

## 3.0 PROJECT DESCRIPTION

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### 3.1 INTRODUCTION

This chapter of the Revised Draft EIR presents details of the proposed UC Santa Cruz Student Housing West project (“SHW project” or “proposed project”), including the need for the project and its objectives, its various components and design features, and construction schedule and activities. The proposed project is an approximately 3,000-student bed project, which is planned for completion by UC Santa Cruz (Campus) by 2023, via a public-private partnership (P3) delivery method. The project includes the construction of approximately 2,932 student beds on an approximately 13-acre site west of Heller Drive (Heller site), and 140 beds for student families on an approximately 17.3-acre site northeast of the intersection of Glenn Coolidge Drive and Hagar Drive (Hagar site). The development of student housing on the Hagar site would require an amendment of the 2005 LRDP to change the land use designation of the site from Campus Resource Land to Colleges and Student Housing. The project would be constructed in phases with the first portion of the project available for occupancy by spring 2020 and the remainder of the project completed by fall 2023.

As noted in **Chapter 1.0, Introduction**, during the time that the Draft EIR was circulating and in the following months, the design of the project at both project sites was advanced, which resulted in changes to the proposed buildings at the Heller site, changes to the grading plans at both sites, inclusion of a wastewater treatment plant in the Hagar site development, changes to the storm water control plans for both sites, minor changes to the number of beds to be provided at both sites, and changes to the project construction schedule. This revised project description incorporates all of these changes to the proposed project at both sites. For a summary table that lists all of the key changes to the project, and for graphics that show the differences in the previous and current site plan for the Heller site, please see **Chapter 4.0**.

### 3.2 PROJECT LOCATION AND SURROUNDING USES

The UC Santa Cruz campus is located in the City of Santa Cruz, with a portion of the campus outside City limits and within unincorporated Santa Cruz County. **Figure 3.0-1, Regional Location**, shows the location of the campus. The proposed project would be constructed on two sites: the primary site is in the western portion of the campus, west of Heller Drive (“Heller site”), and the secondary site is in the southeastern portion of the campus on Glenn Coolidge and Hagar Drives (“Hagar site”) (**Figure 3.0-2, Project Locations**).

Public open space borders the campus on two sides: Pogonip City Park and Henry Cowell Redwoods State Park on the east and Wilder Ranch State Park on the west. On the south, the campus borders the

city's upper west side residential neighborhoods. The rural residential Cave Gulch neighborhood is located adjacent to a portion of the campus's northwestern boundary. To the north, the campus is bounded by private land and small-scale rural development. High Street, Bay Street, Western Drive and Empire Grade Road are the primary access routes to the campus.

### 3.2.1 Heller Site

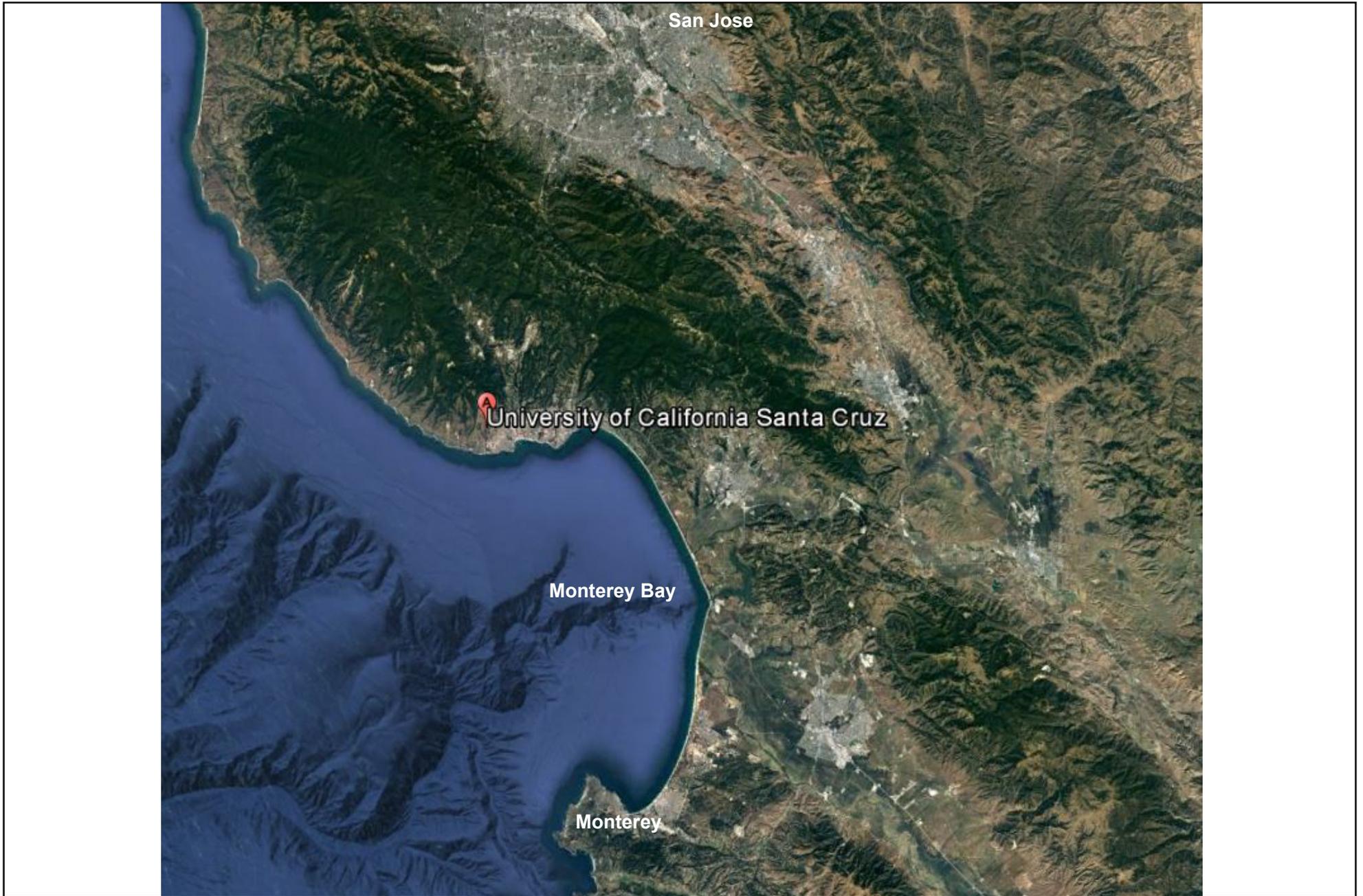
As shown in **Figure 3.0-3, Project Vicinity – Heller Site**, the approximately 13-acre Heller site is located between Empire Grade Road and Heller Drive. Heller Drive is the main north-south roadway in this portion of the campus and also serves as the west entrance to the campus from Empire Grade Road. The Heller site is currently developed with the Family Student Housing (FSH) complex. This complex includes 199 two-bedroom townhouses in 42 two- and three-story apartment buildings, parking, utilities, roads, and pedestrian infrastructure. This housing serves undergraduate and graduate student couples with or without children as well as single-parent families. The FSH complex also includes a 72-space childcare center located in one permanent building and several modular buildings, with an associated fenced play yard. The FSH complex contains 257 parking spaces. The FSH complex and childcare center currently have vehicular access from Heller Drive via West Koshland Way. A pedestrian bridge that crosses over Heller Drive links the existing FSH complex to Rachel Carson College and its dining facility.

Land uses surrounding the Heller site include: (1) to the east, Rachel Carson and Oakes Colleges, which consist of classrooms, residence halls, parking lots, and athletic courts; (2) an informal recreational field and Heller Drive to the south; and (3) an undeveloped, wooded area to the west that descends west to Empire Grade Road; and (4) to the north, Porter Meadow, an expansive meadow on rolling topography. Porter and Kresge Colleges are located east and north of Porter Meadow.

### 3.2.2 Hagar Site

As shown in **Figure 3.0-4, Project Vicinity – Hagar Site**, the approximately 17.3-acre Hagar site is located at the northeast corner of the intersection of Glenn Coolidge Drive and Hagar Drive. The site is at the toe of a south and west sloping hillside with gently rolling topography that slopes down to both Glenn Coolidge and Hagar Drives. The site is undeveloped and covered with grasslands. A closed depression designed to detain runoff from Hagar and Coolidge Drives and in which a sinkhole has formed, is present in the southwestern corner of the site.

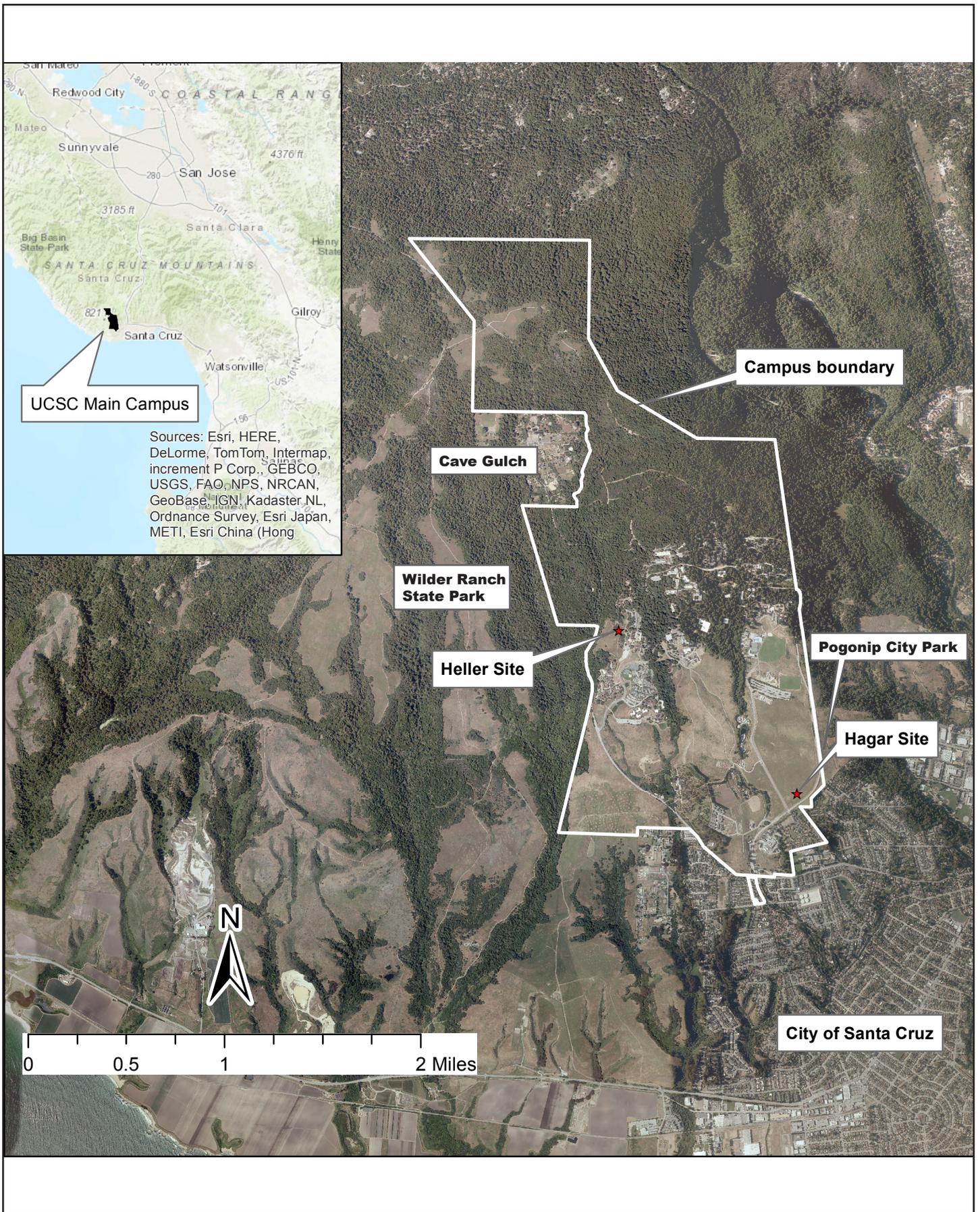
Land uses surrounding the Hagar site include the Pogonip City Park and Springtree neighborhood to the east, and employee housing to the south across Glenn Coolidge Drive, and campus support facilities and Center for Agriculture and Sustainable Farm Systems (CASFS) farm to the southwest and west. Lands adjacent to the north, west, and east of the site are undeveloped grasslands. The project site is the lower portion of the area locally known as the East Meadow.



