screening level of 450 feet of the CUP construction area assumed in the 2019 LRDP EIR. However, use of a pile driver was only anticipated for temporary shoring of the existing CUP during construction of the Replacement Hospital. A significant impact to on-campus receptors was identified during normal construction and pile-driving activities during Phase 1A and the CUP as part of Phase 3. Mitigation Measures NOI-2A, NOI-2B, and NOI-1A would reduce impacts; however, it could not be demonstrated that impacts would be reduced to a less than significant level. The 2019 LRDP EIR identified this impact as significant and unavoidable.

Operational Impacts

The uses proposed under the 2019 LRDP were determined to be similar to existing conditions and would not generate groundborne vibration, including stationary noise sources, typified by HVAC and other electromechanical systems. Use of amplified music at special events may result in some minor vibration noticeable to event guests. However, impacts were determined to be less than significant in the 2019 LRDP EIR and do not apply to the Hillcrest Outpatient Pavilion and Parking Structure Project. Operational impacts associated with the 2019 LRDP were determined to be less than significant in the 2019 LRDP EIR.

Hillcrest Outpatient Pavilion and Parking Structure Project Consistency Evaluation

Construction and operational sources of vibration are addressed separately below.

Construction Sources of Vibration

As described under Issue 1, construction activities, including demolition, grading, earthwork, utilities installation, surface improvements, and building construction and external/internal building work, under the Hillcrest Outpatient Pavilion and Parking Structure Project would be the same as those identified in the 2019 LRDP EIR. However, pile driving is unlikely to be required. Therefore, noise impacts related to pile driving identified for Phase 1A and the CUP as part of Phase 3 in the 2019 LRDP EIR would be reduced or eliminated under the Hillcrest Outpatient Pavilion and Parking Structure Project. Impacts related to structural damage, human annoyance, and interference with use are addressed below.

Construction activities under the Hillcrest Outpatient Pavilion and Parking Structure Project would be the same as those identified in the 2019 LRDP EIR. No building construction was assumed in Phase 1B in the 2019 LRDP EIR; however, installation of a chiller and a cooling tower during Phase 1B would require minimal heavy equipment for a short time and would not result in additional vibration beyond what was addressed for the CUP site in Phase 3. The residence at 102 Dickinson Street is anticipated to be demolished prior to Phase 1A construction. Therefore, construction under the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in vibration levels

that would have the potential for structural damage, and impacts would be the same as those identified in the 2019 LRDP EIR.

As identified for Phase 1A in the 2019 LRDP EIR, normal construction activities would have the potential to exceed the 80 VdB threshold for residences up to 75 feet from the construction area or the 83 VdB threshold for classrooms and other daytime uses up to 60 feet from the construction area. The use of a pile driver would have the potential to exceed 80 VdB up to 160 feet from the construction area and 83 VdB up to 125 feet from the construction area. No existing on-campus residences or inpatient facilities would be within 75 feet of proposed Phase 1A construction, and no institutional uses would be within 60 feet of construction activities. Additional off-site residences would be within 75 feet of the construction area for additional off-site roadway improvements; however, impacts would be similar to those identified in the 2019 LRDP for individual receptors. Potential impacts as a result of CUP construction would be the same as those identified in the 2019 LRDP EIR because location and uses in the impact screening area would be the same. Mitigation Measures NOI-1A, NOI-2A, and NOI-2B would lessen impacts but not to a less than significant level. This impact would be the same as the impact identified in the 2019 LRDP EIR.

Potential impacts to sensitive equipment in the existing hospital, South Wing, Medical Offices South, Medical Offices North, Bachman Building, Theodore Gildred Facility, and Clinical Teaching Facility would be the same for normal construction under the Hillcrest Outpatient Pavilion and Parking Structure Project as those identified in the 2019 LRDP EIR because similar equipment would be required in the area. The West Wing, Magnetic Resonance Institute, research buildings, existing Inpatient Tower, and Medical Offices South would be within 450 feet of the proposed Phase 1A project component construction area; however, pile driving is no longer anticipated for this phase. Impacts from normal construction activities and pile driving were also identified for Phase 3 for the proposed Outpatient Pavilion and Multi-Use Building that would have been constructed in earlier phases; however, these uses would not be operational prior to CUP construction under the Hillcrest Outpatient Pavilion and Parking Structure Project. Additionally, pile-driving use is not anticipated for CUP construction. The potential additional impact area to off-campus receptors as a result of additional roadway improvements includes residential and commercial development that is not sensitive to vibration. No additional impact would occur. Mitigation Measures NOI-1A, NOI-2A, and NOI-2B would reduce impacts to on-campus receptors but not to a less than significant level. This impact would be the same as the impact identified in the 2019 LRDP EIR.

