

University of California, Riverside
**2009 DUNDEE RESIDENCE HALLS
DETAILED PROJECT PROGRAM**

With Update to the 2005 Canyon Crest Precinct Plan

August 2009



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1: INTRODUCTION

Participants

Executive Summary

Process

Project Goals

Site Analysis

Appreciation is extended to all who participated in the development of the 2009 Dundee Residence Halls Detailed Project Program With Update to the 2005 Canyon Crest Precinct Plan.

The Executive Summary outlines the project vision, DPP methodology, site location, project scope and project schedule for the Dundee Residence Halls Phases 1 and 2 project. The methodology of the development of the DPP is further described in the Process description of the DPP workshops. The resulting Project Goals are stated. And, finally, a Site Analysis describes the Canyon Crest Precinct and the Dundee Residence Halls site in the context of the UCR campus as well as the natural attributes and characteristics of the area.

vision **users** community connections flexibility sustainability technology operations security design layers accessibility diversity safety respect opportunity **educational**
experiential timeless efficiency practical logical identity viability **collaboration** productive future native active integrated scale performance variety indoor/outdoor innovative
vision users community connections flexibility sustainability technology operations security design layers accessibility diversity safety respect opportunity educational experiential
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efficiency practical logical identity viability collaboration productive future native active integrated scale performance variety indoor/outdoor innovative **vision** users community
connections flexibility sustainability technology operations security design layers accessibility diversity safety **respect** opportunity educational experiential timeless efficiency

1: INTRODUCTION

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2009 DUNDEE RESIDENCE HALLS DETAILED PROJECT PROGRAM

With Update to the 2005 Canyon Crest Precinct Plan

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1: INTRODUCTION

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

PROJECT VISION: DUNDEE RESIDENCE HALLS PHASES 1 AND 2

In order to address anticipated future enrollment numbers at the University of California at Riverside, the 2005 UCR Long Range Development Plan and the more recent 2008 UCR Strategic Plan for Student Housing Update state that the Canyon Crest Precinct (see accompanying Site Location graphic) will be dedicated to the construction of new residence halls, group housing, and related housing support such as a conference center and dining, as well as recreation fields and parking.

The Dundee Residence Halls Phases 1 and 2, which will house approximately 1200 students, will be the first buildings to be built as part of the phased development of the Canyon Crest Precinct.

The 2009 Dundee Residence Halls Detailed Project Program With Update to the 2005 Canyon Crest Precinct Plan (referred to in the following text as the 2009 Dundee Residence Halls DPP) outlines the Dundee Residence Halls program and initial building organization as well as building systems criteria. In addition, as part of the DPP, the layout for the Canyon Crest Precinct and the major vehicular and pedestrian entry points into the site were studied and updated.

Goals expressed during the process of developing the 2009 Dundee Residence Halls DPP reiterate campus wide planning principles:

- increase the critical mass of the on-campus resident community while fostering opportunities for social interaction and learning
- emphasize strong pedestrian connections
- create outdoor environments that attract and encourage community use
- create a regional model for environmental stewardship

METHODOLOGY

The 2009 Dundee Residence Halls DPP was realized through a series of on-campus workshops which included the design consultant team and the UCR Project Management Team inclusive of the offices of Capital and Physical Planning, Office of Design and Construction, TAPS, Fleets and Physical Plant, and Housing, Dining and Residential Services.

Previous campus planning documents including: the 2003 UCR Strategic Plan for Housing, the 2005 Long Range Development Plan, the 2005 Canyon Crest DPP, the 2007 Campus Design Guidelines, and the 2008 Strategic Plan for Student Housing Update were used as the point of departure from which to focus on the definition, development and placement of program elements based on the evolution of campus requirements and standards as well as continuing design consultant input.

PRECINCT AND SITE

The Canyon Crest Precinct area is located on the East Campus at the University's north perimeter. The Precinct is bounded by Blaine St. to the north, Canyon Crest Drive to the west, Watkins Dr. to the east and Linden St. to the south. The Dundee Residence Halls will be located in the south-east corner of the Canyon Crest Precinct. In order to fully build out the entire Canyon Crest Precinct, 268 existing family housing units will be removed in phases.* New family housing units will be provided within the UCR West Campus area.

*source: UCR 2008 Strategic Plan for Student Housing Update, pg. 57



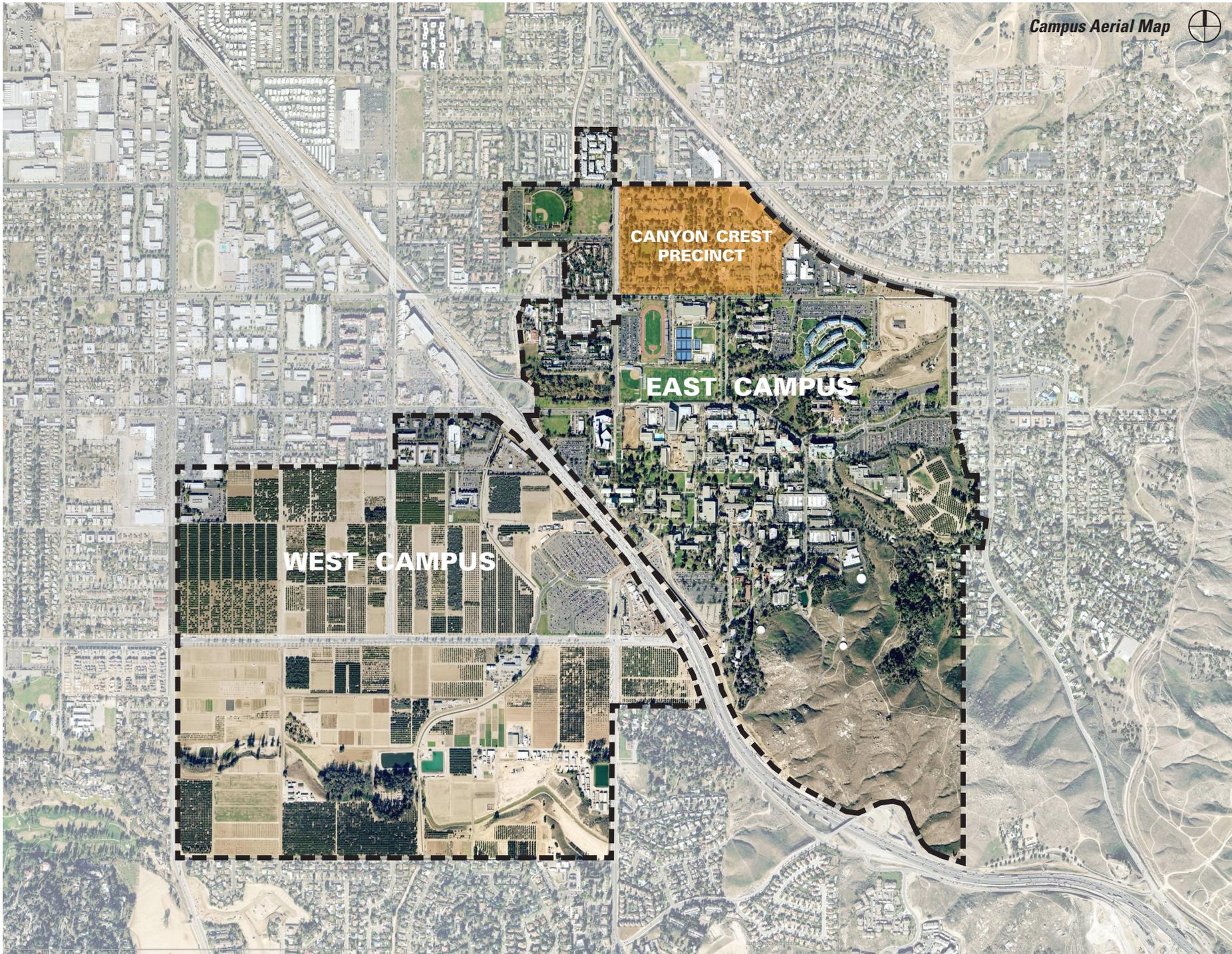
Site Location



CANYON CREST
PRECINCT

EAST CAMPUS

WEST CAMPUS



EXECUTIVE SUMMARY CONTINUED

PROJECT SCOPE: DUNDEE RESIDENCE HALLS PHASES 1 AND PHASE 2

The Canyon Crest Precinct area will be developed in phases. Dundee Residence Halls Phase 1 will include the construction of approximately 600 residence hall beds and related support program including parking. Dundee Residence Halls Phase 2 will include the construction of the remainder of the residence hall beds as well as the Glasgow Conference Center and catering kitchen* and related support program.

The combined program for the 2009 Dundee Residence Halls Phases 1 and Phase 2 is organized in seven categories with the related Assigned Square Footage (ASF):

The 193,761 ASF of Residential Living Unit space includes:

- 299 4-Person Units
- 54 1-Person Units
- 4 2-Bedroom Staff Apartments
- 4 1-Bedroom Staff Apartments

The 20,780 ASF of Residential Hall Program space includes:

- 27 Student Lounges
- 27 Study Rooms
- 12 Trash / Recycling Chutes
- 16 Janitor's Closets

The 4,562 ASF of Resident Services Office space includes:

- 1 Lobby and Reception Area
- 2 Resident Director Offices
- 1 Head Resident Office
- 1 RSO Manager Office
- 5 Staff Offices
- 1 Staff Workroom and Graphic Production Room
- 1 Staff Restroom (not included in ASF)
- 4 Staff Workstations
- 1 Staff Break Room
- 1 Conference Room
- 1 Storage
- 1 Package Storage Room
- 1 Mailroom

The 10,590 ASF of Community Space includes:

- 3 Large Meeting Rooms
- 1 Medium Meeting/Study Room
- 1 Small Meeting/Study Room
- 2 Living Rooms
- 1 Computer Lab
- 1 Assembly
- 1 Fitness Room
- 1 Gaming Lounge
- 2 Laundry
- 1 Community Kitchen
- 2 Faculty in Residence Offices

The 4,970 ASF of Café Spaces include:

- 1 Serving
- 1 Back of House
- 1 Indoor Seating
- 1 Outdoor Seating (not included in ASF)

The 720 ASF of Maintenance Spaces include:

- 1 Maintenance Shop
- 1 Staff Break Room

The 5,660 ASF of Support Spaces include:

- 16 Housekeeping Closets
- 4 Public Restrooms (not included in ASF)
- 4 Trash and Recycling Rooms
- 16 Telecommunications Closets
- 1 Security Room

Site Based Project Scope: In addition to the enclosed ASF, the Dundee Residence Halls project has considerable site-based scope of work including hardscape and softscape work for precinct entries at Watkins Dr. and the intersection of Aberdeen Dr. and Linden St., as well as primary and secondary pedestrian paths, courtyards, plazas, and approximately 550 parking spaces distributed between surface lots and a parking structure.

Project Gross Square Footage: Additional program not included in the ASF but contributing to the Gross Square Footage (GSF) includes the Central Plant, see Chapter 2 Project Area Summary.

* For the purpose of the 2009 Dundee Residence Halls DPP, the Glasgow Conference Center and catering kitchen is included as a separate section in the Cost Plan only and will be programmed in the future.

1: INTRODUCTION

PROCESS

THE APPROACH

PROCESS

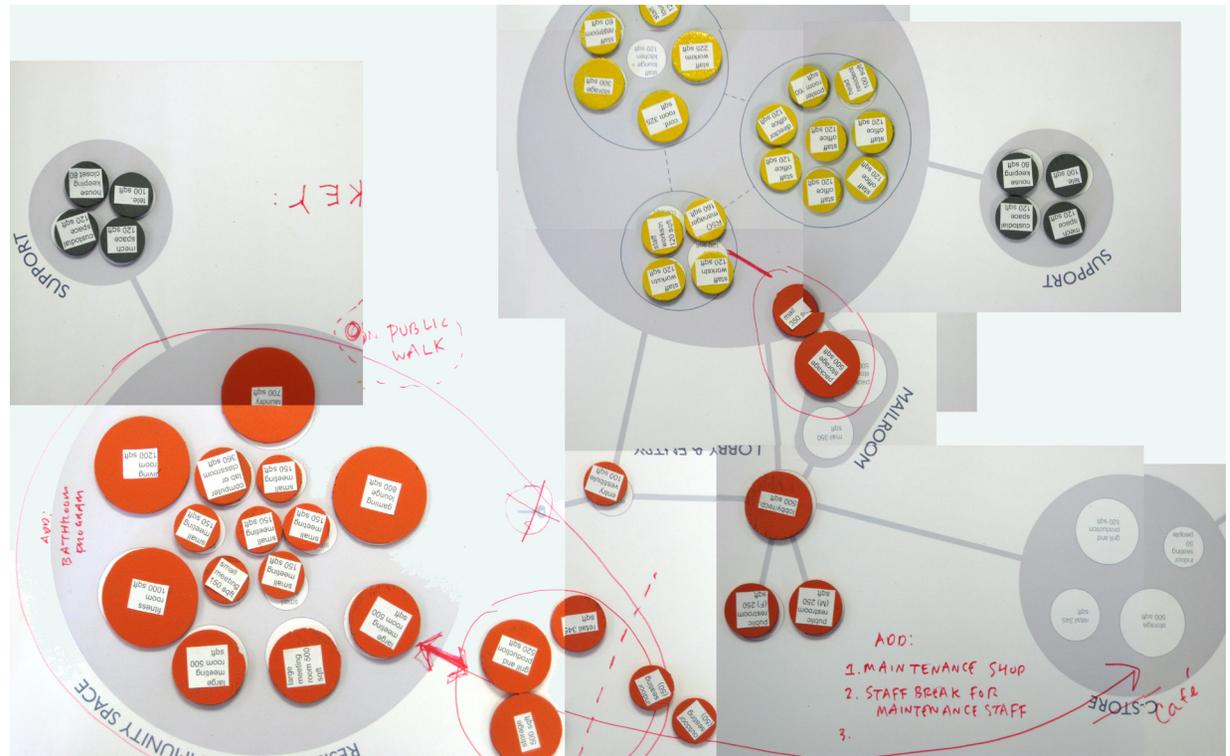
A series of four workshops were held on the UC Riverside Campus as well as one internet conference call. Information was presented via interactive physical models, power point presentations and internet images. The workshops were held from early June through July 2009.