SOURCE: Impact Sciences, 2018

FIGURE 3.0-1

Regional Location



SOURCE: UCSC, 2017

FIGURE 3.0-2

Project Location



SOURCE: Google Maps, 2017

FIGURE 3.0-3



SOURCE: Google Maps, 2017

FIGURE 3.0-4

### 3.3 PROJECT OBJECTIVES

Section 15124(b) of the State CEQA Guidelines requires that the project description in an EIR include “a statement of the objectives sought by the applicant,” which should include “the underlying purpose of the project.” The objectives of the proposed project are to:

- Comply with the University’s commitment under the 2008 Comprehensive Settlement Agreement (“Settlement Agreement”) to initiate housing development in the area west of Porter College before development of new beds in the North Campus Area;
- Support the development of sufficient and affordable, on-campus student housing under the UC President’s Housing Initiative;
- Develop additional housing in a timely manner in order to meet the provisions of the Settlement Agreement;
- Develop new housing while minimizing displacement impacts on students with families;
- Locate undergraduate, graduate, and family student housing on campus in order to facilitate convenient access to classrooms and other learning environments; student services; campus amenities such as retail, restaurants and fitness facilities; and reduce the growth in vehicle trips to the campus by relocating commuting students on campus;
- Incorporate adequate support space needed for students and residential life staff (i.e., social space, recreational space, laundry facilities);
- Provide a childcare facility to serve both students and employees in a location that maximizes its accessibility to families living on and off campus.
- Incorporate design, massing, density, siting, and building footprint strategies to minimize removal of sensitive habitats and environmental impact;
- Develop housing at the highest level of sustainability that is consistent with other project objectives with Leadership in Energy and Environmental Design (LEED) Silver certification at a minimum; and
- Provide a reasonable amount of on-site parking to meet basic parking needs of the project while minimizing traffic impacts on campus.

### 3.4 PROJECT FEATURES AND OPERATIONS

#### 3.4.1 Development Program

As discussed in **Chapter 1.0, Introduction**, as part of the Settlement Agreement, the University agreed to provide housing to accommodate 67 percent of new-student enrollment above 15,000 FTE within four years of reaching that enrollment level. At a total enrollment of 19,500, the Campus would need to

provide on-campus or University-controlled housing for 10,125 students. As of 2017 (the baseline year for the Revised Draft EIR), the Campus had a student housing stock of 9,399 beds, including 130 off-campus beds. Assuming no change in these beds between 2017 and when the campus reaches the enrollment level of 19,500 students, the Campus needs to add 726 beds to the inventory to satisfy the Settlement Agreement. However, based on a detailed review of its housing stock completed in 2016, the Campus concluded that it needed to provide approximately 3,000 additional student beds on the campus to satisfy the requirements of the Settlement Agreement, relieve overcrowding, replace existing housing that is functionally obsolete and not a viable candidate for renovation, and address the existing and projected demand for student housing under the 2005 LRDP. Another detailed study of the student housing needs of the Campus was conducted in 2017-18 and completed in April 2018. That study shows that demand exists for 13,102 students to live on the campus, which includes 11,626 undergraduate beds, 1,066 graduate beds, and 310 family units. Even with the addition of 3,072 beds under the SHW project and the de-densification of the existing housing, there would be an unmet demand of 1,660 beds (Brailsford & Dunlavey 2018). The full report and a summary presentation are included in **Appendix 3.0**.

The proposed project would construct a mix of student housing units and associated facilities, including upper division undergraduate student beds, graduate student beds, housing for students with families, an expanded replacement childcare facility designed to service students, faculty, and staff, as well as associated on-site amenities. The upper division undergraduate beds would be provided in apartment and “co-housing” configurations, with approximately 45-50 percent in single occupancy bedrooms and 50-55 percent in double or triple occupancy bedrooms, where the doubles may or may not be converted to triples in the future. The maximum apartment capacity would not exceed six or seven students. Undergraduate co-housing units are comprised of single and double bedrooms where the occupants of a floor share two living rooms and two kitchen spaces, approximately 25-40 occupants per common living room and kitchen. For every 300 students, there would also be one 2-bedroom unit with a laundry facility for live-in residential staff. The housing for graduate students would be in apartment or in co-housing configurations. Graduate co-housing would consist of eight single bedroom clusters whose occupants would share a living room and kitchen space.

**Table 3.0-1, Project Development Program Summary**, provides a summary of the development program by site.

**Table 3.0-1**  
Project Development Program Summary

<b>Student Type</b>	<b>Housing Units</b>	<b>No. of Beds</b>	<b>No. of Buildings</b>	<b>Building Space (gross square feet)</b>
<i>Heller Site Program</i>				
Undergraduate	781	2,712	5	723,548
Graduate	163	220	1	96,561
Student Commons	--	--	-- <sup>b</sup>	35,302
Wastewater Treatment Facility	--	--	1	3,500
<i>Subtotal</i>	<i>944</i>	<i>2,932</i>	<i>7</i>	<i>858,911</i>
<i>Hagar Site Program</i>				
Students with Families	140	140	35	135,100
Childcare Facility	--	--	1	13,500
Community Building, Service Building, and Wastewater Treatment Facility	--	--	2	5,025
<i>Subtotal</i>	<i>140</i>	<i>140</i>	<i>38</i>	<i>153,625</i>
<b>Total</b>	<b>1,084</b>	<b>3,072</b>	<b>45</b>	<b>1,012,536</b>
<p><i>Source: Capstone 2017</i></p> <p><sup>a</sup> Includes both undergraduate and graduate building space</p> <p><sup>b</sup> Student commons would be located within the undergraduate housing buildings and would not be in a separate building.</p>				

The proposed facilities are described below by site.

### 3.4.2 Heller Site

The proposed project includes the demolition of the existing FSH complex (including the existing childcare center) that currently occupies the Heller site, and the construction of new housing, parking, and other support spaces. The proposed facilities on this site are described below.

#### 3.4.2.1 Undergraduate Housing, including Support Spaces

The proposed project would involve the construction of five buildings with apartments and co-housing style units on the Heller site for undergraduate students (shown as Buildings 1 through 5 on **Figure 3.0-5a, Proposed Site Plan – Heller Site**). Buildings 1, 3, and 5 in the northern, western and southern portions of the site would be seven stories tall. Buildings 2 and 4, which would be in the central portion of

the site, would vary in height from five to six stories, with the lower sections of those buildings closer to Heller Drive and the taller sections away from Heller Drive. The buildings would include 781 undergraduate units and provide a total of approximately 2,712 beds. The project would also include support spaces, such as laundry facilities, mail facilities, custodial space, and storage. In addition, centrally located student “hubs” would be included in Buildings 4 and 5, which would be located centrally within the site and would include retail amenities, a fitness room, administrative and student services, multi-purpose rooms, study areas, convenience store, and social spaces for residents and neighboring student communities on the east side of Heller Drive.

### **3.4.2.2 Graduate Housing**

Graduate student housing would be provided in one building (Building 6) located in the southern portion of the Heller site. The building would be five stories high, with one element at four stories, and would provide a total of approximately 163 units, including some studio units that could accommodate couples as well as co-housing units for single students, for a total of approximately 220 beds for graduate students.

### **3.4.2.3 Project and Building Design**

The Heller site housing has been designed to address the housing needs of the campus while remaining within the area currently occupied by the FSH complex in order to minimize impacts to the habitat that surrounds the site. The project layout and design has been developed keeping in mind the surrounding landscape, other buildings on the campus, the vision of the Student Housing West Design Guidelines, 2005 LDRP, and UC Santa Cruz Design Framework.

To minimize visual impacts and respect the human scale, the site plan has been developed so that the taller buildings would be located in the western and northern portions of the site, away from Heller Drive and adjacent to the redwood forest edge, whereas the buildings in the southern and eastern portions of the site would be shorter, and more compatible with other campus development across Heller Drive from the project site.

The tall contemporary-style buildings would have flat roofs to permit the installation of rooftop solar photovoltaic panel systems, which would be surrounded by parapets and would screen the panel system from views. Some buildings would have glass door entryways and windows looking into the indoor common areas. The proposed exterior material palette would employ variations in material, texture, and color to create a variegated exterior envelope and provide the necessary articulation to reduce the visual scale of the project. Pre-cast concrete, plaster, and other materials would form many of the exterior surfaces. The plaster would be juxtaposed with other surfaces having more color and texture, such as

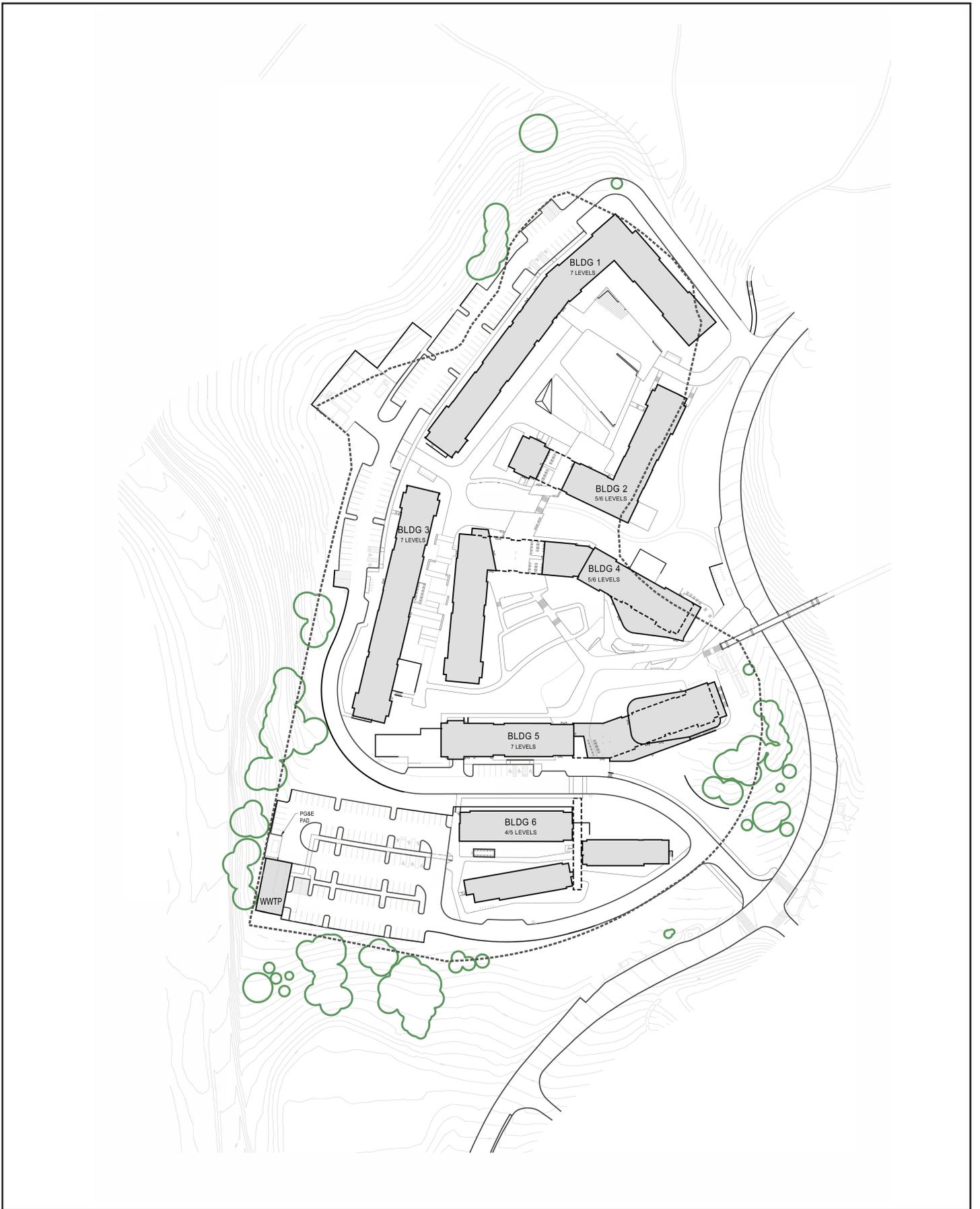
metal siding painted in a range of muted colors, colored cement board, cast in place concrete, and acetylated wood panels.