Operational Sources of Vibration

The Hillcrest Outpatient Pavilion and Parking Structure Project would modify 2019 LRDP land uses and include some project components from future 2019 LRDP phases. No new vibration-generating uses are proposed. Therefore, impacts as a result of the Hillcrest Outpatient Pavilion and Parking Structure Project would be the same as those identified in the 2019 LRDP EIR.

Summary

The Hillcrest Outpatient Pavilion and Parking Structure Project would modify 2019 LRDP land uses and include some project components from future 2019 LRDP phases. It does not include any new components that would result in new groundborne vibration or new sources of construction vibration. Therefore, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects regarding excessive groundborne vibration.

Issue 3: Aircraft Noise

Based on Appendix G of the CEQA Guidelines, implementation of the 2019 LRDP would have a significant impact if it would expose people residing or working on the project site to excessive noise within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public use airport or private airstrip.

Summary of 2019 Long Range Development Plan Environmental Impact Report Impacts

The Hillcrest Campus is approximately 1.3 miles northeast of San Diego International Airport. The Hillcrest Campus is within the Airport Influence Area and overflight area but is not within the 60 dBA CNEL noise contour. Therefore,

the San Diego International Airport does not generate excessive noise levels on the Hillcrest Campus. The 2019 LRDP EIR identified this impact as less than significant.

The 2019 LRDP would relocate the existing hospital emergency helipad from the Medical Offices North building, which would be demolished, to the top of the Replacement Hospital building. However, implementation of the 2019 LRDP would not be expected to increase exposure to helicopter noise because similar emergency services would be provided at the hospital, although the total number of inpatient beds would decrease. The new helipad would be designed to accommodate similarly sized helicopters to those accommodated by the existing helipad. The type of helicopter using the helipad is determined by the emergency services provider and outside of the control of UC San Diego. Frequency of helicopter landings would continue to be determined by occurrence of emergencies and pursuant to the Federal Aviation Administration and California Department of Transportation required approvals. The 2019 LRDP EIR identified this impact as less than significant.

The Scripps Mercy Hospital, approximately 0.25 mile southeast of the Hillcrest Campus, also includes an emergency helicopter landing facility. Similar to the Hillcrest Campus, helicopter landings on the Scripps Mercy Hospital helipad occur when emergency service is required and cannot be predicted. Exposure of on-campus sensitive receptors to noise from the Scripps Mercy Hospital helipad would be similar to existing conditions. The 2019 LRDP EIR identified this impact as less than significant.

Hillcrest Outpatient Pavilion and Parking Structure Project Consistency Evaluation

The Hillcrest Outpatient Pavilion and Parking Structure Project would modify 2019 LRDP land uses somewhat and include some project components from future 2019 LRDP Phases. No changes to the proposed helipad are included in the Hillcrest Outpatient Pavilion and Parking Structure Project. Therefore, impacts related to aircraft noise would be the same as those identified in the 2019 LRDP EIR.

Summary of Noise Impacts

Impacts related to noise and vibration from construction and operation of the Hillcrest Outpatient Pavilion and Parking Structure Project would be similar to those identified in the 2019 LRDP EIR. The Hillcrest Outpatient Pavilion and Parking Structure Project does not include any new sources of noise or vibration that were not previously addressed, and no new significant impacts would occur that were not identified in the 2019 LRDP EIR. Because no new direct or increased impacts would occur, the Hillcrest Outpatient Pavilion and Parking Structure Project would not result in a new or increased contribution to cumulative impacts. The Hillcrest Outpatient Pavilion and Parking Structure Project would not result in any new significant environmental effects or a substantial increase in the severity of previously identified significant effects related to noise.