WORKSHOP 1: DATA GATHERING

- review project vision and basis of design
- review campus land use and planning principles
- understand project context
- define program
- understand and review room data sheets
- evaluate proposed 2009 Canyon Crest Precinct plan schemes via model and drawings

WORKSHOP 2: CANYON CREST PRECINCT PLAN DEVELOPMENT AND SYSTEMS REVIEW, STUDENT FOCUS GROUP

- continue evaluation of additional 2009 Canyon Crest Precinct plan schemes via models and drawings
- review program and proposed layout of pedestrian and vehicular entrances at perimeter of Canyon Crest Precinct
- study courtyard and plaza scales, characteristics and precedents
- review sustainable strategies
- review structural, mechanical, electric, plumbing and civil building system
- student workshop session for user perspective



Program Adjacency Workshop Notes



Student Focus Group



Workshop Session

WORKSHOP 3: CANYON CREST PRECINCT PLAN DEVELOPMENT, FLOOR PLAN AND ROOM DATA SHEET REVIEW

- review strategic plan evolution of Canyon Crest Precinct
- review of 2009 hybrid precinct plan – a product of Workshop 1 and Workshop 2 via model and drawings
- discuss Canyon Crest Precinct demolition phases
- review ground floor and typical building floor plans
- review of public program adjacencies via model and drawings
- review room data sheets
- review café program and locations
- review schedule
- begin cost estimating process

INTERNET CONFERENCE CALL: MASTER PLAN EVOLUTION

- in-depth discussion of 2009 hybrid precinct plan, review evolution of strategic plans beginning with 2003 Strategic Plan for Housing

WORK SHOP 4: CANYON CREST PRECINCT PLAN REVIEW, COST ESTIMATING, DPP DRAFT REVIEW

- 2009 hybrid plan review
- review of DDP draft
- review of DPP cost estimate



Workshop Session



Workshop Session



Workshop 1 Site Model

1: INTRODUCTION

PROJECT GOALS
DUNDEE RESIDENCE HALLS
PHASES 1 AND 2

PROJECT GOALS

DUNDEE RESIDENCE HALLS

PHASES 1 AND 2

SITE DEVELOPMENT

- complete Dundee Residence Halls Phase 1 for approximately 600 students by July 2012; Dundee Residence Halls Phase 1 will serve as the anchor for Dundee Residence Halls Phase 2
- maintain a viable existing family housing community throughout Phase 1 and Phase 2 of the Dundee Residence Halls construction and throughout future phases of the Canyon Crest Precinct construction build-out
- maintain flexibility for the establishment of future identifiable residential communities within the Canyon Crest Precinct
- strengthen visual and physical links between the Canyon Crest Precinct and the main campus

PRINCIPLES

- provide buildings that will stand the test of time, are efficient and easy to maintain
- create communities and dining areas that populate and invigorate pedestrian paths and connections to campus
- provide food service that meets the diverse dining needs of residents, as well as after hours services
- organize residential relationships to facilitate informal gatherings, chance encounters, and contact between neighbors
- incorporate sustainable planning and design practices
- create student common spaces that are visible, accessible and centralized to the neighborhood

CHARACTER AND GUIDELINES

- respond to the regional climate and protect and enhance the native environment
- create a unique design expression and complement the campus fabric through form, materials and landscape as per the parameters of the UCR Campus Design Guidelines
- balance the individual living needs of students with social opportunities through the creation of dedicated open spaces and outdoor room/gathering spaces in the form of courtyards and plazas of different sizes, program and characteristics

1: INTRODUCTION

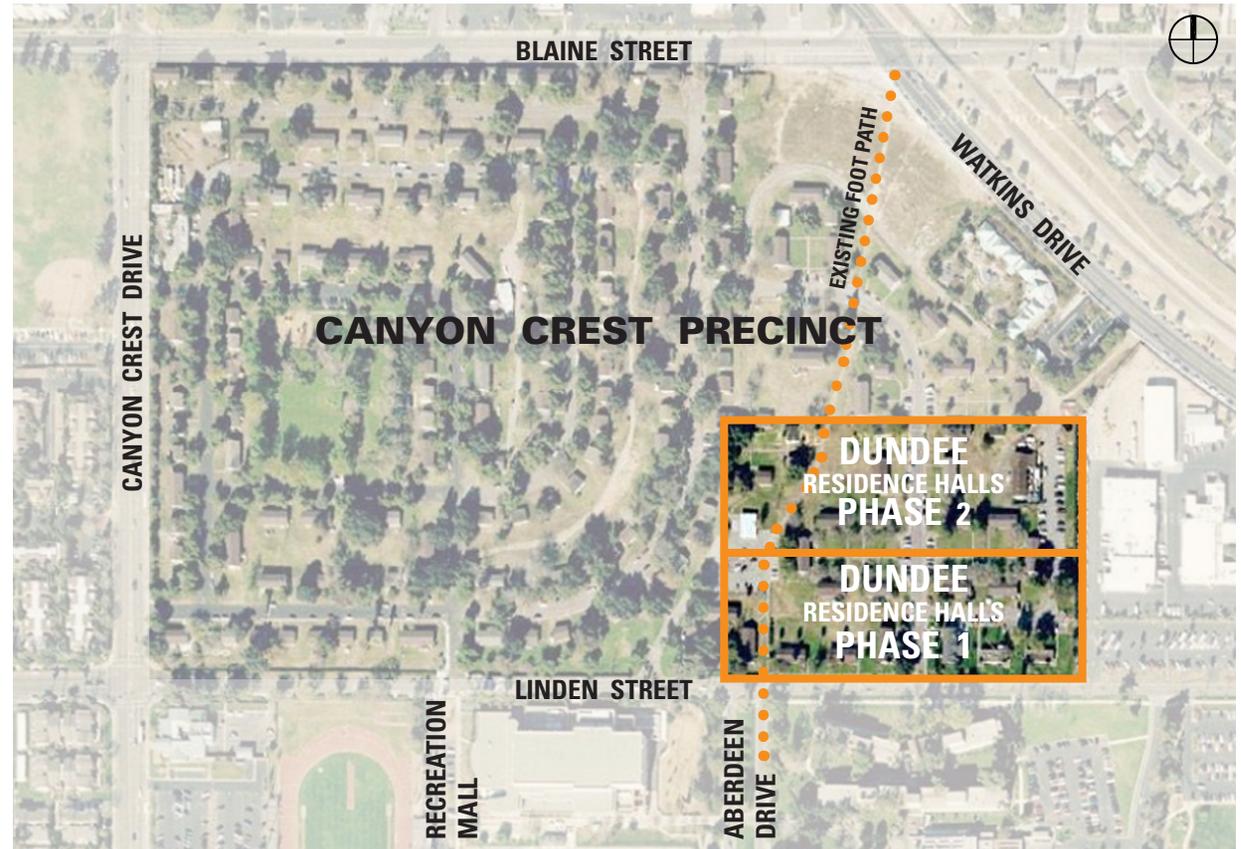
SITE ANALYSIS

LOCATION & CONTEXT

The Canyon Crest Precinct is located on the University's East Campus and is bordered on the north by Blaine Street, the east by Watkins Drive, the west by Canyon Crest Drive and the south by Linden Street. The Dundee Residence Halls will be located at the south-east corner of the Canyon Crest Precinct.

There are both University owned and privately owned apartment complexes to the southwest, west and north and single-family dwellings on the northeast and east across Watkins Drive. A strip shopping center is located on the northwest corner of Blaine Street and Watkins Drive.

The campus is located directly to the south of the Canyon Crest Precinct. Immediately to the south is the University Police Station and Student Recreation Center. Aberdeen Drive, which runs north/south, connects the Canyon Crest Precinct to other residential sections of campus. A foot path, utilized by students, extends from the corner of Blaine Street and Watkins Drive through to Aberdeen Drive. The Precinct shares its eastern boundary with the University's Corporation Yard and its northeastern boundary with the Child Development Center.



Canyon Crest Precinct and Dundee Residence Halls Phases 1 & 2



**CANYON CREST
PRECINCT**

EAST CAMPUS

WEST CAMPUS

CARILLON MALL



NATURAL SITE ATTRIBUTES

The Canyon Crest Precinct is characterized by gently sloping terrain draining from east to west.

There are views to the northeast and east from within the Precinct towards the San Bernardino and Box Springs Mountain ranges.

Prevailing winds enter from the northwest and west while the annual Santa Ana winds act as a buffer from the northeast and east.

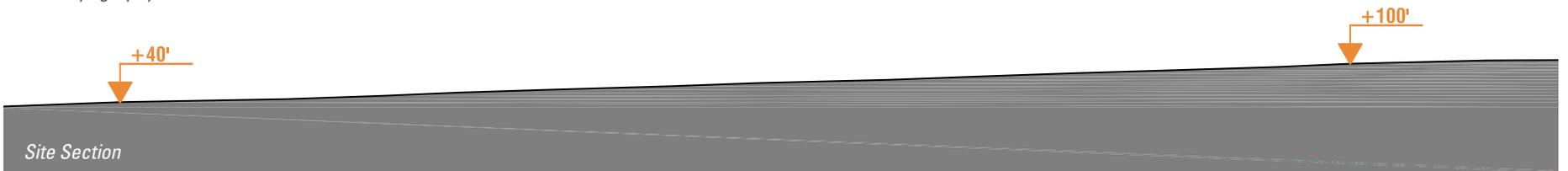
The climate of the region is semi-arid with average rainfall amounts of 10 inches per year, with the months between May and September being exceptionally dry. Winter months can produce occasional lows below freezing whereas summer highs of 110 degrees Fahrenheit are not uncommon.



Site Attributes



Site Topography



SITE CHARACTERISTICS

Within the Canyon Crest Precinct, existing family units are one story single-family dwellings and duplexes with a network of streets, which provide on street parking for the residents.

The existing landscape is mowed lawns and mature canopy shade trees. The predominant species of trees are California pepper, oaks, pines and a number of small ornamentals. A row of palm trees is planted along the southern edge of the site parallel to Linden Street; these palms are to be preserved.



*View looking south along Aberdeen Drive
Source: EHDD*



*Palm trees along Linden Street, looking west
Source: EHDD*



*Existing housing within the Canyon Crest Precinct
Source: EHDD*

*Top: View looking east from Canyon Crest Precinct towards
the Box Springs Mountains
Bottom: View looking northeast from Aberdeen Drive towards
the site
Source: EHDD*



2: PROGRAM

Project Area Summary

Public Program Adjacency

Room Data Sheets

Residential Spaces

Resident Services Office (RSO)

Community Spaces

Cafe

Maintenance Spaces

Support Space

Outdoor Facilities

The Project Area Summary reflects the assigned square footage requirements (ASF) and program quantities as developed in the course of the 2009 Dundee Residence Halls DPP and the accompanying workshops for the Dundee Residence Halls Phases 1 and 2.

The Public Program Adjacency Diagram reflects program adjacency requirements between the Residential Services Office (RSO), Community Spaces and the Café.

Lastly, the Room Data Sheets describe the initial design criteria for each program element including finishes/treatment, technology, engineering systems, and furniture and equipment per room.

vision users community connections flexibility **sustainability** technology operations **security** design layers accessibility diversity safety respect opportunity educational experiential timeless efficiency practical logical identity viability collaboration productive future native active integrated scale performance variety indoor/outdoor innovative vision users community **connections** flexibility sustainability technology **operations** security design layers accessibility diversity **safety** respect opportunity educational experiential timeless efficiency **practical** logical identity viability collaboration productive future native active integrated scale performance variety indoor/outdoor innovative vision **users** community connections flexibility sustainability **technology** operations security design layers **accessibility** diversity safety respect opportunity educational experiential timeless efficiency practical logical identity viability collaboration productive future native active integrated scale performance variety indoor/outdoor innovative vision users community connections **flexibility** sustainability technology operations security design layers accessibility diversity safety respect opportunity educational experiential timeless **efficiency** practical

2: PROGRAM

PROJECT AREA SUMMARY

PROJECT AREA SUMMARY

DUNDEE RESIDENCE HALLS

PHASES 1 & 2 ASSIGNED SQUARE FOOTAGE (ASF)

AREA DESCRIPTION	PHASE 1			PHASE 2			PHASE 1 & 2	NOTES:
	Quantity	ASF	Total ASF	Quantity	ASF	Total ASF	Total ASF	
RESIDENTIAL LIVING UNITS								
4-Person Unit (2 doubles)	144	569	81,936	155	569	88,195	170,131	similar to (5), however the unit types were changed in Workshop 1 to be all 4-Person Units with the exception of the residential advisor and program coordinator units which are 1-Person units two per hall community of 50 max
1-Person Unit	26	329	8,554	28	329	9,212	17,766	
2 Bedroom Staff Apt.	2	1,034	2,068	2	1,034	2,068	4,136	
1 Bedroom Staff Apt.	2	432	864	2	432	864	1,728	
<i>Sub-Total</i>			<i>93,422</i>			<i>100,339</i>	<i>193,761</i>	
RESIDENTIAL HALL PROGRAM								
Student Lounge	13	550	7,150	14	550	7,700	14,850	one per hall community of 50 max, (5)
Study Room	13	150	1,950	14	150	2,100	4,050	note: added in Workshop 1
Trash & Recycle Chute	6	90	540	6	90	540	1,080	one per flr community of 100 max
Janitor's Closet	8	50	400	8	50	400	800	one per hall community of 100
<i>Sub-total ASF</i>			<i>10,040</i>			<i>10,740</i>	<i>20,780</i>	