In response to comments received on the Draft EIR in regards to bird-safe design principles, bird-safe design elements have been incorporated in the Heller site buildings, utilizing guidance on how to make buildings less hazardous for birds available from a number of agencies and other entities. Although the proposed project is not subject to the San Francisco Planning Department Bird-Safe requirements or the recommendations of the American Bird Conservatory, the Campus has reviewed their guidance for reducing hazards for birds, which include recommendations for avoiding the development of large expanses of clear or highly reflective glass, particularly below 45-60 feet, and overly lit buildings (particularly at night). The exterior design of the Heller site buildings includes approximately 25 percent glazing, and the design avoids continuous spans of glass wider than 24 feet that do not incorporate bird-protection strategies. The project also includes energy efficient glazing that reflects UV, increasing the visibility of glass to birds and decreasing reflective or transparent qualities of windows. The site plan and proposed buildings do not include any of the more typically harmful features such as atria or glazed passageways where a bird can look through the glass and see nature. In addition, where glazing is wider than 24 feet, the project would include the use of internal screens on the windows to create a “visual noise barrier,” further reducing the percentage of the façade that presents a hazard to birds. Landscaping will also be designed to reduce collisions by avoiding the planting of new, taller trees and shrubs in close proximity of the building facades. Exterior lighting would be appropriately shielded and directed to minimize attraction to night-migrating or nocturnal birds. The project design would also minimize light pollution and avoid up-lighting. Building controls and/or operational policy would ensure that interior lighting in public and community spaces is turned off at night if not in use so as to minimize light escaping through windows during night operation. With these provisions, the project would be consistent with the San Francisco’s Bird-Safe requirements and the American Bird Conservatory standards.

The graduate student building on the lower part of the site would be clad in plaster, wood, and painted metal siding to compliment adjacent buildings. The wings of the building would be joined by an open-air or glazed bridge at each level. The bridges are envisioned as painted steel clad in a metal or wood lattice, to provide security and act as an articulated material element.

#### **3.4.2.4 Outdoor Spaces and Landscaping**

The proposed project includes plazas adjacent to all the undergraduate housing buildings and a large central plaza between Buildings 4 and 5. The proposed landscaping plan for the Heller site is shown on **Figure 3.0-5a**. The vast majority of the site would be planted with climate adaptive landscaping, which



SOURCE: UCSC, 2018

FIGURE 3.0-5a

will comprise low growing native plants, climate adaptive ornamental shrubs, and groundcovers. Two lawn areas are planned centrally on the site, including one between Buildings 1 and 2, and one in the center of the site between Buildings 4 and 5. Grasslands would be maintained between the site and Heller Drive.

**Figure 3.0-5a** shows the existing trees on the Heller site that would remain. Existing clusters of mature trees in the southern and southeastern portions of the site would be maintained to continue to provide screening from viewpoints along Heller Drive. New trees would be planted in the open space areas and parking lots on the project site.

#### **3.4.2.5 Access and Parking**

The Heller site currently has vehicular access from Heller Drive via West Koshland Way. That roadway entrance to the site would be removed and replaced with a new driveway that would be located further south on Heller Drive directly across from and aligning with Oakes Road, creating a four-way intersection at this location. This driveway and internal roadway would provide access to the parking areas located to the west of Building 6 and would loop around the western edge of the site to a second site entrance off of Heller Drive near the northern end of the project site.

Pedestrian facilities would include the continued use of the existing pedestrian bridge over Heller Drive, which would connect the Hubs in Buildings 4 and 5 to the Rachel Carson College Dining Hall. Crosswalks across Heller Drive would be provided at both the northern and southern driveways.

There are three existing transit stops along Heller Drive adjacent to the project site. The southernmost of these is on the southbound (west) side of Heller Drive south of the proposed southern driveway. A northbound transit stop is located between the southern driveway and the existing pedestrian bridge. New paths along the southern driveway would connect to these bus stops by way of existing pedestrian paths. The northernmost transit stop is on the west side of Heller Drive north of the pedestrian bridge. The project would relocate this stop closer to the pedestrian bridge to allow for more direct pedestrian access.

Vehicle and bicycle parking would be provided on the site to serve the new residences, including vehicular drop-off and accessible parking. The proposed project would provide approximately 174 surface parking spaces for residents and 35-45 spaces for service vehicles and visitors. The spaces would be provided in a parking lot in the southwestern portion of the site and in two parking lots along the western edge of the project site west of Buildings 1 and 3. Accessible, oversized, car share, and electric vehicle charging spaces would be distributed throughout the parking areas. There would be 300 to 400

covered secured bicycle parking spaces for residents and 100 to 115 bicycle parking spaces in racks for visitors. A Bike Share program would also be implemented.

**3.4.2.6 Utilities**

Utilities needed for the proposed project would include potable and recycled water, wastewater, storm water management systems, natural gas, medium voltage and low voltage underground power, and underground telecommunications (**Figure 3.0-5b, On-Site Utilities – Heller Site**). The estimated demand for utilities associated with the Heller site development is presented in **Table 3.0-2** below. To report the project’s total demand for utilities, the table also includes the utility demand associated with the Hagar site development.

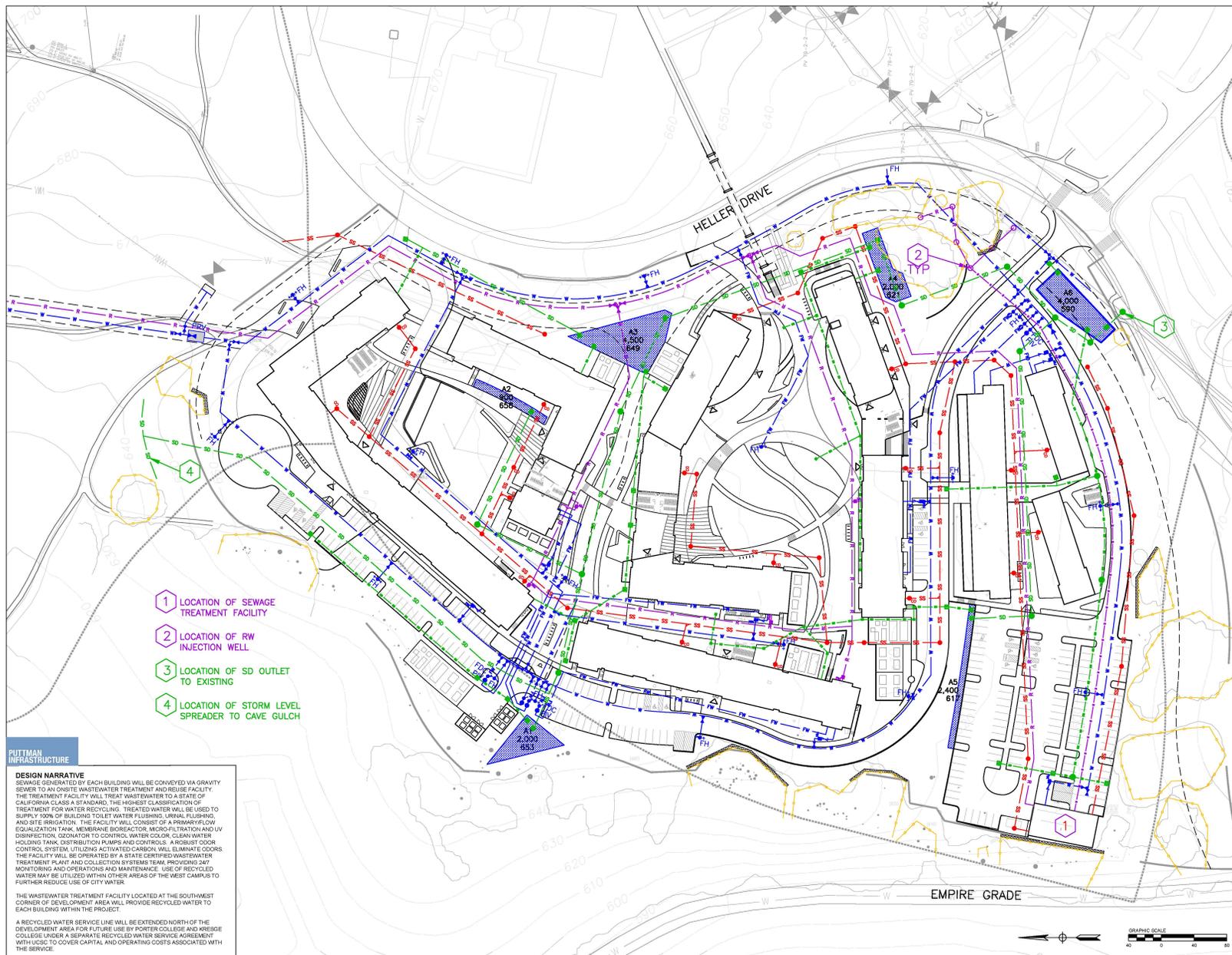
**Table 3.0-2  
Utility Demand**

Utility Type	Heller Site	Hagar Site	Existing FSH	Net New Demand
Potable Water	20.97 million gallons/year	4.00 million gallons/year	7.2 million gallons/year	17.77 million gallons/year
Recycled Water	11.38 million gallons/year	5.31 million gallons/year	0	16.69 million gallons/year
Wastewater	98,907 gallons/day <sup>d</sup>	15,138 gallons/day <sup>d</sup>	NA	NA
Solid Waste	783,196 lbs/year	325,008 lbs/year	394,534 lbs/year	713,670 lbs/year
Natural Gas	31,920 cfh	0	NA	31,920 cfh
Electricity	10,975 KVA	1,977 KVA	NA	12,952 KVA

a. All water used for irrigation at both sites would be provided by recycled water.  
 b. Irrigation water use for most of the FSH landscaping is not all currently metered separately from the buildings, therefore irrigation water use for existing FSH is included in the potable water use.  
 c. Since recycled water would be used for all irrigation at the Heller site, there would be no new demand for irrigation water at the Heller site.  
 d. All wastewater would be treated on site with discharge to the sanitary sewer system only under emergency conditions when the WWTP is not operating.  
 e. Most of the irrigation water used at the Hagar site would be recycled water. However about 1/3rd (about 1 million gallons) would be potable water.

**Potable Water**

To provide potable water to the Heller site development, a new 14-inch water main would be constructed within the utility corridor that would extend from the Kresge parking lot in the north, through Porter Meadow, to the Heller site. Both domestic and fire suppression water would be provided to the project via this main (**Figure 3.0-5c, Off-Site Utilities – Heller Site**).



SOURCE: UCSC, 2018

FIGURE 3.0-5b

On-site Utilities- Heller Site



SOURCE: UCSC, 2018

FIGURE 3.0-5c

Off-site Utilities- Heller Site

## **Wastewater**

### ***Wastewater Collection System***

Wastewater generated on the Heller site would be collected via an underground sewer line system constructed as part of the proposed project and would be conveyed to a wastewater treatment facility that would be located in the southwestern portion of the Heller site. The facility would treat the wastewater and generate recycled water for use on the Heller site and, potentially, in existing student residence halls at Porter College and Kresge College.

### ***Wastewater Treatment Facility***

The wastewater generated on the Heller site would be treated at a membrane bioreactor (MBR) plant. The MBR plant constitutes a complete system for the treatment of municipal wastewater. The plant would have a footprint of approximately 3,500 square feet. MBR equipment is modular in design and is prefabricated off-site. The MBR equipment is then delivered to the project site on skids, placed in the building, and connected to the collection and distribution systems.