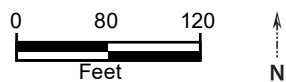
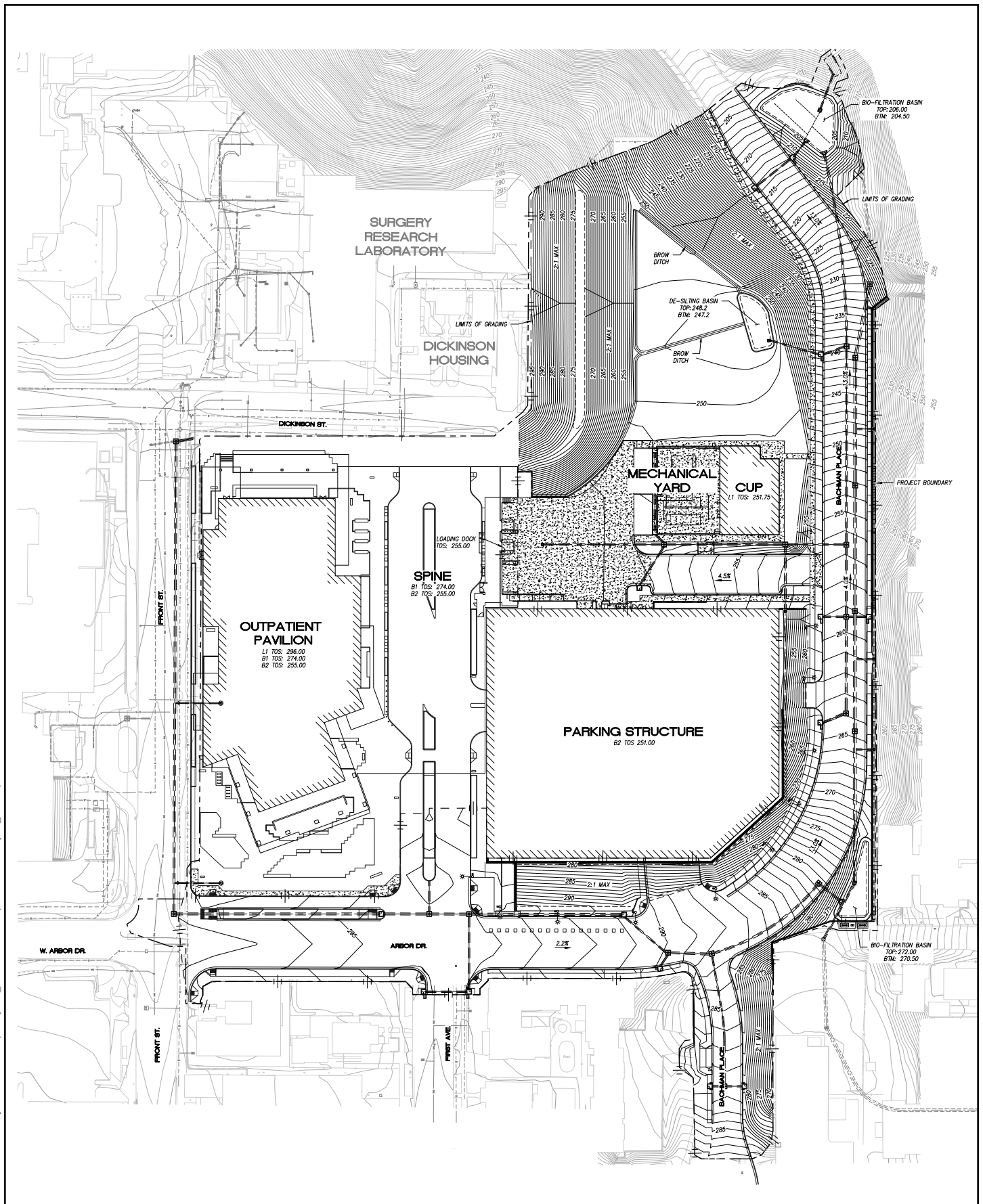
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Source: Callisonrtkl Inc. 2020.

Figure 1
Outpatient Pavilion and Parking Structure Site Plan



Source: Latitude 33 2021.

Figure 2
Outpatient Pavilion and Parking Structure Grading Plan