AREA DESCRIPTION	PHASE 1			PHASE 2			PHASE 1 & 2	NOTES:
	Quantity	ASF	Total ASF	Quantity	ASF	Total ASF	Total ASF	
RESIDENT SERVICES OFFICE								
Lobby/Reception/Waiting	1	500	500	0	0	0	500	similar to (1), (2), (5)
Resident Director Office	2	120	240	0	0	0	240	(1), (2), (5)
Head Resident Office	1	100	100	0	0	0	100	(1), (2), (5)
RSO Manager Office	1	160	160	0	0	0	160	(1), (2), (5)
Staff Office	5	120	600	0	0	0	600	(1), (2) - 1 Area Coord, 1 Judicial, 1 Conf., 1 Placements, 1 Counseling
Staff Workroom & Graphics Area	1	462	462	0	0	0	462	similar to (1), (2); note: combined staff workroom + poster room ASF
Staff Restroom	1	60	n/a	0	0	0	n/a	(1), (2), note: square footage not included in ASF
Staff Workstation	4	80	320	0	0	0	320	(5) - 2 staff, 2 student
Staff Break Room	1	180	180	0	0	0	180	includes kitchenette and room for 4 person table
Conference Rm	1	350	350	0	0	0	350	similar to (1), (2), (5)
Storage	1	300	300	0	0	0	300	(1), (2)
Package Storage	1	400	400	0	0	0	400	added in Workshop 1
Mailroom	1	950	950	0	0	0	950	1200 mailboxes minimum, plus additional percentage of mailboxes to accommodate triple room assignments
<i>Sub-Total ASF</i>			<i>4,562</i>			<i>0</i>	<i>4,562</i>	

PROJECT AREA SUMMARY

DUNDEE RESIDENCE HALLS

PHASES 1 & 2 ASSIGNED SQUARE FOOTAGE (ASF)

AREA DESCRIPTION	PHASE 1			PHASE 2			PHASE 1 & 2	NOTES:
	Quantity	ASF	Total ASF	Quantity	ASF	Total ASF	Total ASF	
COMMUNITY SPACE Note: (P) = Public, (R) = Resident								
Large Meeting Room (P)	3	630	1,890	0	0	0	1,890	ASF from Workshop 3 to fit min. of 30 seats
Medium Meeting Room (P)	1	400	400	0	0	0	400	ASF from Workshop 3 to fit min. of 20 seats
Small Meeting Room (P)	1	200	200	0	0	0	200	ASF from Workshop 3 to fit min of 12 seats
Living Room (R)	1	1,200	1,200	1	1,200	1,200	2,400	(1), (2)
Computer Lab (P)	1	800	800	0	0	0	800	(1), (3), (5)
Assembly (P)	1	800	800	0	0	0	800	(1), (3), (5); note: termed "classroom" in previous UCR documents
Fitness Room (R)	1	1,000	1,000	0	0	0	1,000	(1), (2), (5)
Gaming Lounge (R)	1	800	800	0	0	0	800	(2)
Laundry (R)	1	930	930	1	930	930	1,860	ASF per Web Laundry Services recommendations on W/D per student
Community Kitchen (R)	1	200	200	0	0	0	200	ASF from Workshop 3
Faculty In-Residence Office (P)	2	120	240	0	0	0	240	
<i>Sub-Total ASF</i>			<i>8,460</i>			<i>2,130</i>	<i>10,590</i>	
CAFÉ SPACES Note: added in Workshop 1, ASF numbers provided by University								
Serving	1	2,150	2,150	0	0	0	2,150	Serving area includes 2 retail concepts: a coffee concept & a dry goods merchandising
Back of House	1	1,320	1,320	0	0	0	1,320	Back of house includes storage, production, and support
Indoor Seating	1	1,500	1,500	0	0	0	1,500	
Outdoor Seating	1	1,100	n/a	0	0	0	n/a	note: square footage not included in ASF
<i>Sub-Total ASF</i>			<i>4,970</i>			<i>0</i>	<i>4,970</i>	

AREA DESCRIPTION	PHASE 1			PHASE 2			PHASE 1 & 2	NOTES:
	Quantity	ASF	Total ASF	Quantity	ASF	Total ASF	Total ASF	
MAINTENANCE SPACES								Note: added in Workshop 3
Maintenance Shop	1	600	600	0	0	0	600	sim to (3)
Staff Break Room	1	120	120	0	0	0	120	includes kitchenette and room for 4-person table
<i>Sub-Total ASF</i>			<i>720</i>			<i>0</i>	<i>720</i>	
SUPPORT SPACES								
Public Restrooms	4	120	n/a	0	0	0	n/a	ASF as required per occupants, note: square footage not included in ASF
Trash & Recycle Room	2	500	1,000	2	500	1,000	2,000	ASF as per equipment to serve # of beds
Housekeeping Services	8	100	800	8	100	800	1,600	(5) One per floor
Telecommunications Closet	8	125	1,000	8	125	1,000	2,000	(5)
Student Personal Storage	0	0	0	0	0	0	0	removed from program in Workshop 3
Security Room	1	60	60	0	0	0	60	
<i>Sub-total ASF</i>			<i>2,860</i>			<i>2,800</i>	<i>5,660</i>	
TOTAL ASF			125,034			116,009	241,043	(4)
Central Plant	1	9,600	0	0	0	0	0	note: square footage not included in ASF
TOTAL GSF (program efficiency ratio of 66%)			199,045			175,771	374,816	note: 9600 GSF for central plant is included in total GSF for Phase 1

FOOTNOTE (See Chapter 7 Appendix for sources below):

- (1) source: UCR SPSH 2008 Residence Hall Program Model (pg. 20-21)
- (2) source: UCR SPSH 2008 AI Common Space Renovation (pg. 127)
- (3) source: UCR Glen Mor 2 Student Housing 2009 DPP (pg. 40-41)
- (4) for square footage information on future phases of the Canyon Crest Precinct refer to SPSH 2008
- (5) source: UCR 2005 Canyon Crest DPP (section 2.2.2 residence halls)

PUBLIC PROGRAM ADJACENCY

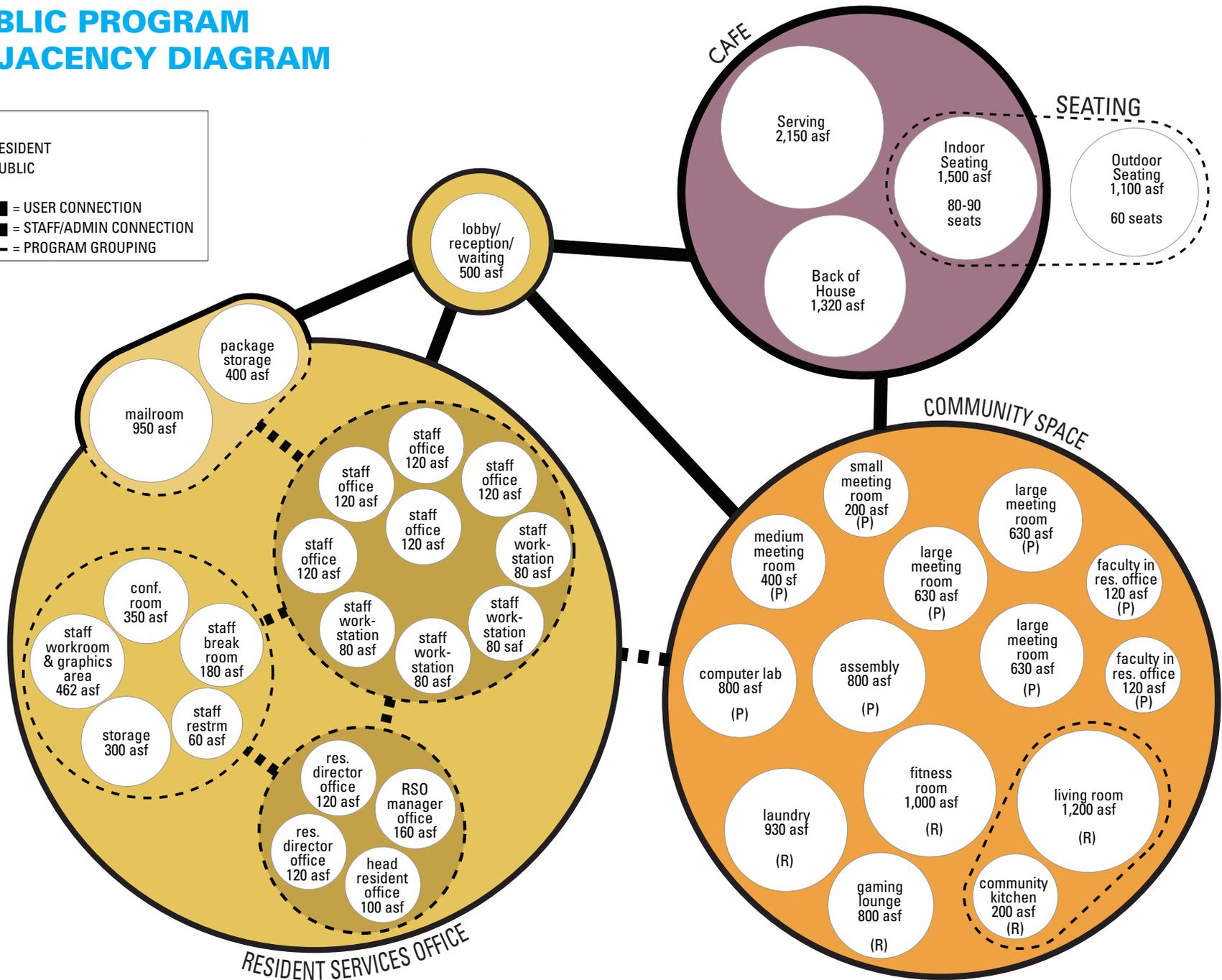
RESIDENTIAL SERVICES OFFICE (RSO) + COMMUNITY SPACE + CAFÉ

The public program of the residence halls consists of the Residential Services Office (RSO), Community Space and Café.

The RSO houses the administrative functions and student services program required to oversee and operate the residence halls. The community spaces and the café are under the day-to-day supervision of the RSO and, as a result, require close proximity. The adjacency of the community spaces and the café lends itself to increased social activity for both programs, as well as for the entry and lobby area of the RSO and the ground floor of the residence hall in general.

PUBLIC PROGRAM ADJACENCY DIAGRAM

KEY:
 (R) = RESIDENT
 (P) = PUBLIC
 — = USER CONNECTION
 ■ ■ ■ = STAFF/ADMIN CONNECTION
 - - - = PROGRAM GROUPING



2: PROGRAM

ROOM DATA SHEETS RESIDENTIAL SPACES

SYMBOLS AND ABBREVIATIONS

ABBREVIATIONS

AFCI	ARC FAULT CIRCUIT INTERRUPTER
DW	DISHWASHER
CEC	CALIFORNIA ELECTRICAL CODE
Fc	FOOT-CANDLES
FSC	FOREST STEWARDSHIP COUNCIL
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GWB	GYPSON WALL BOARD
MF	MINI-FRIDGE
MIN	MINIMUM
MW	MICROWAVE
STC	SOUND TRANSMISSION CLASS
VOC	VOLATILE ORGANIC COMPOUND
W/D	WASHER / DRYER

SYMBOLS

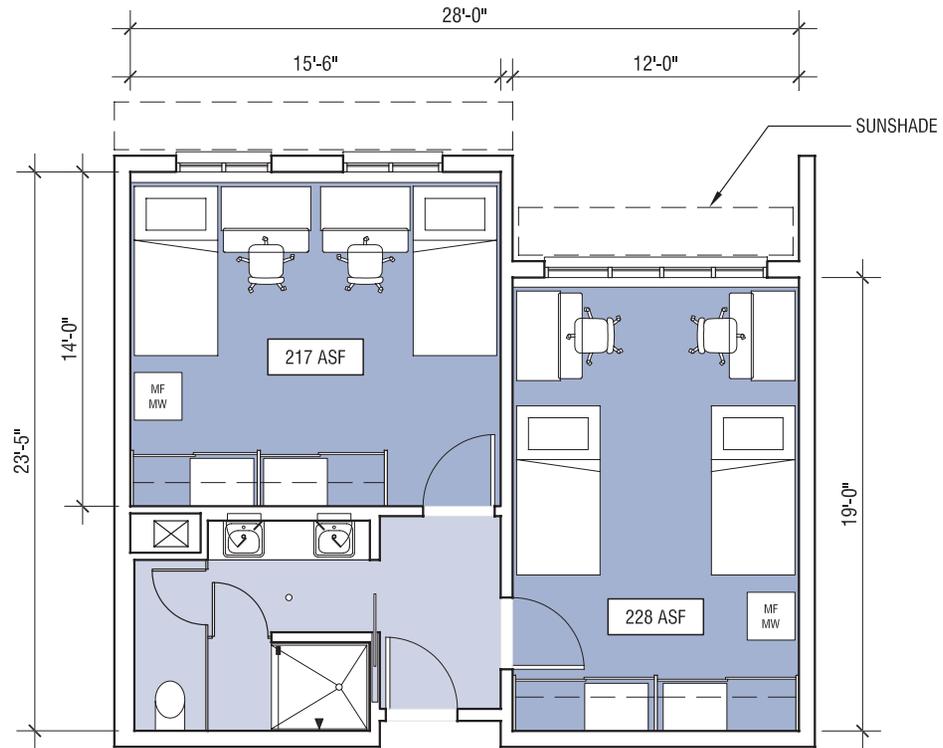
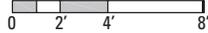
	ACCESSIBILITY 5'-0" RADIUS
	MINI-FRIDGE & MICROWAVE
	OVEN RANGE
	DISHWASHER
	REFRIGERATOR
	WASHER/DRYER
	MECHANICAL SHAFT