The building in which the MBR plant would be located would be a fully enclosed facility that would consist of the following components:

- Headworks – where incoming wastewater would be received and where inorganic solids would be separated from the wastewater using screens
- Primary tank – an equalization tank where freshly screened wastewater would be held prior to introduction into the MBR process
- MBR – comprises an anoxic tank, pre-aeration tank, and membrane tanks. The anoxic tank is a bioreactor in which aerobic bacteria digest organic material in the presence of dissolved oxygen. The membrane tanks contain a series of membrane cartridges. As effluent permeates through the membrane cartridges, suspended organic matter and bacteria are separated from the water.
- Disinfection system – where effluent from MBR would be treated to eliminate bacteria and provide clean non-potable recycled water.
- Clean recycled water holding tank – where clean non-potable recycled water would be held prior to distribution.
- Dry wells – excess clean non-potable recycled water would be discharged into dry wells.
- Sanitary sewer connection – for emergency sewer overflow, the plant would have a metered connection to the existing sanitary sewer line located along Heller Drive.

The facility would also include an office for operators, a lab, a bathroom, and a shower. A back-up generator would be located inside the building for use in the event of power loss. The back-up generator would allow for complete treatment operations to continue, along with maintaining distribution to the recycled water system.

Chemicals used in treating wastewater at the MBR plant would include sodium hypochlorite (for membrane cleaning); sodium hydroxide for alkalinity; and industrial strength sodium hypochlorite for disinfection and water color. The chemicals would be stored in chemical tanks or in 55-gallon tanks on spill containment pallets.

Screened inorganic solids from the headworks would be deposited in garbage bags. The MBR plant would produce approximately two large garbage bags per week to be collected for landfill disposal. Biological solids/sludge produced by the treatment process would be periodically pumped out of the plant and transported to an off-site regulated disposal site.

As odors could result from the headworks room, equalization tank, and the room containing the MBR, all three spaces would be under negative pressure with airflow ducted to an activated carbon odor control system that would scrub air of odors and compounds such as hydrogen sulfide. The exhaust from the odor control system would be located away from sensitive receptors such as occupied buildings and outdoor gathering spaces.

### **Recycled Water**

The MBR plant would be required to produce non-potable recycled water that meets the current California Title 22 standards for unrestricted irrigation use and toilet flushing. Furthermore, because excess non-potable recycled water would be generated and may need to be disposed of via dry wells, the non-potable recycled water would also need to meet U.S. EPA's Underground Injection Control (UIC) requirements. The MBR will produce recycled water that meets the following water quality requirements.

- Reduced total coliform below 2.2 parts per 100 ML
- Biochemical Oxygen Demand (BOD) of less than 5 PPM
- Total Suspended Solids (TSS) of less than 5 PPM.
- Total Nitrogen (TN) of less than 10 PPM
- Turbidity below 2 NTU (nephelometric turbidity unit)

Recycled water generated at the MBR plant would be pumped into a recycled water main and distribution system (“purple” pipes) and conveyed throughout the Heller site development to provide water for toilet flushing and landscape irrigation. Recycled water would also be conveyed north via a recycled water main that would be located in the utility corridor extending between the Kresge parking lot and the Heller site. The main could convey recycled water to Porter College where the residence halls are already fitted with dedicated purple pipes to convey recycled water for toilet flushing, and potentially also be used at Kresge College.

The volume of recycled water generated each month would vary according to water use and associated wastewater generation. The use of recycled water would also vary from month to month, depending on the number of students present in the housing as well as whether the water is needed for irrigation. Based on the volume that would be generated and used within the Heller site as well as used in Porter and Kresge Colleges, it is projected that in July and August, between 80 and 83 percent of the recycled water would be used, and the balance would be disposed in one or two dry wells. During rest of the year, as the irrigation use of the recycled water would decrease or cease, between 43 and 60 percent of the recycled water would be used and the rest disposed in the dry wells. An estimated 13.2 million gallons of recycled water would be disposed each year via dry wells. In the event that the recycled water cannot be used in Porter and Kresge Colleges for toilet flushing, about 16.31 million gallons of excess recycled water would be generated per year that would require disposal. Excess recycled water would be disposed of in dry wells until such time that other campus uses are identified/constructed that could receive and utilize this excess recycled water. The dry wells would be located in the southeastern portion of the project site. The MBR plant would contain distribution pumps for the recycled water to deliver water to the buildings and site irrigation, with the back-up generator to ensure water delivery in the event of power loss.

### **Storm Water**

The Heller site is currently developed with the FSH complex, and about 6 acres of the 13-acre site are under impervious surfaces. The site generates about 22.6 acre-feet of runoff, most of which is conveyed in a storm drain under Heller Drive to the Rachel Carson College detention basin, located across the roadway from the project site, which discharges to Moore Creek. A small portion of the site drains west and north to the Cave Gulch watershed. The proposed project would replace and increase the total area of impervious surfaces on the 13-acre Heller site by about 3 acres (about 6 acres are currently under impervious surfaces, which would increase to about 9 acres after project construction) (BKF 2018). As a result, additional storm water runoff would be generated that would require collection, treatment, and disposal in compliance with NPDES requirements. The project is required to comply with water quality (treatment) and volume requirements as defined by the UC Santa Cruz Post-Construction Storm Water Management Requirements. These requirements provide that new runoff be minimized, all storm water

be treated before discharge into receiving waters, and that the post-development peak flows discharged from the site shall not exceed pre-project peak flows for the 2- through 10-year 24 hour storm events.

The proposed storm drain system would collect storm water runoff in storm drains that would be directed to six bio-filtration basins distributed throughout the site. The bio-filtration basins would be sized and designed to treat the runoff to standards that are defined the UC Santa Cruz Post-Construction Storm Water Management Requirements (volume of runoff generated by the 85th percentile 24-hour storm event). All bio-filtration basins would be designed to remove urban pollutants and three of the six basins would not be lined and would therefore also provide some on-site infiltration of runoff. A portion of the runoff would be directed to a level spreader northwest of the site, which would dissipate flows to allow infiltration into the soil. Overflow from the level spreader would discharge toward a sinkhole in the Cave Gulch watershed. Storm water from the remainder of the site would drain from the bio-filtration basins into storm drains which would converge at a point near Building 6 in the southern portion of the site from where it would be conveyed via a culvert under Heller Drive to discharge into the Rachel Carson College detention basin. The existing outflow structure of the basin may be modified to increase the time that runoff stays in the basin to allow for additional infiltration to the subsurface. As a result of the proposed storm water control plan, even though the total runoff from the site would increase compared to the current conditions, the volume that would leave the site to discharge into Moore Creek via the Rachel Carson College detention basin would be slightly less than the volume that is discharged to that basin from the Heller site at the present time (BKF 2018).

The project site's side slopes that are not developed with impervious surfaces would be graded to be no more than 3:1 and planted with climate adaptive landscaping so that erosion is minimized.

### **Solid Waste**

The proposed student housing at the Heller site would result in the generation of solid waste, recyclables, and compostable waste materials. The estimated increase in solid waste that would be generated at the Heller site is presented in **Table 3.0-2**, above. The project would include adequate facilities to encourage recycling and composting, and minimization of solid waste that would need landfill disposal.

### **Electricity and Natural Gas**

Pacific Gas and Electric Company ("PG&E") provides 21 kV electrical distribution service to the southeast side of the campus. The Campus maintains a primary 12 kV power distribution system on the campus. PG&E provides low voltage services directly to the FSH complex on the west side of the campus. The currently installed and configured PG&E distribution service to the campus on both the southeast side and the west side is limited in capacity and inadequate for the full scope of the proposed project. The

Campus has initiated an application with PG&E to provide new 21 kV service to serve the two project sites.

The demand for electricity associated with the Heller site development is presented in **Table 3.0-2** above. Electrical distribution system improvements at the Heller site would include an extension of the 21 kV line from the existing point of connection on Empire Grade to the southwest corner of the Heller site within the existing utility easement. From this extension, distribution lines within the site would convey electricity to individual buildings. All electrical lines would be located underground.

Each building on the Heller site would be served by an emergency generator. The generators would vary in size based on the size of the building. The graduate student housing building would be served by one generator. Undergraduate student housing buildings would include generators ranging in size from 100 KW to 300 KW. The generators would operate on natural gas, with propane as a backup fuel source. The generators would be located adjacent to the buildings in small enclosures that would include pads for the generator and the propane tanks. The propane tanks would be sized to hold enough fuel to operate the generators for up to four hours. A back-up generator and fuel tank would also be installed as part of the MBR plant to provide electricity in case of power outage.

Natural gas is delivered to the campus via a high-pressure transmission line that runs along the railroad tracks south of Mission Street and a distribution line running along Western Drive to a primary service point of connection on High Street near Western Drive. From the point of connection, gas is delivered to individual facilities via a campus-owned distribution system. However, the existing FSH complex and employee housing complexes on the lower campus are served directly by PG&E. The Campus currently uses natural gas to fuel boilers and emergency and backup generators throughout the campus, and to run the cogeneration plant, which produces electricity and heating hot water for buildings in the central campus. The demand for natural gas associated with the Heller site development is presented in **Table 3.0-2**, above. Natural gas would not be used at the Heller site except to operate emergency generators in the event of an electrical outage.

### **Communications**

To provide adequate wireless connectivity to the residents of the Heller site housing complex, the proposed project includes roof-top installations at Buildings 2 and 5 of radios and antennas mounted behind and below the height of the parapet walls. So as to not interfere with the performance of the antennas, the parapet material in the area of the antennas would be fiberglass panels designed to match or complement adjacent materials and the building design. Four panel antennas would be mounted on each of these three buildings for total of 12 antennas. The antennas would be approximately 12 feet wide

by 4 feet 8 inches high. Due to the 6-foot parapet that would surround the antennas as well as other roof-top equipment, including solar panels, the equipment would not be visible from most ground level locations.

### **Fire Protection**

Key fire protection and life safety systems for all proposed buildings include:

- Sprinkler and standpipe system per NFPA 13 and California Fire Code (CFC);
- Fire pump system (if campus water pressure is insufficient to meet sprinkler demand);
- Fire protection and life safety alarm system compatible with the Campus' existing system;
- Emergency Responder Radio Coverage (ERRC) per CFC; and
- Fire hydrants in accordance with Fire Marshal requirements.

#### **3.4.2.7 Proposed Habitat Improvements**

Although the Heller site is currently developed with the existing FSH complex and childcare facility, it is bordered by lands designated critical habitat for the California red-legged frog (CRLF), a federal and state listed species. The proposed development on the Heller site has been designed to remain essentially within the area previously disturbed and developed with the FSH complex so as to avoid the removal of any CRLF dispersal habitat. In addition, the project has been designed to enhance opportunities for CRLF dispersal around and through the site. The project would enhance existing degraded dispersal habitat in an approximately 40-foot wide corridor that would extend generally in a north-south direction between Heller Drive and the east and south side of the proposed development. This enhancement area would encompass about 1.76 acres. The Campus would also create a vegetated corridor to facilitate safe east-west frog movement through the site. Both areas are shown on **Figure 3.0-5a**. The enhanced dispersal habitat area to the east and south of the developed area would be planted with small to medium sized native shrubs and grasses of the native coastal scrub plant community. Access to the habitat area would be restricted to keep pedestrians out yet also designed to allow CRLF to disperse through the areas. The dispersal area would be graded to remove all vertical obstructions greater than 12 inches high to facilitate CRLF passage. Culverts would be installed to provide safe passage under roadways. The 48-inch wide culverts (with a minimum height of 24 inches) would be partially buried to provide uninterrupted travel on a continuous soil surface. The east-west dispersal area would be developed in a similar manner but would only be 15-20 feet wide.

### 3.4.3 Hagar Site

As noted above, there are currently 199 family student housing units and a childcare center located on the Heller site which would be demolished to construct the proposed undergraduate and graduate student housing. Of the 199 units, 196 units are occupied at this time. On average, 87 of these units are occupied by families with children. The new housing on the Hagar site would replace 140 of these units, including all of the units occupied by families with children. The remaining family student housing units would be replaced by apartments suitable for couples in the two new graduate housing buildings on the Heller site. A new and larger childcare facility would be constructed on the Hagar site. The proposed site plan for the Hagar site is presented in **Figure 3.0-6a**.

#### 3.4.3.1 Family Student Units

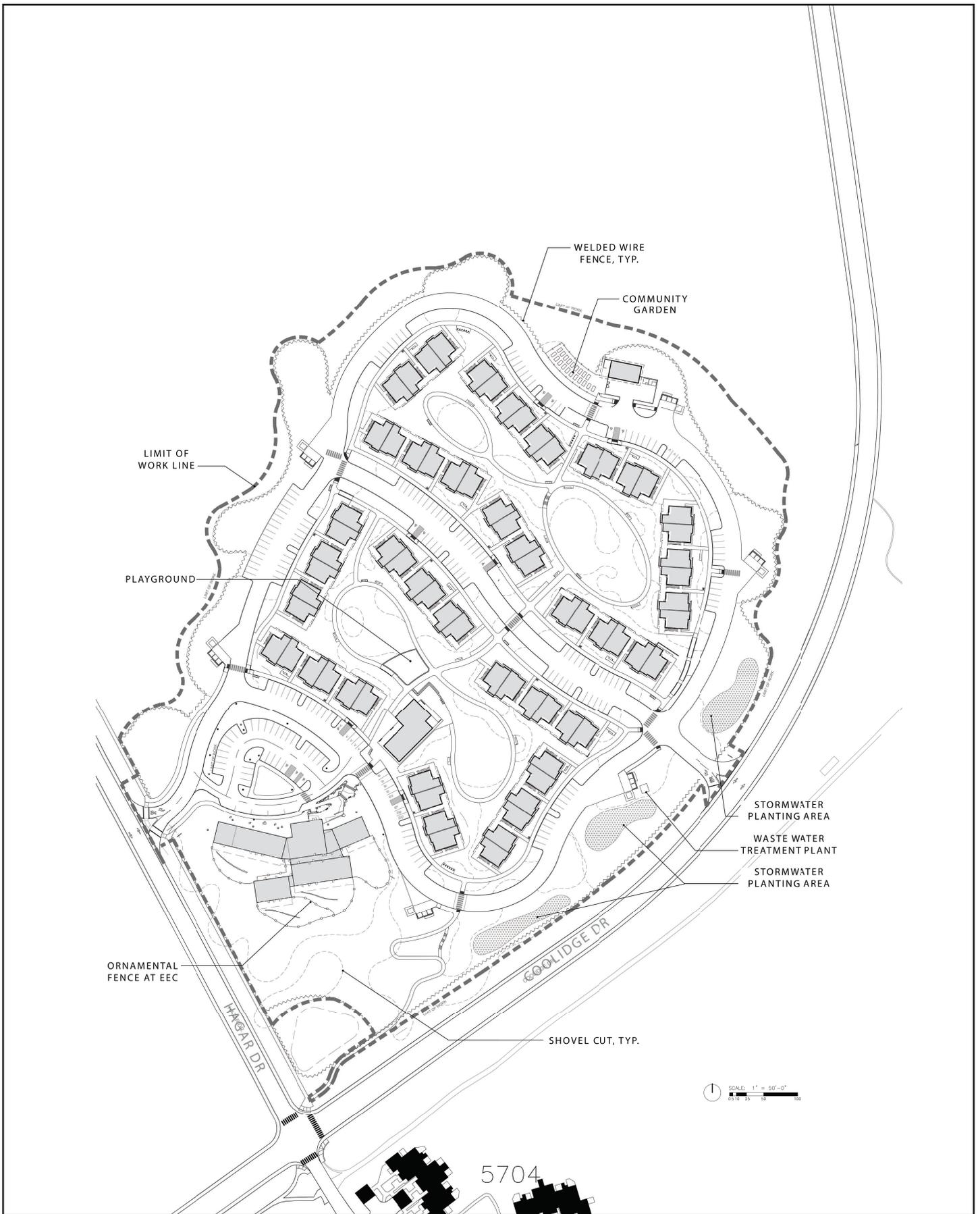
The proposed project includes the construction of a new family student housing complex on the Hagar site to provide approximately 140 student beds. The complex would comprise 35 two-story townhouses, with each building being comprised of four two-bedroom apartment units, with two units located on the first floor and another two more on the second floor. Each apartment would include approximately 950 square feet of interior space. Other elements of the housing complex would include community open spaces (outdoor commons comprising about 25,000-31,000 square feet of open space); playgrounds located centrally on the site; an approximately 3,500-square-foot community building located in the western portion of the complex near the childcare center; a community garden located in the eastern portion of the site; and a 1,375-square-foot service and maintenance building located at the eastern end of the complex; and a 150-square foot MBR plant located within a concrete masonry unit building.

#### 3.4.3.2 Childcare Facility

A new childcare facility would be constructed on the southwestern portion of the Hagar site, adjacent to Hagar Drive. The existing childcare facility has a capacity for 72 children but currently serves about 56 children of students. The existing facility has a staff of 15 persons. The new, approximately 13,500-square-foot facility would serve up to 140 children of both employees and students, with ages ranging from infants to school age children, and would employ 30 staff. The childcare facility would include an approximately 10,500-square-foot exterior play area. Play structures and administrative support spaces for childcare operations would be provided.

#### 3.4.3.3 Project and Building Design

The Hagar site housing has been designed to provide the needed housing while keeping the buildings low profile in order to minimize visual impacts. The project layout and design has been developed



SOURCE: UCSC, 2018

FIGURE 3.0-6a

keeping in mind the development's prominent location, surrounding landscape, and UC Santa Cruz Design Framework.

The two-story buildings would be of contemporary design, emphasizing functionality, simplicity, and efficiency. For sustainability purposes and to contribute to triple net zero (water, energy and waste) performance goals of the project, the buildings would have flat roofs for installation of photovoltaic panels, and solar thermal hot water heating systems. The proposed exterior material palette would employ variations in material, texture, and color to create a variegated exterior envelope and provide the necessary articulation to reduce the visual scale of the project. Exterior surfaces would include cementitious walls combined with a secondary system of vertical wood panels or planks, referencing the nearby barns. Decks, stairs and canopies would be made of metal or metal framing with high performance coatings, both for durability in the coastal marine condition and for an expressive quality appropriate to the semi-rural site.

#### **3.4.3.4 Open Space and Landscaping**

The outdoor spaces on the Hagar site would be landscaped to serve active and passive recreational functions. The landscaping would consist of a combination of lawn, walking paths, play areas, outdoor seating and benches, and outdoor amenities such as a gazebo, barbeque areas, and other gathering spaces. In addition, trees would be planted around the perimeter of the new development to connect the site visually to the nearby Jordan Gulch.

#### **3.4.3.5 Access and Parking**

Access to the Hagar site development would be via a driveway on Hagar Drive and a driveway on Glenn Coolidge Drive. Both driveways would be 'right-in, right-out' only, so residents and childcare facility traffic would use the Hagar driveway to enter the site when coming from the south, while they would use the Glenn Coolidge driveway when approaching the site from the north. All traffic exiting the project heading toward the Glenn Coolidge/Hagar intersection would exit the project site on Glenn Coolidge Drive. An internal loop road and a cross road would serve the residential buildings as well as the childcare facility. One parking space would be provided for each apartment for a total of 140 parking spaces and about 18 spaces would be provided for visitors. Residential parking would be provided along the internal roadways. Between 40 and 50 spaces would be provided in a parking lot near the childcare facility to serve the center as well as visitors to the residential complex. The project includes 288 covered bicycle parking spaces for residents and employees, and about 28 spaces for visitors.

A new pedestrian path would connect the southwestern corner of the site to the Hagar/Coolidge intersection, where existing crosswalks and sidewalk would provide access to the transit stop on the

south side of Coolidge Drive. Pedestrian access to the transit stop on the north side of Coolidge would be improved by the addition of an additional crosswalk across Hagar Drive connecting to a new pedestrian path along the north side of Coolidge Drive to the transit stop. The existing pedestrian path along the east side of Hagar Drive would provide access from the site to the transit stops on Hagar Drive at the Village Road.

### 3.4.3.6 Utilities

#### Water

Potable and fire water to the Hagar site development would be provided by connecting into an existing water main that is located in Hagar Drive adjacent to the site. Two points of connection would be made and an 8-inch water main would be installed on the site in a loop. Fire hydrants would be located throughout the development.

#### Wastewater

Similar to the MBR plant at the Heller site that would treat wastewater on-site and generate recycled water for toilet flushing and irrigation, a MBR plant would also be constructed at the Hagar site to treat wastewater. The plant would be the same as described above for the Heller site in terms of its components and processes, but would be substantially smaller in size due to the smaller population it would serve. The plant would be located in the southern portion of the site (see **Figure 3.0-6a, Site Plan**). The plant will be located in a CMU structure which will be designed to appropriately blend in with aesthetic of the community and incorporate similar finishes associated with other facilities, including the maintenance building. The MBR plant would contain distribution pumps to deliver recycled water to deliver water to the buildings and site irrigation, and a back-up generator to ensure water delivery in the event of power loss. Recycled water would be pumped into a recycled water main and distribution system (“purple” pipes) and conveyed throughout the Hagar site development to provide water for toilet flushing and landscape irrigation. As with the Heller site MBR plant, for emergency sewer overflow, a sewer line would be constructed from the plant across Hagar Drive along the utility corridor to the existing sewer main in Jordan Gulch. The off-site section of the sewer main would be approximately 900 feet in length (**Figure 3.0-6b, Off –Site Utilities – Hagar Site**).

The volume of recycled water generated each month would vary depending on water use and associated wastewater generation in the Hagar site development. The use of recycled water would also vary from month to month, depending on the number of persons present in the housing as well as whether the water is needed for irrigation. Based on the volume that would be generated and used within the Hagar site development, it is projected that April through September, all of the recycled water would be used,



SOURCE: UCSC, 2018

FIGURE 3.0-6b

Off-site Utilities- Hagar Site

and there would be no excess recycled water that would require disposal. During the rest of the year, as the irrigation use of the recycled water would decrease or cease, there would be excess recycled water (ranging from a low of 21,400 gallons [October] to a high of 278,700 gallons [January]) that would require disposal. The excess recycled water would be conveyed off site via a pipeline and discharged into Jordan Gulch south of Hagar Drive. An estimated 1 million gallons of recycled water would be disposed each year until use for the excess recycled water can be found on the campus near the site. During the times that recycled water is discharged into Jordan Gulch, the disposal rate would be about 30 gallons per minute. As with the Heller site MBR plant, the Hagar site MBR plant would be designed and operated to comply with Title 22 requirements for water use and disposal.

### **Storm Water**

The approximately 17.3-acre Hagar site is located at the southernmost end of a larger area known as the East Meadow. The East Meadow, including the Hagar site, is undeveloped land covered with grasses and underlain by karst. The meadow slopes to the south and east, and storm water that does not infiltrate into the ground or is lost via evapotranspiration, runs off to the south and east to discharge into a detention basin/sinkhole located in the southwestern corner of the Hagar site. In addition, there is a concrete drainage ditch that runs alongside the site's southern boundary, parallel to Glenn Coolidge Drive which terminates just east of the Glenn Coolidge-Hagar Drive intersection. Storm water from the drainage ditch also discharges into the detention basin/sinkhole. Excess storm water that does not leave the detention basin via the sinkhole drains into an underground storm drain that conveys the water east to discharge into Kalkar Quarry Pond located to the east of Glenn Coolidge Drive. Due to the proximity of the detention basin/sinkhole to the Kalkar Quarry Pond, it is possible that some of the water that discharges into the sinkhole flows into the Kalkar Quarry Pond.