4 PERSON UNIT 2 DOUBLES

GENERAL

Student residences

TOTAL ASF	569
NO. OF OCCUPANTS	4
ADJACENCIES	Off of main corridor
VIEWS	To outside
MIN. CEILING HEIGHT	9'-6"; 8'-0" at bathroom and hallway
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB/Resilient
FLOORS	Low VOC carpet / ceramic tile
WINDOWS	Aluminum, Thermal break
DOORS	FSC certified solid-core wood door
DOOR FRAMES	Hollow metal painted @ corridor / Wood @ interior
DAYLIGHTING	Daylight at bedrooms, exterior sun shading where applicable

TECHNOLOGY PER ROOM

VOICE/DATA	1 phone / 4 data, at least 1 on each wall
MEDIA	1 cable TV

ENGINEERING SYSTEMS

ELECTRICAL	Per CEC 210, AFCI receptacles in bedrooms, GFCI receptacles in bathroom, doorbell
LIGHTING	10-15 Fc direct/indirect general lighting, 40-50 Fc task lights, master light switch
MECHANICAL	Individual controls per bedroom, bathroom exhaust
ACOUSTICS	STC 50 between bathroom and bedrooms, between units, and between bedrooms and corridor
PLUMBING	1 floor-mounted dual flush toilet, flow control aerator at 2 under-counter lavatories, 1 shower, floor drain
SECURITY	Card key access, window sash locks, security screens on ground floor
FIRE PROTECTION	Sprinkler, 120V hard wired smoke detector, fire alarm mini-horn at sleeping area, entry door on magnetic hold open

FURNITURE & EQUIPMENT

BUILT-IN	Closets with sliding doors, bathroom casework/fixtures
FIXED	Window blinds
MOVABLE	4 extra-long twin size beds, 4 desks, 4 dressers, 4 chairs
OTHER	Mini refrigerator (MF) and microwave (MW) per room

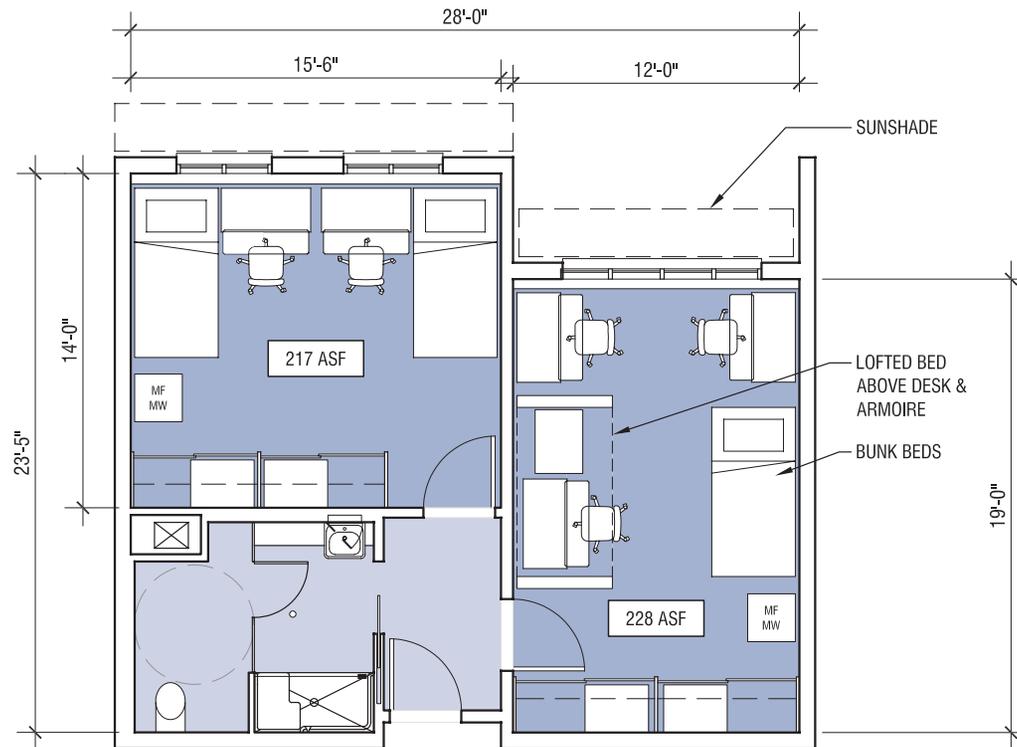
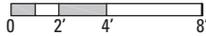
5 PERSON UNIT

1 DOUBLE & 1 TRIPLE WITH ACCESSIBLE TOILET

GENERAL

Student residences

TOTAL ASF	569
NO. OF OCCUPANTS	5
ADJACENCIES	Off of main corridor
VIEWS	To outside
MIN. CEILING HEIGHT	9'-6"; 8'-0" at bathroom and hallway
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB/Resilient
FLOORS	Low VOC carpet / ceramic tile
WINDOWS	Aluminum, Thermal break
DOORS	FSC certified solid-core wood door
DOOR FRAMES	Hollow metal painted @ corridor / Wood @ interior
DAYLIGHTING	Daylight at bedrooms, exterior sun shading where applicable

TECHNOLOGY PER ROOM

VOICE/DATA	1 phone / 5 data, at least 1 on each wall
MEDIA	1 cable TV

ENGINEERING SYSTEMS

ELECTRICAL	Per CEC 210, AFCI receptacles in bedrooms, GFCI receptacles in bathroom, doorbell
LIGHTING	10-15 Fc direct/indirect general lighting, 40-50 Fc task lights, master light switch
MECHANICAL	Individual controls per bedroom, bathroom exhaust
ACOUSTICS	STC 50 between bathroom and bedrooms, between units, and between bedrooms and corridor
PLUMBING	1 floor-mounted dual flush toilet, flow control aerator at 2 lavatories, 1 shower, floor drain
SECURITY	Card key access, window sash locks, security screens on ground floor
FIRE PROTECTION	Sprinkler, 120V hard wired smoke detector, fire alarm mini-horn at sleeping area, entry door on magnetic hold open

FURNITURE & EQUIPMENT

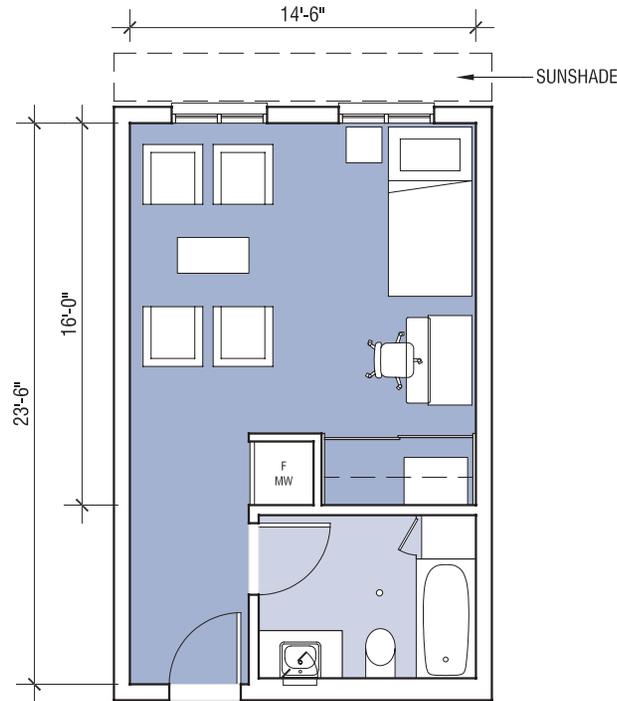
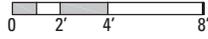
BUILT-IN	Closets with sliding doors, bathroom casework/fixtures
FIXED	Window blinds
MOVABLE	2 extra-long twin size beds, 1 set bunked extra-long twin size bed, 5 desks, 4 dressers and 1 armoire, 5 chairs
OTHER	Mini refrigerator (MF) and microwave (MW) per room

1 PERSON UNIT SINGLE ROOM

GENERAL

Residence for Residence Advisor (RA) and Program Coordinator (PC)

TOTAL ASF	329
NO. OF OCCUPANTS	1
ADJACENCIES	Off of main corridor
VIEWS	To outside
MIN. CEILING HEIGHT	9'-6"; 8'-0" at bathroom and hallway
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB/Resilient
FLOORS	Low VOC carpet / ceramic tile
WINDOWS	Aluminum, Thermal break
DOORS	FSC certified solid-core wood door
DOOR FRAMES	Hollow metal painted @ corridor / Wood @ interior
DAYLIGHTING	Daylight at bedrooms, exterior sun shading where applicable

TECHNOLOGY PER ROOM

VOICE/DATA	1 phone/ 2 data
MEDIA	1 cable TV

ENGINEERING SYSTEMS

ELECTRICAL	Per CEC 210, AFCI receptacles in bedrooms, GFCI receptacles in bathroom, doorbell
LIGHTING	10-15 Fc direct/indirect general lighting, 40-50 Fc task lights, master light switch
MECHANICAL	Individual controls per bedroom, bathroom exhaust
PLUMBING	1 floor-mounted dual flush toilet, flow control aerator at under-counter lavatory, 1 bath/shower, floor drain, make-up water for refrigerator
ACOUSTICS	STC 50 between bathroom and bedrooms and between units
SECURITY	Card key access, window sash locks, security screens on ground floor
FIRE PROTECTION	Sprinkler, 120V hard-wired smoke detector, fire alarm horn & strobe at sleeping area, entry door on magnetic hold open

FURNITURE & EQUIPMENT

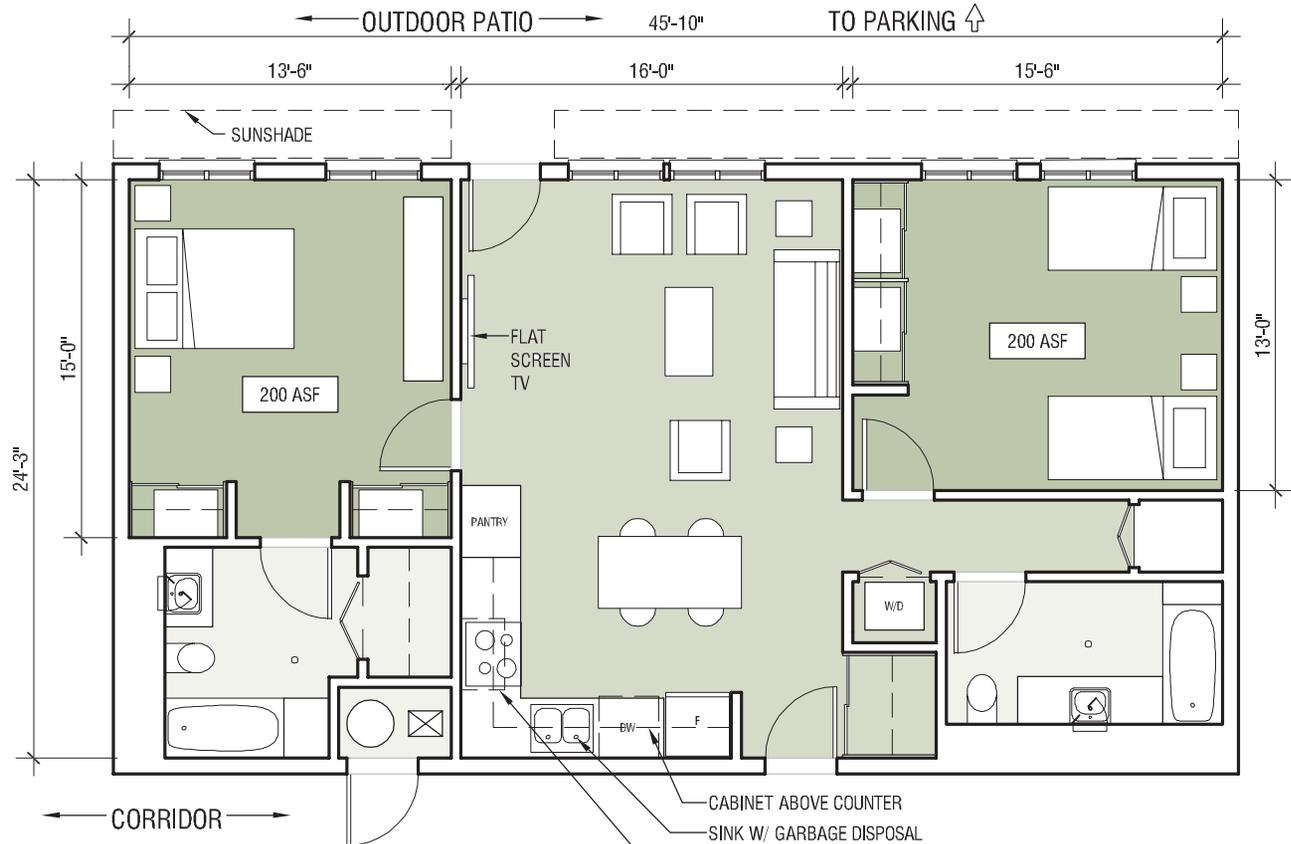
BUILT-IN	Closets with sliding doors, bathroom casework/fixtures
FIXED	Window blinds
MOVABLE	1 extra-long twin size bed, 1 desk, 1 dresser, 1 chair, 4 lounge chairs, 1 low table, 1 side table
OTHER	Refrigerator (F), microwave (MW)