The proposed project would create approximately 6.32 acres of new impervious surfaces, including the residential buildings, childcare facility, pathways, roadways, and parking areas on the Hagar site, which would result in the generation of storm water runoff that would require collection and disposal. The project is required to comply with water quality (treatment) and volume requirements as defined by the UC Santa Cruz Post-Construction Storm Water Management Requirements. These require that new runoff be minimized, storm water be treated before discharge into receiving waters, and that the post-development peak flows discharged from the site not exceed pre-project peak flows for the 2- through 10-year 24 hour storm events. The site geology does not allow for localized infiltration. Therefore, with the exception of runoff from paths that would drain to nearby landscaped areas, all site runoff would be directed to storm drains located in the proposed roadways. The collection system would convey runoff to three bio-filtration basins along Glenn Coolidge Drive. In order to limit the impact to the existing sinkhole at the intersection of Hagar and Glenn Coolidge Drives, the metered and treated runoff from the

two bio-filtration basins would be detained and discharged into the sinkhole whereas runoff from the third bio-filtration basin would be detained and metered into a storm drain that would cross under Hagar Drive and run in a southerly direction to discharge into Jordan Gulch south of the Hagar site.

Due to its location at the southernmost end of East Meadow, the project site receives run-on from approximately 31 acres of land up-gradient of the site. The project site storm water system must manage the storm water flowing onto the site from this area, such that the run-on does not enter the Hagar site storm drain system and that runoff still continues to flow into the sinkhole so that the volume of storm water flowing into the underlying karst formation does not decrease. The run-on from the grasslands above the site would be intercepted and directed in a cobble-lined channel around the developed Hagar site to discharge to the detention basin/sinkhole, as it does under the current conditions. The detention basin/sinkhole would also continue to receive runoff from the existing ditch that parallels Glenn Coolidge Drive.

### **Solid Waste**

The proposed family student housing at the Hagar site would result in the generation of solid waste, recyclables, and compostable waste materials. The estimated solid waste that would be generated at the Hagar site is presented in **Table 3.0-2**, above. The project would include adequate facilities to encourage recycling and composting, and minimization of solid waste that would need landfill disposal.

### **Electricity**

The demand for electricity associated with the Hagar site development is presented in **Table 3.0-2** above. Electricity to the Hagar site would be provided by extending the service from the lines located on Glenn Coolidge Drive, adjacent to the site.

### **Communications**

The proposed project includes the installation of up to two sets of three panel antennas and radios to provide wireless connectivity to the Hagar site residents and childcare facility employees. The antennas would be no more than 6 feet high and would be placed at the northern end of the Hagar site development on the roof of the maintenance building. The antennas would be similar to the ones currently on several roofs on the campus, including the Fleet Services building near Barn G on the campus.

### **Fire Protection**

Key fire protection and life safety systems for all proposed buildings include:

- Sprinkler and standpipe system per NFPA 13 and California Fire Code (CFC);
- Fire protection and life safety alarm system compatible with the Campus' existing system;
- Emergency Responder Radio Coverage (ERRC) per CFC; and
- Fire hydrants in accordance with Fire Marshal requirements.

### 3.5 PROPOSED LRDP AMENDMENT

The approximately 17.3-acre Hagar site is located within a larger 20-acre area north of Hagar Drive that is currently designated as Campus Resource Land (CRL) in the 2005 LRDP. As stated in the 2005 LRDP EIR, this land use designation is assigned to lands on which no development is planned under the proposed 2005 LRDP, and that the 2005 LRDP envisions that these lands would be maintained in their natural state, to be reserved for future unidentified use. The EIR also noted that in the event that the Campus determines during the term of the 2005 LRDP that it needs to develop some portion of this land, the Campus will conduct additional environmental review and seek an LRDP amendment.

As part of the proposed SHW project, the Campus will request an LRDP amendment to change the land use designation of the 17.3-acre area from CRL to Colleges and Student Housing. The environmental effects of this proposed LRDP amendment are evaluated and disclosed in **Chapter 4.0** of the Revised Draft EIR.

### 3.6 SUSTAINABLE DESIGN FEATURES

The proposed project has been designed to comply with Section IIIA, "Green Buildings," of the University of California Sustainable Practices Policy. The policy also sets goals for the UC system to achieve Zero Waste (90 percent waste diversion) by 2020, growth-adjusted 36 percent reduction in potable water consumption by 2025, and aim for 100 percent reliance on clean electricity supplies by 2025. In alignment with those goals, this project is aiming towards achievement of Triple Net Zero (Net Zero Energy, Net Zero Water and Net Zero Waste). The University also requires all UC projects to achieve a minimum of a Silver rating under United States Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) Building Design and Construction (BD+C) v4.0 Green Building Rating System (the "LEED Rating System"). The project is targeting to achieve a LEED Platinum certification but will achieve a minimum of Gold certification.

#### 3.6.1 Heller Site

The proposed Heller site development includes the following sustainable design features:

- All buildings would be designed and constructed to be energy efficient. The exterior envelope would be optimized to improve thermal isolation. The exterior walls and roofs would have enhanced insulating qualities. High-performance glass would be used to promote daylighting and passive solar heat gain in the winter without excessive use of glazing.
- The general lighting in the buildings would be accomplished through a combination of daylighting and general artificial lighting. In areas of special function, specialty lighting would be utilized. Light fixtures and the lighting system would be selected based on performance and aesthetics.
- The student housing units would be provided with heating-only mechanical systems. Ventilation would be provided by unit exhaust with makeup air through trickle vents in the exterior wall. The units would also be provided with operable windows to provide natural ventilation and passive cooling whenever conditions are appropriate. Cooling would be provided only for certain spaces such as main electrical rooms.
- All space and water heating systems would operate on electricity. To minimize greenhouse gas emissions, no natural gas would be utilized on the project site except as fuel in emergency generators.
- Roof-top photovoltaics would be included on all buildings to provide electricity to the project.
- Wastewater would be treated in an on-site MBR plant to generate recycled water to be used for toilet flushing and irrigation, thereby minimizing the project's demand for potable water and eliminating wastewater conveyance and treatment at the City's wastewater treatment plant.
- High efficiency electrical and water fixtures and appliances would be included in the proposed housing.
- The project would include adequate facilities to encourage recycling and composting, and minimization of solid waste that would need landfill disposal.
- Bicycle parking would be provided throughout the project site to encourage bicycle use.
- The project would include a number of pedestrian improvements linking the site to the sidewalks to the north and the south, and crosswalks at the new intersections, to encourage walking and provide access to public transit.
- The project would incorporate climate appropriate and native plant materials where appropriate along with high efficiency irrigation systems.

### 3.6.2 Hagar Site

The sustainable design features of the Hagar site development include the following:

- Impervious paving will be minimized, where appropriate.
- The street network will be designed to encourage multi-modal circulation.

- Climate-appropriate plant materials will be used.
- Low-flow water fixtures, energy star appliances, high-efficiency irrigation systems, high-performance exterior building envelopes, insulated glazing, LED lighting, and natural ventilation will also be utilized.
- Roof-top photovoltaic systems and solar water heaters will be included.
- The project includes an MBR plant to treat wastewater and generate recycled water for toilet flushing and irrigation. This project component would reduce the project's potable water use.

### 3.7 PROJECT POPULATION

As discussed above, the SHW project is proposed to provide approximately 3,072 student beds on the campus to accommodate unmet demand, replace existing housing that is functionally obsolete and not a viable candidate for renovation, relieve overcrowding, and comply with the Settlement Agreement. Student housing projects do not, in themselves, add population to a campus; rather they accommodate the students that are enrolled. While the Campus offers a housing guarantee to new freshmen and transfer students for two years and one year respectively, it does not require students to live on-campus, and students are not denied enrollment because of lack of housing on the campus. Therefore, although the project would facilitate compliance with the requirement of the Settlement Agreement that a minimum of 10,125 on-campus beds be made available to accommodate the 19,500 FTE students projected under the 2005 LRDP, the existing and continued ability of students to live off campus means that the additional on-campus beds provided by the project will not increase enrollment beyond levels otherwise projected to occur and allowed under the Settlement Agreement, so long as a total of 10,125 beds are provided by the Campus in compliance with the Settlement Agreement. As there were approximately 9,399 University-controlled beds as of 2017, only 726 beds are required to satisfy the Settlement Agreement. The project population discussed in this section is not additional to the maximum enrollment level of 19,500 FTE students analyzed in the 2005 LRDP EIR.

A breakdown of the undergraduate and graduate students as well as students with families, associated with the proposed project is detailed in **Table 3.0-3**.

**Table 3.0-3  
Student Housing West Residential and Staff Population Summary**

<b>Population</b>	<b>Existing Students and Employees in Housing Areas Affected by the Proposed Project</b>	<b>Existing Dependents in Housing Affected by the Proposed Project</b>	<b>Students and Employees Accommodated by the Proposed Project</b>	<b>Dependents Accommodated by the Proposed Project</b>	<b>Net Change in Students and Employees Accommodated on Campus</b>
Undergraduate	0	0	2,712	0	2,712
Graduate	0	0	220	92	312
Family Student Housing	(196)	(351)	140*	280	(127)
Staff	(25)**	0	65***	0	40
<b>Total</b>	<b>(221)</b>	<b>(351)</b>	<b>3,137</b>	<b>488</b>	<b>2,937</b>

\* The project would move some student families that have no children into graduate student housing buildings.  
 \*\* Includes 15 employees at the childcare center and 10 employees to manage FSH.  
 \*\*\* Includes 30 employees at the childcare facility; and 35 employees to run SHW at both sites.

## 3.8 CONSTRUCTION SCHEDULE AND DETAILS

### 3.8.1 Construction Phasing

The project would be planned in overlapping phases. The first phase of the project would extend from approximately spring 2019 through spring 2020, and subsequent construction phases would extend from spring 2020 through fall 2023. The project's construction phasing plan is shown in **Figure 3.0-7, Construction Phasing Plan**. As the graphic indicates, Phase 1 would involve the construction of the new family student housing complex and childcare facility on the Hagar site over a period of approximately 13 months. Once this housing complex is completed, families living in the existing FSH complex would be relocated into the new housing, and the childcare operations would be moved into the new childcare facility. The following construction phases would involve work on the Heller site, which is planned to be completed in two phases with the first phase completed by fall 2022 and the second phase completed by fall 2023. Work at the Heller site would commence with utility infrastructure work. Then, once the FSH and childcare facility are vacated, abatement and demolition work would be undertaken, with the commencement of new building construction in spring 2020.

Additional details about the construction activities at each site are presented below by site.

## 3.8.2 Heller Site

### 3.8.2.1 Construction Activities

Construction activities on the Heller site would commence with the installation of off-site utilities, including the water main and any other utilities that can be installed outside the existing FSH complex. Once the FSH complex and childcare center are vacated, the project site perimeter would be fenced using a chain link fence, and outside the chain link fence, a California red-legged frog exclusion barrier would be installed. Following that, abatement and demolition of the existing FSH buildings would commence. Demolition of the existing buildings would generally proceed as follows: (1) the contents of the buildings would be characterized; (2) reusable and recyclable materials would be identified and removed; (3) any hazards present would be abated, including, but not limited to, asbestos-containing materials and lead-based paint; (4) the buildings and parking areas would be demolished and removed; and (5) the foundation slabs and underground utilities would be removed. Debris generated from the demolition of the buildings would be sorted into materials that can be reused or recycled, materials that are contaminated and cannot be reused, and non-hazardous waste materials. Each type of material would be appropriately reused, stored, and/or disposed.