2 BEDROOM STAFF APARTMENT

GENERAL

Residence for staff and family

TOTAL ASF	1,034
NO. OF OCCUPANTS	4
ADJACENCIES	Off of main corridor & outdoor patio area
VIEWS	To outside
MIN. CEILING HEIGHT	9'-6"; 8'-0" at kitchen and bathroom areas
ACCESSIBILITY SCALE	Per code 1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB/Resilient
FLOORS	Low VOC carpet / ceramic tile
WINDOWS	Aluminum, Thermal break
DOORS	FSC certified solid-core wood door
DOOR FRAMES	Hollow metal painted @ corridor / Wood @ interior
DAYLIGHTING	Daylight at bedrooms, exterior sun shading where applicable

TECHNOLOGY PER ROOM

VOICE/DATA	1 phone / 1 data in each room
MEDIA	1 cable TV in each room

ENGINEERING SYSTEMS

ELECTRICAL	Per CEC 210, AFCI receptacles in bedrooms, GFCI receptacles in bathroom, doorbell
LIGHTING	10-15 Fc direct/indirect general lighting, 40-50 Fc task lights, master light switch
MECHANICAL	Individual controls per bedroom, bathroom exhaust
PLUMBING	2 floor-mounted dual flush toilets, flow control aerator at 2 under-counter lavatories, 2 bath/showers, double compartment sink with garbage disposal, water heater, dishwasher, floor drains, make up water for refrigerator
ACOUSTICS	STC 50 between bathroom and bedrooms and between units
SECURITY	Card key access, bedroom key locks, window sash locks, security screens on ground floor
FIRE PROTECTION	Sprinkler, 120V hard-wired smoke detector, fire alarm mini-horn at sleeping area, entry door on magnetic hold open

FURNITURE & EQUIPMENT

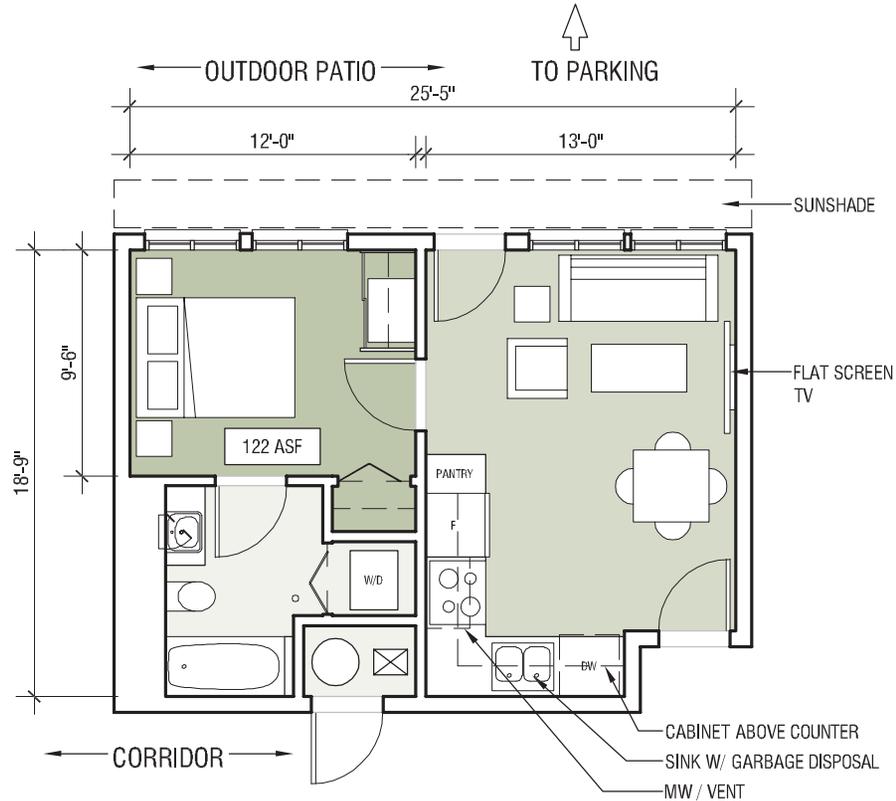
BUILT-IN	Closets with sliding doors, kitchen cabinets and pantry, bathroom casework/fixtures
FIXED	Window blinds, flat screen TV
MOVABLE	1 Queen size bed, 2 extra-long twin beds, 4 dressers, 6 side tables, 1 sofa, 1 low table, 3 lounge chairs, 4 dining chairs, 1 dining table, 1 low drawer
OTHER	Refrigerator (F), microwave (MW), stackable washer/dryer (W/D), dishwasher (DW), oven range

1 BEDROOM STAFF APARTMENT

GENERAL

Residence for staff and family

TOTAL ASF	432
NO. OF OCCUPANTS	1 to 2
ADJACENCIES	Off of main corridor & outdoor patio area
VIEWS	To outside
MIN. CEILING HEIGHT	9'-6"; 8'-0" at kitchen and bathroom areas
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB/Resilient
FLOORS	Low VOC carpet / ceramic tile
WINDOWS	Aluminum, Thermal break
DOORS	FSC certified solid-core wood door
DOOR FRAMES	Hollow metal painted @ corridor / Wood @ interior
DAYLIGHTING	Daylight at bedrooms, exterior sun shading where applicable

TECHNOLOGY PER ROOM

VOICE/DATA	1 phone / 1 data
MEDIA	1 cable TV

ENGINEERING SYSTEMS

ELECTRICAL	Per CEC 210, AFCI receptacles in bedrooms, GFCI receptacles in bathroom, doorbell
LIGHTING	10-15 Fc direct/indirect general lighting, 40-50 Fc task lights, master light switch
MECHANICAL	Individual controls per bedroom, bathroom exhaust
PLUMBING	1 floor-mounted dual flush toilet, flow control aerator at 1 under-counter lavatories, 1 bath/shower, double compartment sink with garbage disposal, water heater, dishwasher, floor drain
ACOUSTICS	STC 50 between bathroom and bedrooms and between units
SECURITY	Card key access, bedroom key locks, window sash locks, security screens on first floor
FIRE PROTECTION	Sprinkler, 120V hard-wired smoke detector, fire alarm mini-horn at sleeping area, entry door on magnetic hold open

FURNITURE & EQUIPMENT

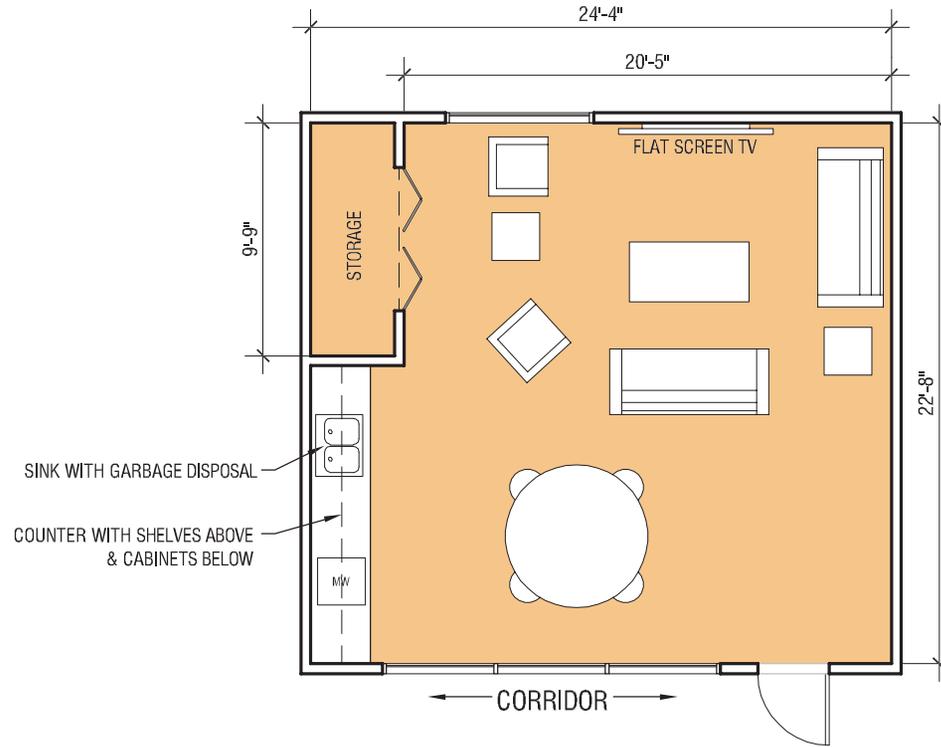
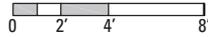
BUILT-IN	Closet with sliding doors, kitchen cabinets and pantry, bathroom casework/fixtures
FIXED	Window blinds, flat screen TV
MOVABLE	1 Queen size bed, 1 dresser, 3 side tables, 1 sofa, 1 low table, 1 lounge chair, 4 dining chairs, 1 dining table
OTHER	Refrigerator (F), microwave (MW), stackable washer/dryer (W/D), dishwasher (DW), oven range

STUDENT LOUNGE

GENERAL

Social gathering area and informal study area at every hall community, to serve 50 students max.

TOTAL ASF	550
NO. OF OCCUPANTS	-
ADJACENCIES	Off of main corridor
VIEWS	To outside
MIN. CEILING HEIGHT	9'-6"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB/Resilient
FLOORS	Resilient, carpet
WINDOWS	Aluminum, Thermal break
DOORS	FSC certified solid-core wood door
FRAMES	Hollow metal painted
DAYLIGHTING	Exterior sun shading where applicable

TECHNOLOGY PER ROOM

VOICE/DATA	1 phone / 4 data
MEDIA	1 cable TV
OTHER	Wireless

ENGINEERING SYSTEMS

ELECTRICAL	Per CEC 210
LIGHTING	15-20 Fc general lighting, 40-50 Fc for task lights
MECHANICAL	Dedicated zone
ACOUSTICS	Provide sound attenuation as required
PLUMBING	Dual compartment sink with garbage disposal
SECURITY	Card key access, security camera
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm horn & strobe

FURNITURE & EQUIPMENT

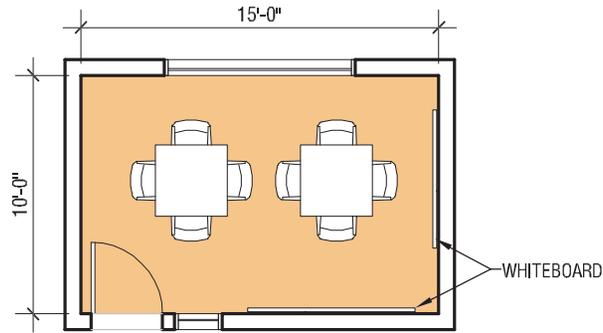
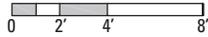
BUILT-IN	Counter and shelves
FIXED	Flat screen TV
MOVABLE	2 sofas, 2 lounge chairs, 2 side tables, 1 low table, 4 table chairs, 1 circular table
OTHER	Microwave (MW), trash and recycling containers (not shown)

STUDY ROOM

GENERAL

Study room

TOTAL ASF	150
NO. OF OCCUPANTS	8
ADJACENCIES	Near Student Lounge
VIEWS	To outside
MIN. CEILING HEIGHT	9'-6"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB/Resilient
FLOORS	Carpet
WINDOWS	Aluminum, Thermal break
DOORS	FSC certified solid-core wood door
FRAMES	Aluminum
DAYLIGHTING	Exterior sun shading where applicable

TECHNOLOGY PER ROOM

VOICE/DATA	1 phone / 2 data ports in floor and walls for flexibility
MEDIA	-
OTHER	Wireless

ENGINEERING SYSTEMS

ELECTRICAL	Power receptacles in floor and walls for flexibility
LIGHTING	General lighting 40-50 Fc
MECHANICAL	Dedicated zone
ACOUSTICS	Provide sound attenuation as required
PLUMBING	-
SECURITY	Card key access, security camera
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm strobe

FURNITURE & EQUIPMENT

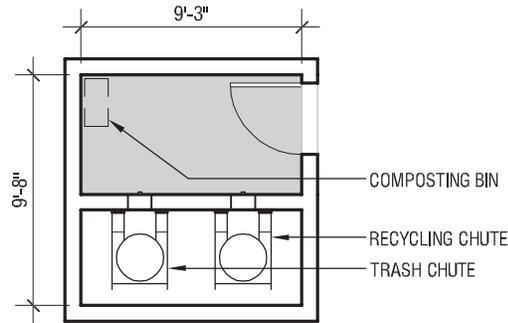
BUILT-IN	-
FIXED	(2) 6'x4' whiteboards, blinds at windows,
MOVABLE	8 task chairs, 2 square tables
OTHER	

TRASH & RECYCLE CHUTE

GENERAL

Placed on every floor to collect trash and recycling materials into chutes.