Site clearing and demolition is expected to proceed from the northern end of the site to the south in two or more phases. Site clearing would be followed by excavation and grading. Excavated materials would be stockpiled and used as fill on the site. Although the developer aims to balance the cut and fill on the Heller site such that no import or export of fill would be required, based on current estimates, there would be approximately 10,000 cubic yards of excess material that would need to be exported. Following site grading, utility infrastructure would be installed, roadways constructed, and foundation work would be completed. Mat slab foundations and drilled concrete piers are planned for the project. Subsequent construction phases would include building construction, completion of interior and exterior improvements, and installation of landscaping and hardscape. The proposed project incorporates the use of off-site manufactured building components for all buildings. The components would be assembled on-site using traditional construction methods. All site work, infrastructure, and foundations would also be delivered through traditional on-site construction methods. As **Figure 3.0-7** shows, construction of Buildings 1, 2, and 4 would commence first, and as the remainder of the FSH complex is demolished, the construction of Buildings 3, 5, and 6 would commence. Due to the construction involved, up to a maximum of four construction cranes would be used during the construction of the buildings at the Heller site.



### **3.8.2.2 Construction Parking, Staging, and Access**

The majority of the construction material storage and staging for the project would occur on site. However, due to the constrained construction site, construction trailers and some parking for contractor staff would be provided on the Oakes College parking lot across from the Heller site and overflow material storage and staging may occur offsite at the nearby University-owned 2300 Delaware Avenue property. All deliveries would be via Heller Drive and Empire Grade Road. Deliveries of materials would be coordinated in order to minimize truck traffic on local streets as well as timed in a manner minimizing contribution to traffic congestion.

The number of construction workers present on the Heller site would vary, with an average of 90 workers present on the site per day at the onset of construction in 2019, increasing to an average of about 325 workers per day in 2020, an average of about 520 workers in 2021, an average of about 300 workers in 2022, and about 210 workers in 2023. During the peak of construction which would occur in early 2022, there could be as many as 750 construction workers present on the site. A variety of options are being evaluated that, in combination, would provide the required space for construction worker parking. These include: use of the existing contractor staging/parking area south of the East Remote Lot; use of a portion of West Remote and Oakes/Rachel Carson College parking lots; use of the northern parking lot at the 2300 Delaware Avenue property; lease of vacant land on the west side of Santa Cruz that has been previously used for construction staging by other entities; lease of parking lots or vacant land in Scotts Valley, which could be a shuttle location for contractor employees coming from the Bay Area and Central Valley.

### **3.8.3 Hagar Site**

#### **3.8.3.1 Construction Activities**

As the Hagar site is not developed with any facilities at this time, no demolition is required. Construction activities at this site would commence with clearing the site of existing vegetation and grading, followed by installation of utility infrastructure, roadways and parking lots, and foundations for the residential buildings as well as the childcare facility and other buildings. Cut and fill on the site would be balanced and no import or export of earth materials would be required. As the site is underlain by marble, based on the recommendations of the site-specific geotechnical report, the areas with soft soils under buildings would be excavated and filled with lime-treated engineered fill or geo-grid reinforced native soil. Pressure grouting may also be used to compact soils with the potential to collapse beneath foundations, and site-appropriate mat foundations would be constructed.

The building components of the proposed housing, community building, and childcare facility would be constructed and delivered to the site for just-in-time use in the project construction sequence. The components would be assembled onsite, the buildings would be constructed in place using the components, and connected to the site's utility infrastructure. Lastly, landscaping and hardscape would be installed.

### **3.8.3.2 Construction Parking, Staging, and Access**

The majority of construction staging and parking for the project would occur on the 17.3-acre site. Construction traffic would access the site via the new driveway on Hagar Drive. All deliveries would be via Hagar Drive. Deliveries of materials would be coordinated in order to minimize truck traffic on local streets. Overflow staging may occur offsite at the nearby University-owned 2300 Delaware Avenue property.

## **3.9 PROJECT RELATIONSHIP TO UC SANTA CRUZ 2005 LRDP AND 2005 LRDP EIR**

### **3.9.1 Increase in Student Housing Due to SHW and Other Housing Projects**

As discussed in **Chapter 1.0, Introduction**, the 2005 LRDP includes goals to house 50 percent of undergraduate students and 25 percent of graduate students in on-campus housing. Thus, the 2005 LRDP EIR evaluated the addition of 2,300 student beds to the inventory of 6,891 beds existing in fall 2004, for a total of about 9,190 beds. The 2005 LRDP envisions that one new college, College Eleven, would provide approximately 1,500 beds, student activity facilities, coffee shops, college counseling offices, and other resource and enrichment spaces. Additional undergraduate housing would be developed as infill in or near existing colleges where appropriate; through redevelopment of existing housing at higher densities or located on undeveloped land north of the core campus. Of the new undergraduate beds, 900 likely would be in residence halls and the remainder in apartments.

As part of the Settlement Agreement, the University agreed to provide housing to accommodate 67 percent of new-student enrollment above 15,000 FTE within four years of reaching that enrollment. At a total enrollment of 19,500, the Campus would need to provide on-campus or University-controlled housing for 10,125 students, which would be 935 more than analyzed in the 2005 LRDP EIR. In addition, as part of the Settlement Agreement, the University agreed that housing development in the area west of Porter College will be initiated before development of new bed spaces in the north campus area.

**Table 3.0-4** presents a summary of existing student housing stock in the LRDP EIR 2003-04 baseline, 2005 LRDP housing projections, and the revised student housing projections for the campus based on the Settlement Agreement.

**Table 3.0-4  
Student Housing Projections**

	<b>Beds</b>
2003-2004	6,891
2005 LRDP Student Housing Projects	9,190
Revised Student Housing Projects, per the Settlement Agreement	10,125
Change from 2005 LRDP	935
<i>Source: UC Santa Cruz 2017</i>	

As discussed in **Chapter 1**, following a detailed evaluation of the existing student housing stock and the projected housing needs of the campus, the Campus determined that it needed to provide approximately 3,000 additional student beds on the campus. This number of new beds would allow the Campus to meet the terms of the Settlement Agreement that 67 percent of enrollment above 15,000 FTE be served by on-campus or University-controlled housing within four years (reduced to two years after 2018) of the Campus reaching that enrollment level. In addition, it would allow the Campus to replace existing housing that is functionally obsolete and not a viable candidate for renovation, remove overflow beds, and make more affordable housing available to the students in compliance with the UC President's Housing Initiative. The 3,072-bed SHW project, which is the focus of this EIR, would provide approximately 1,976 net new beds and replace the existing FSH complex. In addition, as two separate projects, the Campus is planning to develop additional student beds in Kresge College and add a small number of new beds during renovation of student housing at Crown College by 2023. **Table 3.0-5, UC Santa Cruz Student Housing Summary**, below presents a summary of current and projected student housing at the campus.

**Table 3.0-5  
UC Santa Cruz Student Housing Summary**

<b>Attribute</b>	<b>On Campus Student Beds</b>	<b>Total No. of Student Beds</b>	<b>Comment</b>
LRDP Baseline (2003-04)	6,535	6,891	356 off campus beds in University Inn and University Town Center
2005 LRDP Projection at full enrollment	8,834	9,190	356 beds off campus in University Inn and University Town Center
Revised Projection per Settlement Agreement		10,125	

Attribute	On Campus Student Beds	Total No. of Student Beds	Comment
2017 Baseline (on-campus beds)	9,269	9,399	130 off-campus beds; 226 beds in University Inn removed from inventory
Housing to be removed	(1,096)	(1,096)	Approximately 900 overflow beds in colleges to be phased out; FSH has 196 beds, which would be removed.
Housing planned to be added	3,294	3,294	3,072 in SHW project; 200 new beds in Kresge College; and 22 new beds in Crown College
Total University-Controlled Housing (by 2023)	11,467	11,597	
<i>Source: UC Santa Cruz 2018</i>			

### 3.9.2 Student Enrollment and Campus Population

The 2005 LRDP projected that student enrollment would increase from approximately 14,050 students (academic year 2003-04) to approximately 19,500 students by academic year 2020-21. The 2003-04, 2015-16 (existing), and projected enrollment levels are presented in **Table 3.0-6, On-Campus Population Projections**. As the table shows, as of the time of preparation of the SHW Draft EIR, enrollment at the campus had increased by approximately 3,000 students from the level in 2003-04. It is anticipated to continue to increase over the next two to three years under the existing 2005 LRDP.<sup>1</sup>

The 2005 LRDP projected that on-campus faculty and staff would increase from 3,736 employees in 2003-04 to approximately 5,074 employees by academic year 2020-21. Based on the slower rate of growth in staff population since 2005, the Campus now projects that the total employee population will not increase to the extent previously projected. Employee populations for the years 2003-04, 2016-17 (existing), and 2020-21 are presented in **Table 3.0-6**.

<sup>1</sup> The Campus has commenced the preparation of a new LRDP that would address the growth of the campus in the years beyond 2020-21. That LRDP will identify the next increment of enrollment and employment growth at UC Santa Cruz and will include a campus land use plan to accommodate that growth. An EIR will be prepared that will analyze and disclose the impacts of the projected growth and the associated land use plan, and that EIR will need to be certified by the University before the plan is adopted and any development under that plan is undertaken.

**Table 3.0-6  
On-Campus Population Projections**

<b>Population</b>	<b>Baseline (2003-04)</b>	<b>2005 LRDP 2020-21 Projections</b>	<b>2016-17 (Existing)</b>	<b>Revised 2020-21 Projections</b>
Students (FTE)	14,052	19,500	17,870	19,500
Faculty and Staff	3,736	5,074	3,996	3,994
<i>Subtotal</i>	17,788	24,574	21,866	23,494
<b>Other Daily Population</b>				
Non-UC Employees working on campus	150	250	166	190
Construction Workers	100	200	150	200
Visitors	200	250	240	250
<i>Subtotal</i>	450	700	556	640
<b>Total</b>	<b>18,238</b>	<b>25,274</b>	<b>22,422</b>	<b>24,134</b>
<i>Source: UC Santa Cruz 2016; UC Santa Cruz 2017</i>				

### 3.9.3 LRDP Building Program

The 2005 LRDP estimated that a total of approximately 3.18 million gross square feet of academic buildings, support facilities, and student housing would be required to support a total future enrollment level of 19,500 students. **Table 3.0-7, Existing and Projected Building Space under the 2005 LRDP (Gross Square Feet)**, presents the 2005 LRDP baseline, the previously projected building space, and the building space on campus at this time. As the table shows, only a small percentage of the planned building space has been developed on the campus since 2005. The building space proposed under the SHW project is well within approximately one million square feet of housing building space that remains under the 2005 LRDP.