TOTAL ASF	90
NO. OF OCCUPANTS	-
ADJACENCIES	Off of main corridor
VIEWS	None
MIN. CEILING HEIGHT	8'-0"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Epoxy painted GWB / Resilient
FLOORS	Concrete
WINDOWS	None
DOORS	FSC certified solid-core wood with metal kickplate
FRAMES	Hollow metal
DAYLIGHTING	-

TECHNOLOGY PER ROOM

VOICE/DATA	None
MEDIA	None
OTHER	None

ENGINEERING SYSTEMS

ELECTRICAL	GFCI duplex receptacles
LIGHTING	Direct lighting 20-25 Fc
MECHANICAL	Provide exhaust
ACOUSTICS	Provide sound attenuation as required
PLUMBING	N/A
SECURITY	Card key access
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm strobe

FURNITURE & EQUIPMENT

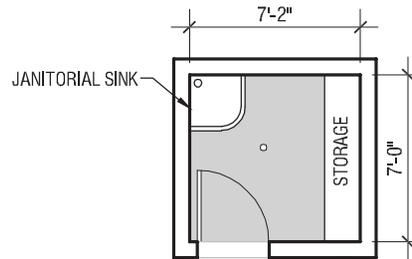
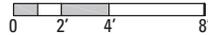
BUILT-IN	N/A
FIXED	2 chutes for trash and recycling
MOVABLE	None
OTHER	Composting bin

JANITOR'S CLOSET

GENERAL

Storage closet with janitorial sink

TOTAL ASF	50
NO. OF OCCUPANTS	1
ADJACENCIES	Off of main corridor
VIEWS	None
MIN. CEILING HEIGHT	8'-0"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Painted GWB/ Resilient
FLOORS	Resilient
WINDOWS	None
DOORS	FSC certified solid-core wood door
FRAMES	Hollow metal
DAYLIGHTING	-

TECHNOLOGY PER ROOM

VOICE/DATA	None
MEDIA	None
OTHER	None

ENGINEERING SYSTEMS

ELECTRICAL	General duplex receptacles
LIGHTING	Direct lighting 20-25 Fc
MECHANICAL	As required
ACOUSTICS	Provide sound attenuation as required
PLUMBING	Hose bibb, floor drain, janitorial sink
SECURITY	Key access
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm strobe

FURNITURE & EQUIPMENT

BUILT-IN	Storage
FIXED	None
MOVABLE	None
OTHER	None

2: PROGRAM

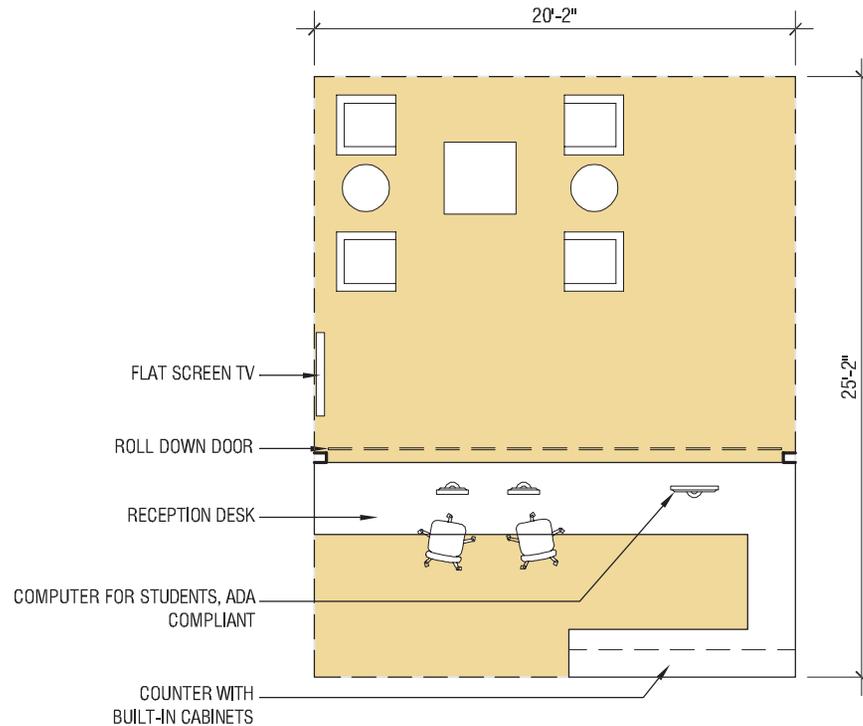
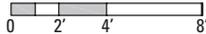
**ROOM DATA SHEETS
RESIDENT SERVICES OFFICE
(RSO)**

LOBBY / RECEPTION / WAITING

GENERAL

Waiting area and entry lobby

TOTAL ASF	500
NO. OF OCCUPANTS	-
ADJACENCIES	RSO staff workstations and mailroom
VIEWS	To outside
MIN. CEILING HEIGHT	9'-6"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB/Resilient
FLOORS	Carpet
WINDOWS	Aluminum, Thermal break
DOORS	FSC certified solid-core wood
FRAMES	Aluminum with side lite
DAYLIGHTING	Exterior sun shading where applicable

TECHNOLOGY PER ROOM

VOICE/DATA	1 phone / 3 data
MEDIA	1 cable TV
OTHER	Wireless, provide data outlets at work surface height

ENGINEERING SYSTEMS

ELECTRICAL	Per CEC 210, power for flat screen TV
LIGHTING	Indirect/direct artificial lighting 15-25 Fc, 40-50 Fc task lights
MECHANICAL	No special requirements
ACOUSTICS	Provide sound attenuation as required
PLUMBING	No special requirements
SECURITY	Card key access, rolling security grill at desk area, security camera
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm horn & strobe

FURNITURE & EQUIPMENT

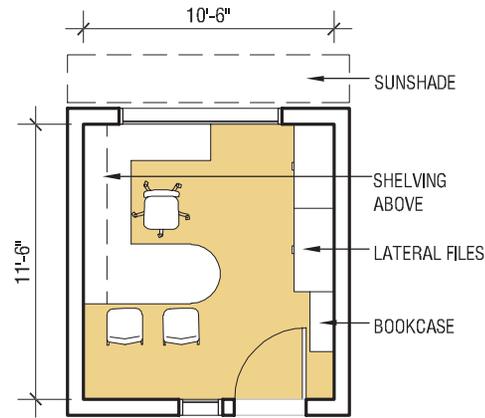
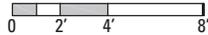
BUILT-IN	Counter with upper cabinets
FIXED	Flat screen TV
MOVABLE	2 task chairs, 1 low table, 4 lounge seats, 2 side tables, 3 computers
OTHER	Trash and recycling containers (not shown), roll down door

RESIDENT DIRECTOR OFFICE

GENERAL

Office for Resident Director

TOTAL ASF	120
NO. OF OCCUPANTS	1
ADJACENCIES	Within RSO
VIEWS	To outside
MIN. CEILING HEIGHT	9'-6"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB/Resilient
FLOORS	Carpet
WINDOWS	Aluminum, Thermal break
DOORS	FSC certified solid-core wood
FRAMES	Aluminum with side lite
DAYLIGHTING	Exterior sun shading where applicable

TECHNOLOGY PER ROOM

VOICE/DATA	1 phone / 1 data
MEDIA	None
OTHER	Wireless

ENGINEERING SYSTEMS

ELECTRICAL	Per CEC 210, power outlets on wall
LIGHTING	General lighting 35-40 Fc
MECHANICAL	No special requirements
ACOUSTICS	Provide sound attenuation as required
PLUMBING	No special requirements
SECURITY	Key lock
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm strobe

FURNITURE & EQUIPMENT

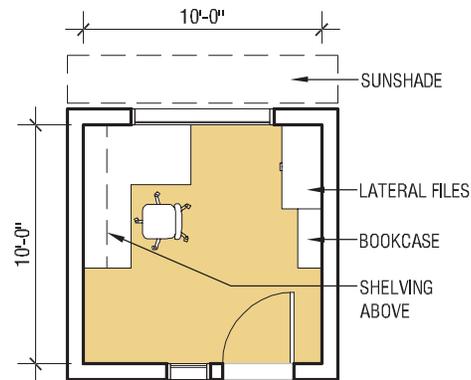
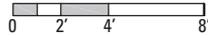
BUILT-IN	None
FIXED	Blinds at windows
MOVABLE	U-shaped desk with overhead storage, 3 task chairs, 2 lateral files, bookcase, task lamp (not shown)
OTHER	None

HEAD RESIDENT OFFICE

GENERAL

Office for Head Resident

TOTAL ASF	100
NO. OF OCCUPANTS	1
ADJACENCIES	Within RSO
VIEWS	To outside
MIN. CEILING HEIGHT	9'-6"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB/Resilient
FLOORS	Carpet
WINDOWS	Aluminum, Thermal break
DOORS	FSC certified solid-core wood
FRAMES	Aluminum with side lite
DAYLIGHTING	Exterior sun shading where applicable

TECHNOLOGY PER ROOM

VOICE/DATA	1 phone / 1 data
MEDIA	None
OTHER	Wireless

ENGINEERING SYSTEMS

ELECTRICAL	Per CEC 210, power outlets on wall
LIGHTING	General lighting 35-40 Fc
MECHANICAL	No special requirements
ACOUSTICS	Provide sound attenuation as required
PLUMBING	No special requirements
SECURITY	Key lock
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm strobe

FURNITURE & EQUIPMENT

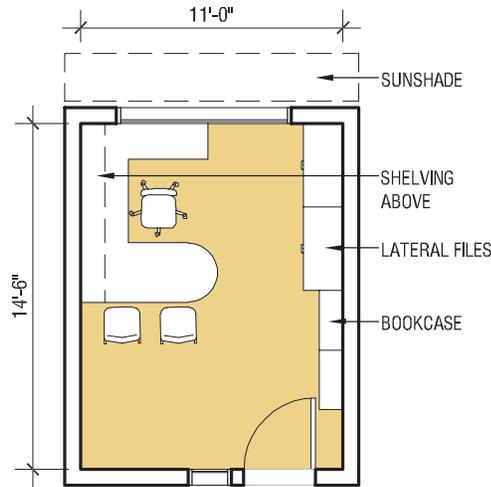
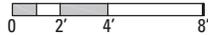
BUILT-IN	None
FIXED	Blinds at windows
MOVABLE	1 L-Shaped desk with overhead storage, 1 task chair, 1 lateral file, 1 bookcase, task lamp (not shown)
OTHER	None

RSO MANAGER OFFICE

GENERAL

Office for RSO Manager

TOTAL ASF	160
NO. OF OCCUPANTS	1
ADJACENCIES	Within RSO
VIEWS	To outside
MIN. CEILING HEIGHT	9'-6"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB/Resilient
FLOORS	Carpet
WINDOWS	Aluminum, Thermal break
DOORS	FSC certified solid-core wood
FRAMES	Aluminum with side lite
DAYLIGHTING	Exterior sun shading where applicable

TECHNOLOGY PER ROOM

VOICE/DATA	1 phone / 1 data, data outlets on wall
MEDIA	None
OTHER	Wireless

ENGINEERING SYSTEMS

ELECTRICAL	Per CEC 210, power outlets on wall
LIGHTING	General lighting 35-40 Fc
MECHANICAL	No special requirements
ACOUSTICS	Provide sound attenuation as required
PLUMBING	No special requirements
SECURITY	Key lock
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm strobe

FURNITURE & EQUIPMENT

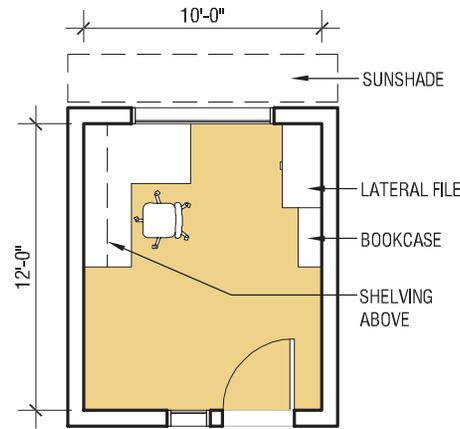
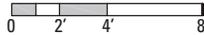
BUILT-IN	None
FIXED	Blinds at windows
MOVABLE	U-shaped desk with overhead storage, 3 task chairs, 2 lateral files, 2 bookcases, task lamp (not shown)
OTHER	None

STAFF OFFICE

GENERAL

Office for RSO Staff

TOTAL ASF	120
NO. OF OCCUPANTS	1
ADJACENCIES	Within RSO
VIEWS	To outside
MIN. CEILING HEIGHT	9'-6"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB/Resilient
FLOORS	Carpet
WINDOWS	Aluminum, Thermal break
DOORS	FSC certified solid-core wood
FRAMES	Aluminum with side lite
DAYLIGHTING	Exterior sun shading where applicable

TECHNOLOGY PER ROOM

VOICE/DATA	1 phone / 1 data
MEDIA	None
OTHER	Wireless

ENGINEERING SYSTEMS

ELECTRICAL	Per CEC 210, power outlets on wall
LIGHTING	General lighting 35-40 Fc
MECHANICAL	No special requirements
ACOUSTICS	Provide sound attenuation as required
PLUMBING	None
SECURITY	Key lock
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm strobe

FURNITURE & EQUIPMENT

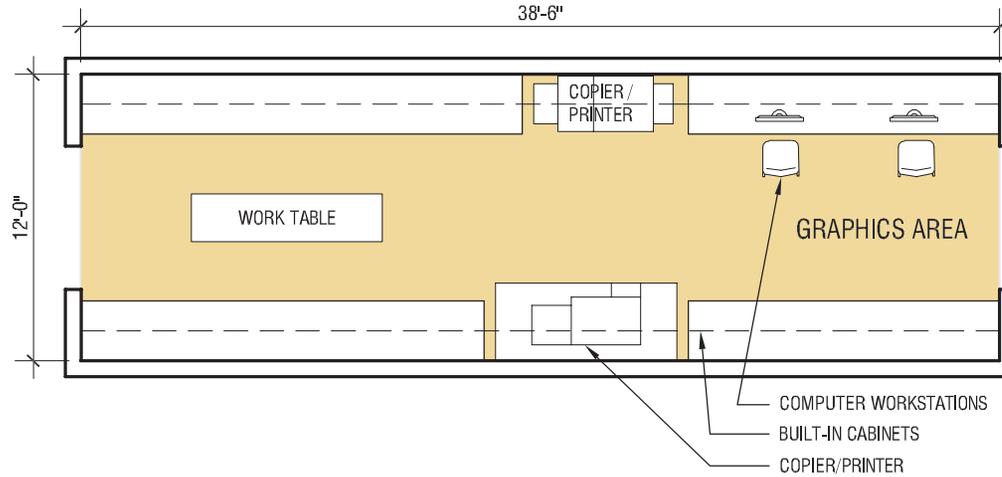
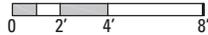
BUILT-IN	None
FIXED	Blinds at windows
MOVABLE	1 L-Shaped desk with overhead storage, 1 task chair, 1 lateral file, 1 bookcase, task lamp (not shown)
OTHER	None

STAFF WORKROOM & GRAPHICS AREA

GENERAL

RSO workroom

TOTAL ASF	462
NO. OF OCCUPANTS	-
ADJACENCIES	Centrally located in RSO
VIEWS	None
MIN. CEILING HEIGHT	8'-0"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB/Resilient
FLOORS	Carpet
WINDOWS	None
DOORS/FRAMES	None
DAYLIGHTING	Exterior sun shading where applicable

TECHNOLOGY PER ROOM

VOICE/DATA	2 phone/ 6 data
MEDIA	None
OTHER	None

ENGINEERING SYSTEMS

ELECTRICAL	Power outlets for photocopier and power outlets at work counter height
LIGHTING	General lighting 30-40 Fc
MECHANICAL	Exhaust air
ACOUSTICS	Provide sound attenuation as required
PLUMBING	No special requirements
SECURITY	None
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm horn & strobe

FURNITURE & EQUIPMENT

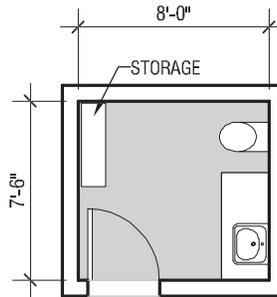
BUILT-IN	Counters with lockable cabinets above and below
FIXED	None
MOVABLE	1 or 2 Photocopiers / Color Printers, 2 task chairs, 2 computers, 1 work table, phone / fax (not shown)
OTHER	None

STAFF RESTROOM

GENERAL

Staff restroom

TOTAL ASF	60
NO. OF OCCUPANTS	1
ADJACENCIES	Centrally located in RSO
VIEWS	None
MIN. CEILING HEIGHT	8'-0"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Moisture resistant GWB
WALLS/BASE	GWB/Ceramic tile wainscot
FLOORS	Ceramic tile
WINDOWS	None
DOORS	FSC certified solid-core wood
FRAMES	Hollow metal
DAYLIGHTING	None

TECHNOLOGY PER ROOM

VOICE/DATA	None
MEDIA	None
OTHER	None

ENGINEERING SYSTEMS

ELECTRICAL	General duplex receptacles per CEC 210
LIGHTING	General lighting 15-20 Fc
MECHANICAL	Exhaust air
ACOUSTICS	Provide sound attenuation as required
PLUMBING	Dual flush toilet, flow control aerator on lavatory
SECURITY	None
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm strobe

FURNITURE & EQUIPMENT

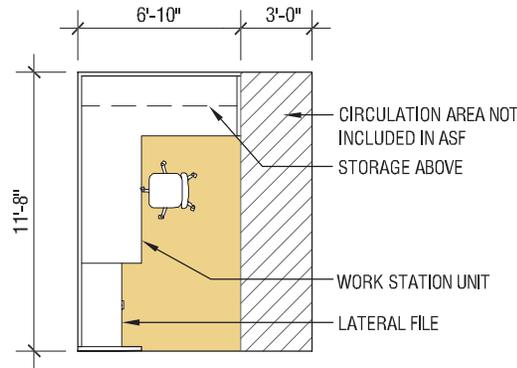
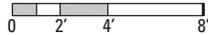
BUILT-IN	Bathroom casework/fixtures, storage for personal items
FIXED	None
MOVABLE	None
OTHER	None

STAFF WORKSTATION

GENERAL

Typical modular workstation

TOTAL ASF	80 (not including circulation)
NO. OF OCCUPANTS	1
ADJACENCIES	Within RSO
VIEWS	To outside
MIN. CEILING HEIGHT	8'-0"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB/Resilient
FLOORS	Carpet
WINDOWS	Aluminum, Thermal break
DOORS/FRAMES	None
DAYLIGHTING	Exterior sun shading where applicable

TECHNOLOGY PER ROOM

VOICE/DATA	1 phone / 1 data
MEDIA	None
OTHER	Wireless

ENGINEERING SYSTEMS

ELECTRICAL	Per CEC 210, power outlets at work surface height
LIGHTING	Indirect/direct artificial lighting generally 5-10 Fc and 40-50 Fc for task lights
MECHANICAL	No special requirements
ACOUSTICS	Provide sound attenuation as required
PLUMBING	No special requirements
SECURITY	None
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm strobe

FURNITURE & EQUIPMENT

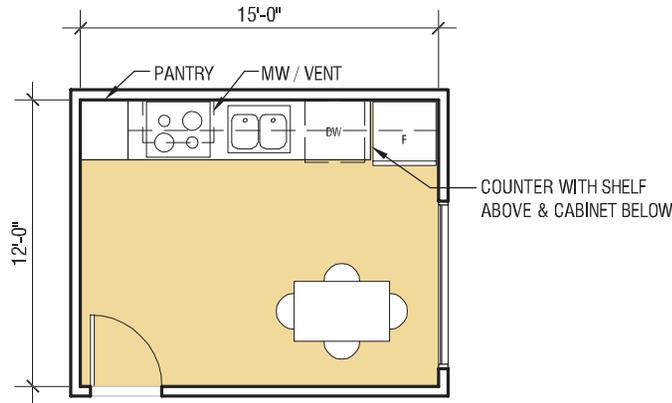
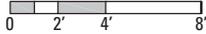
BUILT-IN	None
FIXED	None
MOVABLE	Task chair, work station unit with power and data, storage above and below, task light and keyboard drawer (not shown), cubicle panels, lateral file
OTHER	None

STAFF BREAK ROOM

GENERAL

Food preparation and storage space for RSO staff

TOTAL ASF	180
NO. OF OCCUPANTS	-
ADJACENCIES	Off of main corridor
VIEWS	To outside
MIN. CEILING HEIGHT	8'-0"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB/Resilient
FLOORS	Resilient
WINDOWS	Aluminum, Thermal break
DOORS	FSC certified solid-core wood
FRAMES	Hollow metal
DAYLIGHTING	Exterior sun shading where applicable

TECHNOLOGY PER ROOM

VOICE/DATA	1 phone / 1 data
MEDIA	None
OTHER	Wireless

ENGINEERING SYSTEMS

ELECTRICAL	Per CEC 210, GFI receptacles at countertop
LIGHTING	Ambient artificial light; indirect/direct 20-30 Fc
MECHANICAL	Exhaust air
ACOUSTICS	Provide sound attenuation as required
PLUMBING	Stainless steel double compartment sink with garbage disposal, dishwasher, make-up water connection for refrigerator.
SECURITY	Card key access
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm strobe

FURNITURE & EQUIPMENT

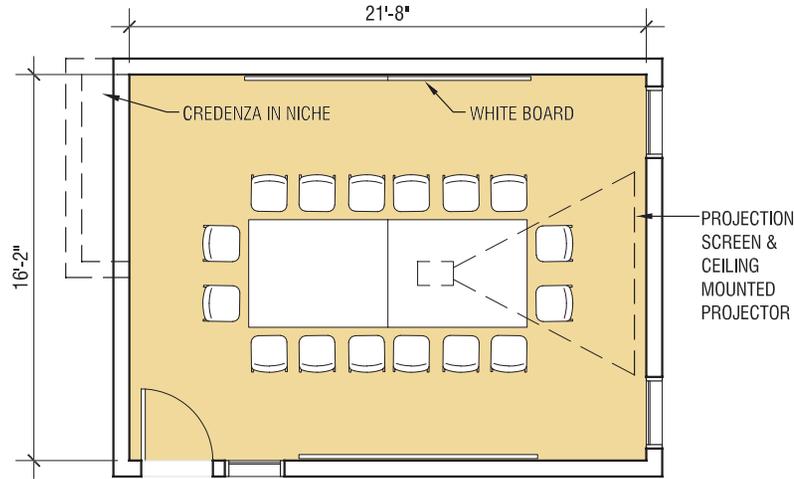
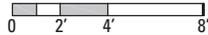
BUILT-IN	Lockable pantry and base cabinets
FIXED	None
MOVABLE	None
OTHER	Gas oven range, refrigerator (F) and microwave (MW), dishwasher (DW), trash and recycling containers (not shown), 1 table with 4 chairs

CONFERENCE ROOM

GENERAL

Conference room in RSO

TOTAL ASF	350
NO. OF OCCUPANTS	16
ADJACENCIES	Offices
VIEWS	To outside
MIN. CEILING HEIGHT	9'-6"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB/Resilient
FLOORS	Carpet
WINDOWS	Aluminum, Thermal break
DOORS	FSC certified solid-core wood
FRAMES	Aluminum with side lite
DAYLIGHTING	Exterior sun shading where applicable

TECHNOLOGY PER ROOM

VOICE/DATA	1 phone / 2 data ports in floor and walls for flexibility
MEDIA	1 cable TV, roll-down projection screen, ceiling mounted digital projector and speakers
OTHER	Wireless

ENGINEERING SYSTEMS

ELECTRICAL	Per CEC 210
LIGHTING	General lighting 30-40 Fc
MECHANICAL	Dedicated zone
ACOUSTICS	Provide sound attenuation as required
PLUMBING	No special requirements
SECURITY	Card key access
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm strobe

FURNITURE & EQUIPMENT

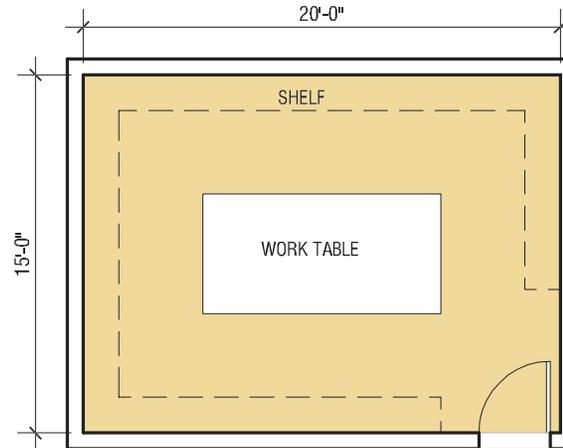
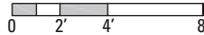
BUILT-IN	Credenza for catering
FIXED	2-12'x4' white boards, window blinds with blackout capability
MOVABLE	2 tables, 16 task chairs
OTHER	None

STORAGE

GENERAL

Store tables and chairs

TOTAL ASF	300
NO. OF OCCUPANTS	-
ADJACENCIES	Centrally located in RSO
VIEWS	None
MIN. CEILING HEIGHT	8'-0"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB/Resilient
FLOORS	Resilient
WINDOWS	None
DOORS	FSC certified solid-core wood
FRAMES	Hollow metal
DAYLIGHTING	None

TECHNOLOGY PER ROOM

VOICE/DATA	None
MEDIA	None
OTHER	None

ENGINEERING SYSTEMS

ELECTRICAL	Per CEC 210
LIGHTING	General lighting 20-30 Fc
MECHANICAL	No special requirements
ACOUSTICS	Provide sound attenuation as required
PLUMBING	None
SECURITY	Key lock
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm strobe

FURNITURE & EQUIPMENT

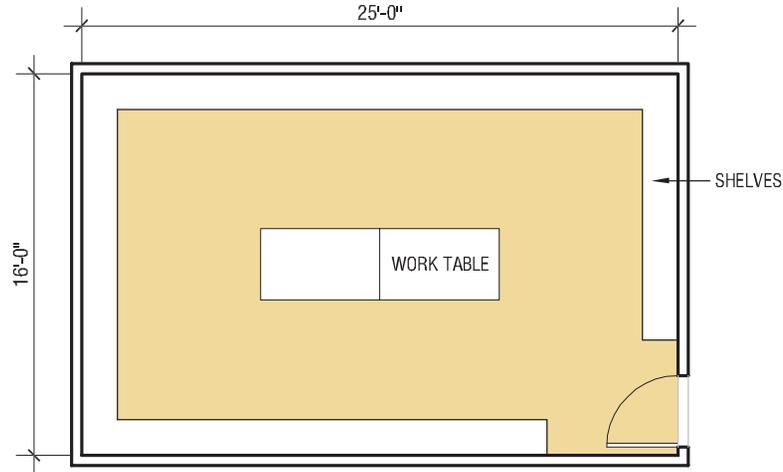
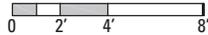
BUILT-IN	Shelves
FIXED	None
MOVABLE	1 work table
OTHER	None

PACKAGE STORAGE

GENERAL

Package storage

TOTAL ASF	400
NO. OF OCCUPANTS	-
ADJACENCIES	Mail room
VIEWS	None
MIN. CEILING HEIGHT	8'-0"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB/Resilient
FLOORS	Resilient
WINDOWS	None
DOORS	FSC certified solid-core wood
FRAMES	Hollow metal
DAYLIGHTING	None

TECHNOLOGY PER ROOM

VOICE/DATA	1 phone/ 1 data
MEDIA	None
OTHER	None

ENGINEERING SYSTEMS

ELECTRICAL	No special requirements
LIGHTING	Direct lighting 15-20 Fc
MECHANICAL	No special requirements; conditioned to store perishables
ACOUSTICS	Provide sound attenuation as required
PLUMBING	No special requirements
SECURITY	Card key access
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm horn & strobe

FURNITURE & EQUIPMENT

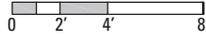
BUILT-IN	18" deep shelves
FIXED	None
MOVABLE	2 work tables
OTHER	None

MAILROOM

GENERAL

Student mailboxes

TOTAL ASF	950
NO. OF OCCUPANTS	-
ADJACENCIES	Off of main corridor, adjacent to locked package room. U.S. Mail vehicle has access to deliver to mailroom
VIEWS	None
MIN. CEILING HEIGHT	8'-0"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



see opposite page for diagram

FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB/Resilient
FLOORS	Resilient
WINDOWS	None
DOORS	FSC certified solid-core wood
FRAMES	Hollow Metal
DAYLIGHTING	None