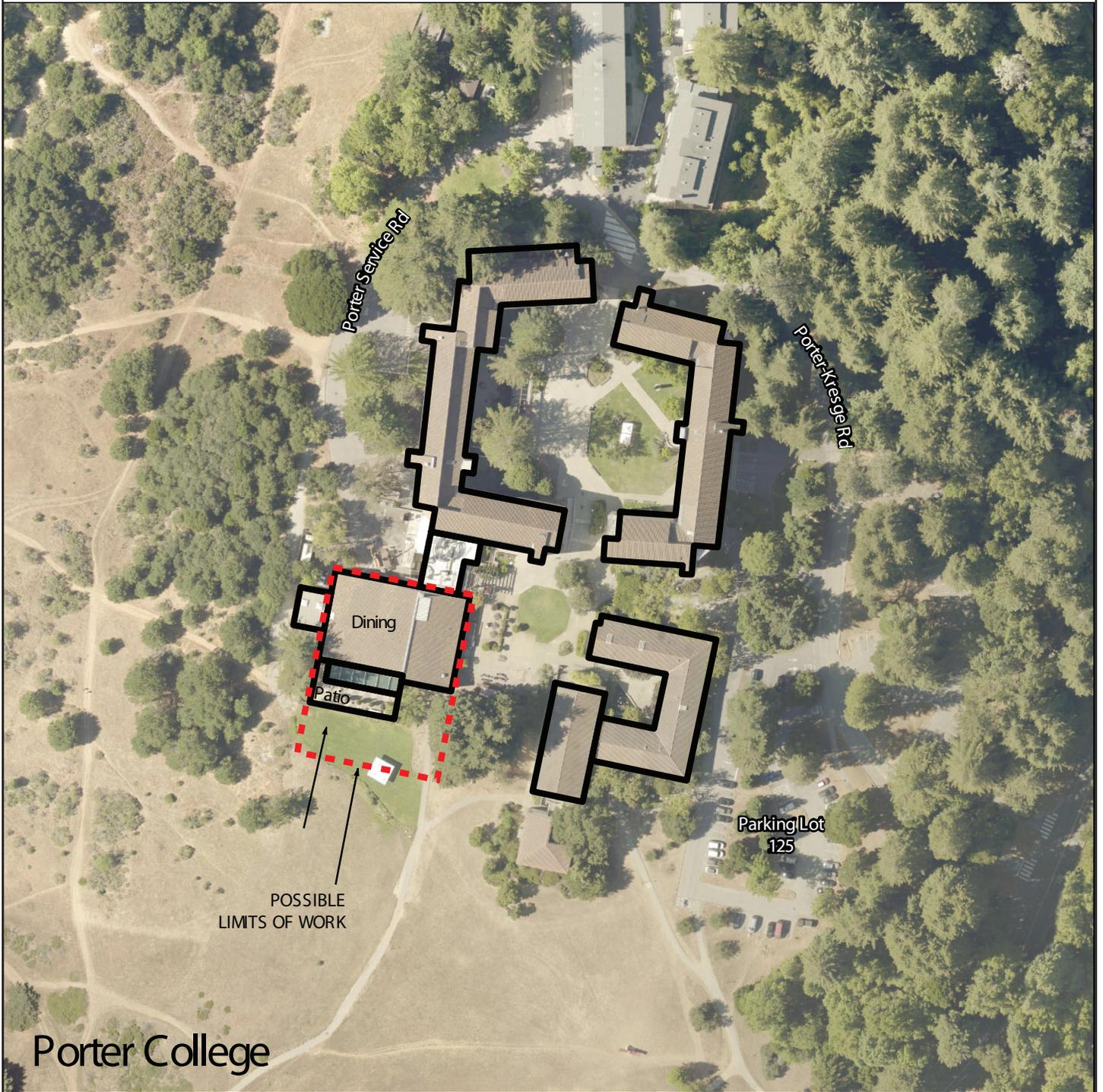
**Table 3.0-7  
Existing and Projected Building Space under the 2005 LRDP  
(Gross Square Feet)**

<b>Category</b>	<b>2003-04 Baseline</b>	<b>2005 LRDP 2020-21 Buildout</b>	<b>Building Space added under the 2005 LRDP</b>	<b>Total Building Space to date (2017)</b>
Instruction & Research	1,522,607	2,630,607	97,864	1,620,471
ORA/ORU	136,542	361,542	0	136,542
Academic Support	459,790	616,790	0	459,790
Public Services	2,422	45,422	5,954	8,376
Student Services	200,579	354,579	7,620	208,199
PE and Recreation	81,954	232,954	0	81,954
Institutional Support	441,625	585,625	15,762	457,387
Housing (all Campus- owned)	1,979,770	3,175,770	48,997	2,028,767
Other	242,107	242,107	0	242,107
<b>Totals</b>	<b>5,067,396</b>	<b>8,242,396</b>	<b>176,197</b>	<b>5,243,593</b>

*Source: UC Santa Cruz 2005 LRDP FEIR; UC Santa Cruz 2017*

### **3.10 PORTER AND RACHEL CARSON DINING FACILITIES EXPANSION PROJECT**

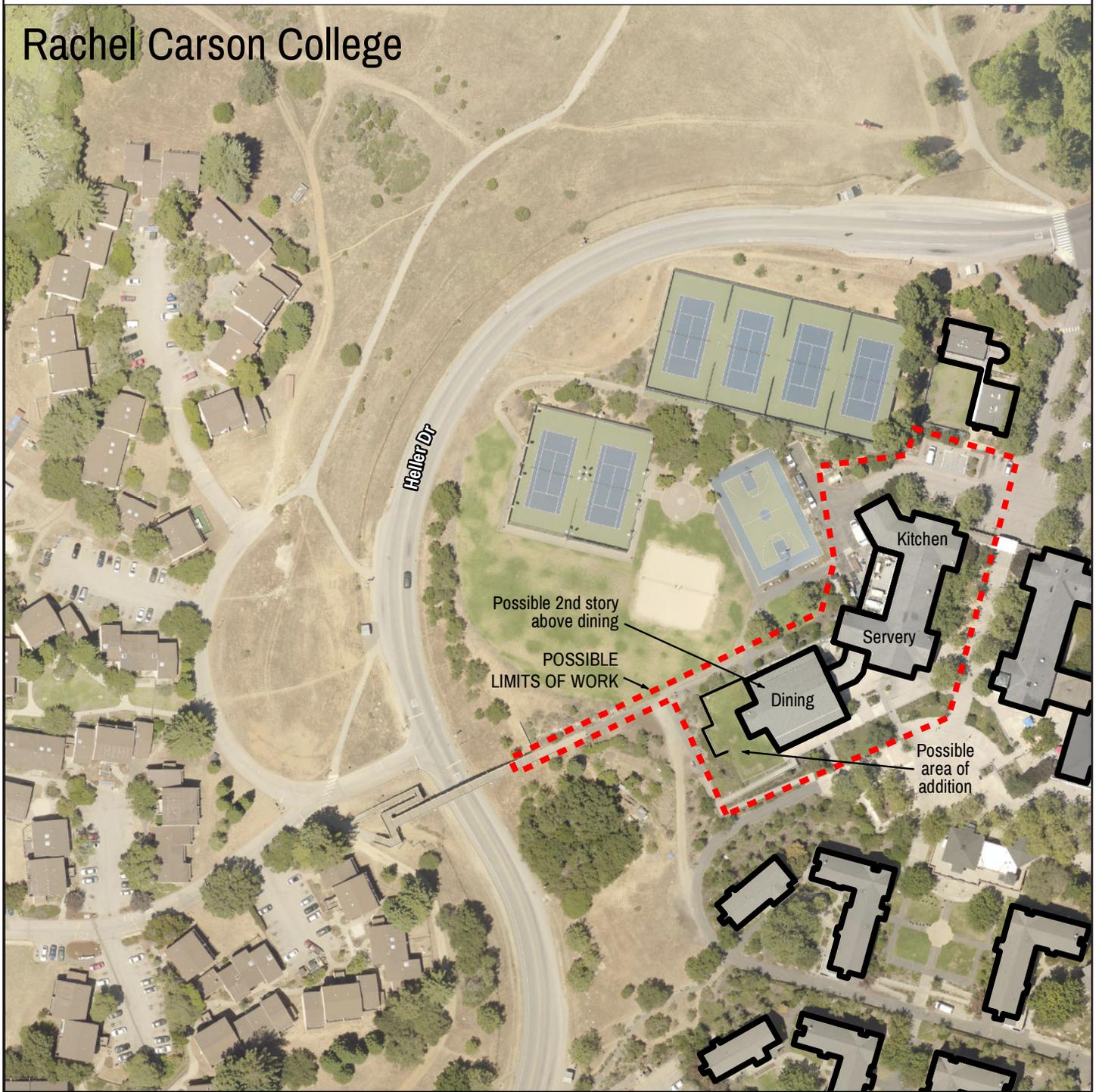
The Campus intends to replace and expand the existing dining facilities at Porter and Rachel Carson Colleges, close to the Heller site, by 2023. The dining expansion project is a separate project with its own separate source of funding and timeline for completion, and is not proposed as part of the SHW project. However, the dining facilities expansion project has been sized to serve the students who would live in the new housing on the Heller site and the opening of the expanded dining facilities is expected to be coordinated with the completion of the SHW project on the Heller site. The dining facility expansion project is, therefore, considered a related project, and is evaluated in this Revised Draft EIR for its environmental impacts based on the information available at this time. The environmental impacts of the project are presented in this Revised Draft EIR for purposes of disclosure as they are considered a foreseeable indirect consequence of the SHW project. Once the dining facilities expansion project is more completely defined, the Campus will conduct additional environmental review of that project to the extent required to form the basis of its approval or denial by the decision makers. The proposed improvements at both colleges are shown in **Figures 3.0-8 and 3.0-9**.



SOURCE: UCSC, 2018

FIGURE 3.0-8

# Rachel Carson College



SOURCE: UCSC, 2018

FIGURE 3.0-9

The proposed improvement at the Porter College Dining Hall is an expansion of the seating area to the south of the existing dining area, over an approximately 0.12-acre area. This additional seating area would be on an elevated patio, second floor room located on piers, or by providing a permanent roof over a portion of the existing patio. The proposed improvements at Rachel Carson Dining Hall include a new kitchen, servery, and additional seating. The additional seating may be provided in a second floor dining area above the existing dining area or by extending the existing dining area within the existing site. The total additional building space added by the proposed project at both sites would be about 10,000 square feet.

### **3.11 LEAD AGENCY AND REQUIRED APPROVALS**

As a public agency principally responsible for approving or carrying out the proposed SHW project, the University is the Lead Agency under CEQA and is responsible for reviewing the adequacy of the environmental document and certifying it and approving the proposed SHW project. Necessary project actions and approvals are anticipated to include, but are not limited to, consideration of the following by The Regents (anticipated in January 2019):

- Certification of the UC Santa Cruz Student Housing West and 2005 LRDP Supplement EIR;
- Adoption of an amendment to the UC Santa Cruz 2005 LRDP;
- Approval of the proposed SHW project design; and
- Approval of business terms related to the transaction documents and financial arrangements with the non-profit owner, developer, and associated parties.

Approval of the Porter and Rachel Carson Dining Facilities Expansion project would be considered at a later date.

### **3.12 RESPONSIBLE AND TRUSTEE AGENCIES**

As defined by CEQA, "Responsible Agencies" are public agencies other than the Lead Agency that have discretionary approval over the project. The Final EIR prepared for the proposed project would serve as the primary source of environmental information for each Responsible Agency. A "Trustee Agency" is defined under CEQA as a public agency having jurisdiction by law over natural resources affected by a project, which are held in trust for the people of the State of California. Responsible and trustee agencies for the proposed project include the following:

### **California Department of Fish and Wildlife (CDFW)**

The CDFW has jurisdiction with regard to the fish and wildlife of the state, designated rare or endangered native plants, and to game refuges, ecological reserves, and other areas administered by the department. Although the Heller project site is developed with urban uses, the site still provides habitat for nesting birds and sensitive biological resources occur in the surrounding area. The Hagar site is undeveloped land, and is suitable habitat for common wildlife species. Both sites would be of interest to the CDFW.

### **CAL FIRE**

There are no trees on the Hagar site. Although the Heller site is not used for growing timber, the definition of timber under Public Resources Code Section 4526 is broad enough to include areas where commercial species trees such as redwoods, are growing within developed areas of the campus. Some of trees on the Heller site are considered timberland; therefore a timberland conversion permit from CAL FIRE would be required.

### **Monterey Bay Air Resources District (MBARD)**

The MBARD is responsible for monitoring ambient air pollutant levels throughout the basin and developing and implementing attainment strategies to ensure that future air quality will be within federal and state standards. Although no permit is required for building demolition, the MBARD requires notification of demolition projects of this size. Notification is performed through filing of a form provided by the MBARD. MBARD Regulation IV, Rule 424 also requires that a survey for asbestos be performed before demolition as well as the proper removal and disposal of any asbestos found.

### **Regional Water Quality Control Board – Central Coast Region (RWQCB)**

The Campus will need to submit a Notice of Intent for coverage under the State National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges of Stormwater Runoff Associated with Construction Activity (General Construction Permit).

RWQCB will review the project's Class V injection well information and potentially provide specific requirements to the U.S. EPA for inclusion in the permit.

An operating permit for the two MBR plants will be required from the RWQCB.

### **U.S. EPA**

The installation and operation of one or more dry wells to dispose excess recycled water and/or storm water will require an Underground Injection Control (UIC) permit from the U.S. EPA which administers

the UIC program and issues UIC permits for Class V wells. U.S. EPA will submit the project's Class V well information to the RWQCB for review.

### **3.13 REFERENCES**

BKF. 2018. Post-Construction Stormwater Control Plan, UCSC Student Housing West -Heller Site. September.