TECHNOLOGY PER ROOM

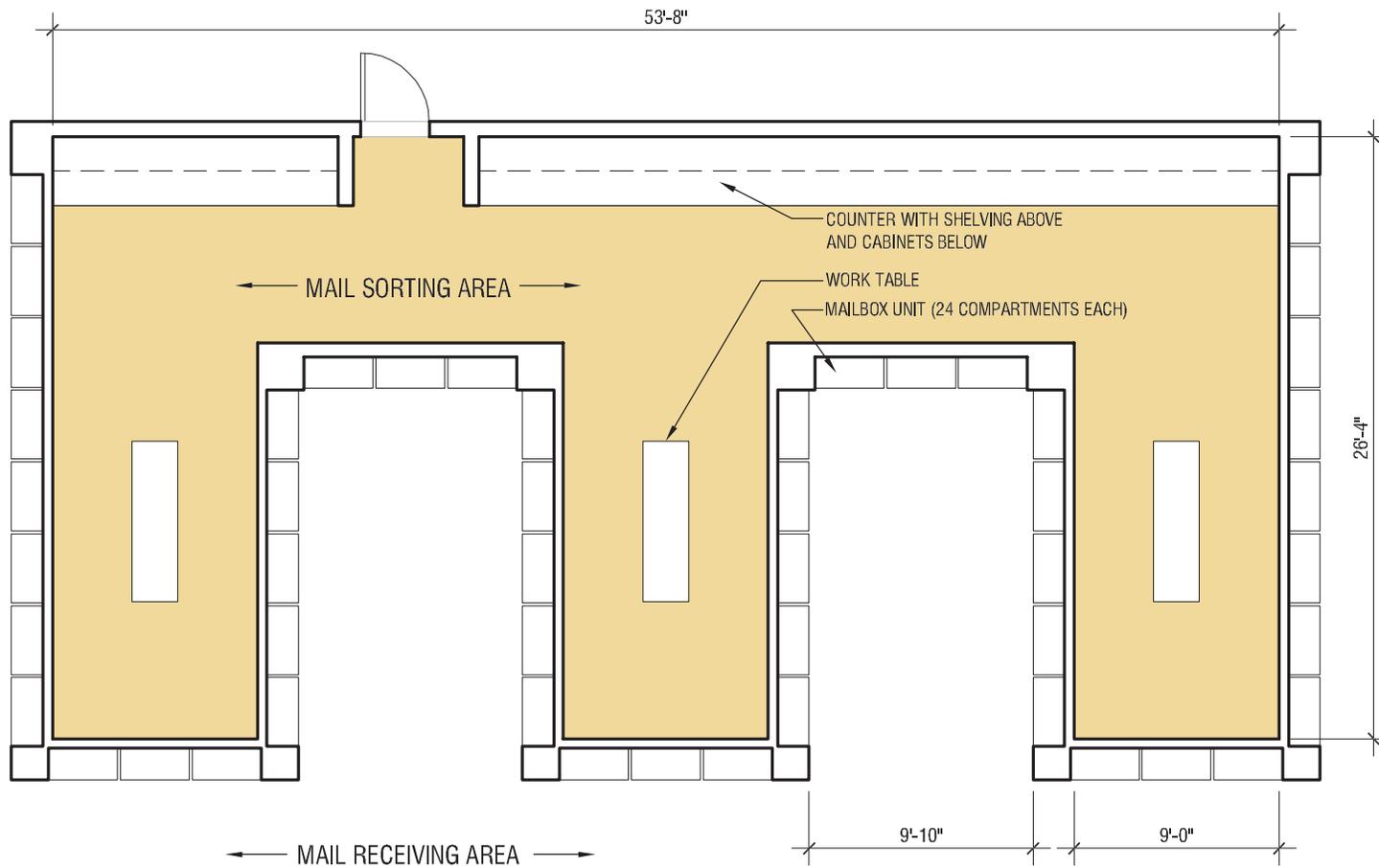
VOICE/DATA	None
MEDIA	None
OTHER	None

ENGINEERING SYSTEMS

ELECTRICAL	General duplex receptacles per CEC 210
LIGHTING	Direct artificial lighting 30-40 Fc
MECHANICAL	No special requirements
ACOUSTICS	Provide sound attenuation as required
PLUMBING	None
SECURITY	Card key access
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm horn & strobe

FURNITURE & EQUIPMENT

BUILT-IN	1200 mailboxes minimum, plus additional percentage of mailboxes to accommodate triple room assignments, counter with shelving and cabinets
FIXED	None
MOVABLE	3 work tables
OTHER	None



2: PROGRAM

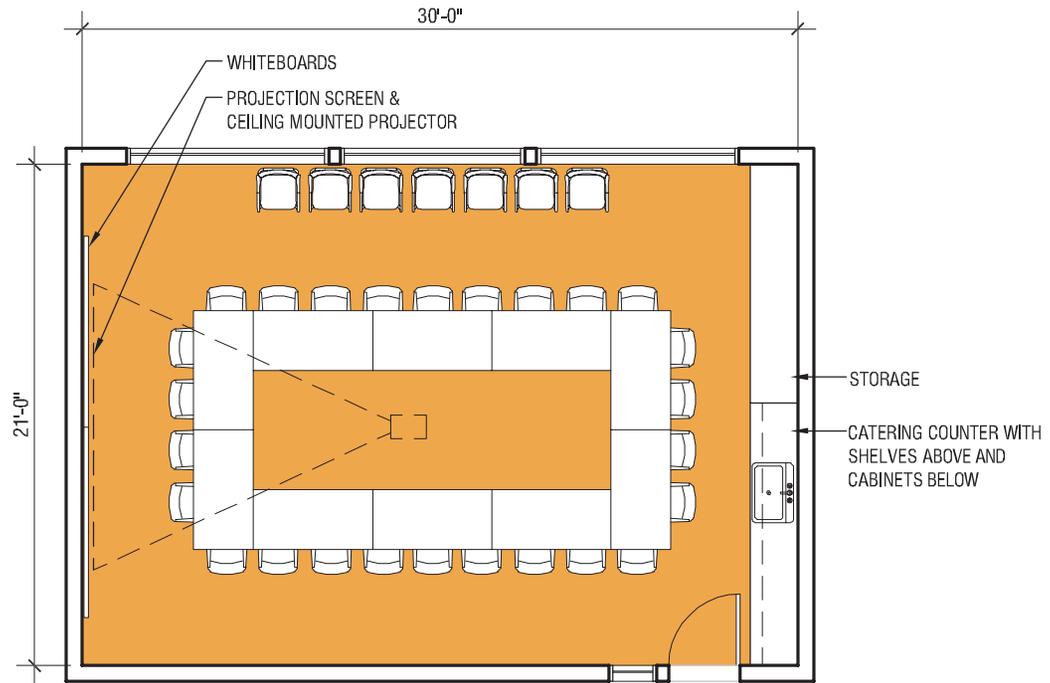
ROOM DATA SHEETS **COMMUNITY SPACE**

LARGE MEETING ROOM

GENERAL

Meeting room and community space

TOTAL ASF	630
NO. OF OCCUPANTS	Per layout
ADJACENCIES	Centrally located
VIEWS	To outside
MIN. CEILING HEIGHT	9'-6"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



LAYOUT 1:
33 seats, 10 tables

FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB/Resilient
FLOORS	Carpet
WINDOWS	Aluminum, Thermal break
DOORS	FSC certified solid-core wood
FRAMES	Aluminum with side lite
DAYLIGHTING	Exterior sun shading where applicable

TECHNOLOGY PER ROOM

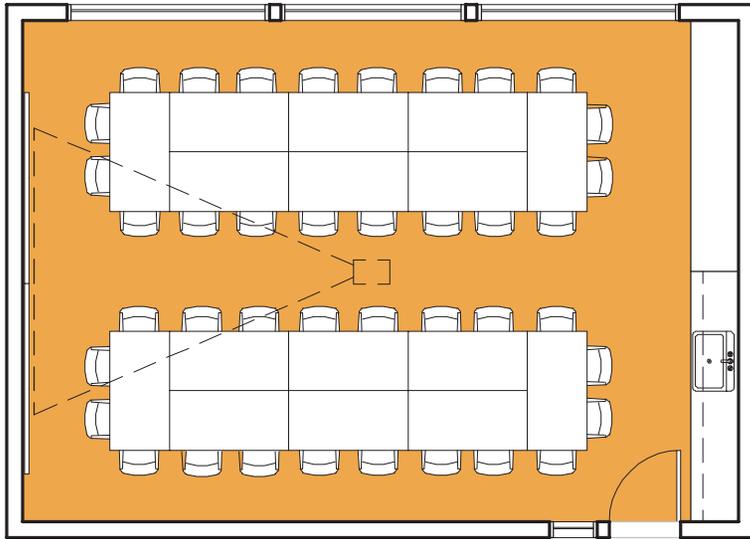
VOICE/DATA	1 phone / 2 data ports in floor and walls for flexibility
MEDIA	Roll-down projection screen, ceiling mounted digital projector and speakers
OTHER	Wireless

ENGINEERING SYSTEMS

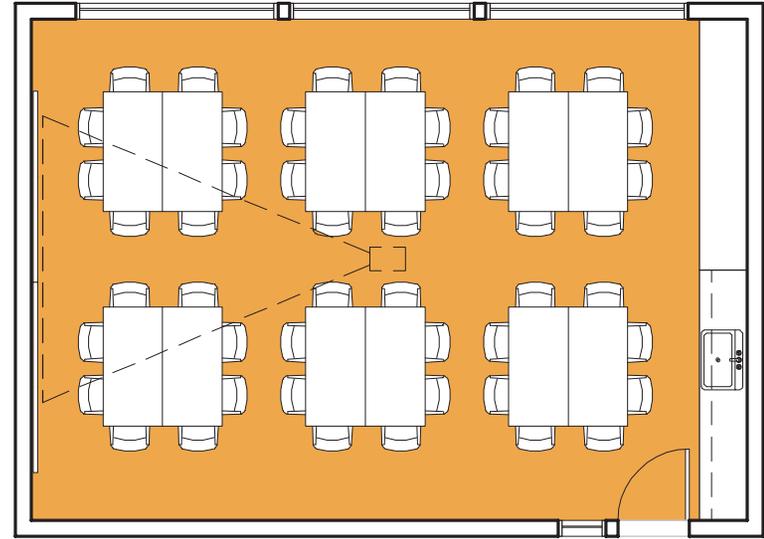
ELECTRICAL	Power ports in floor and walls for flexibility
LIGHTING	General lighting 30-40 Fc
MECHANICAL	Dedicated zone
ACOUSTICS	Provide sound attenuation as required
PLUMBING	Sink
SECURITY	Card key access, security camera
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm horn & strobe

FURNITURE & EQUIPMENT

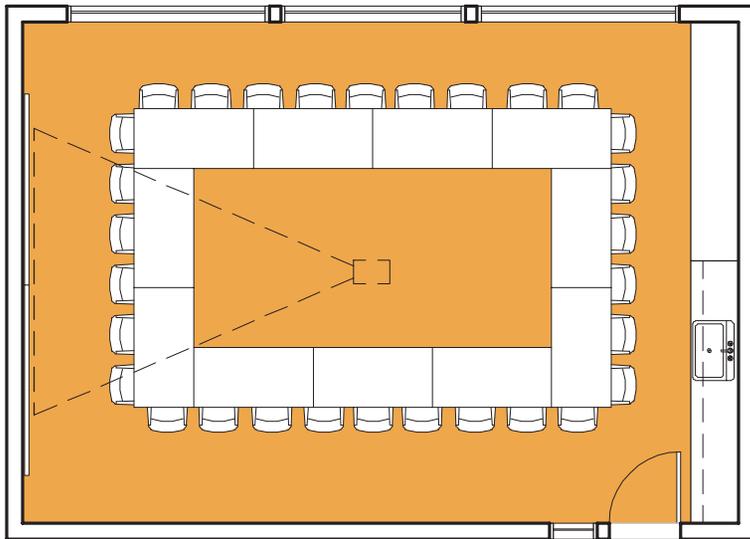
BUILT-IN	Catering counter with cabinet below and shelving above
FIXED	2-10'x4' whiteboards, window blinds with blackout capability
MOVABLE	Chairs and tables per layout
OTHER	None



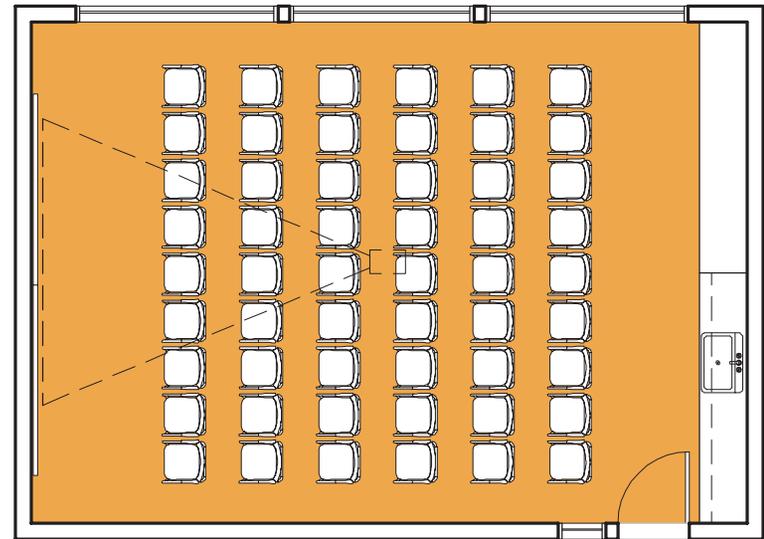
LAYOUT 2:
40 seats, 16 tables



LAYOUT 4:
48 seats, 12 tables



LAYOUT 3:
30 seats, 11 tables



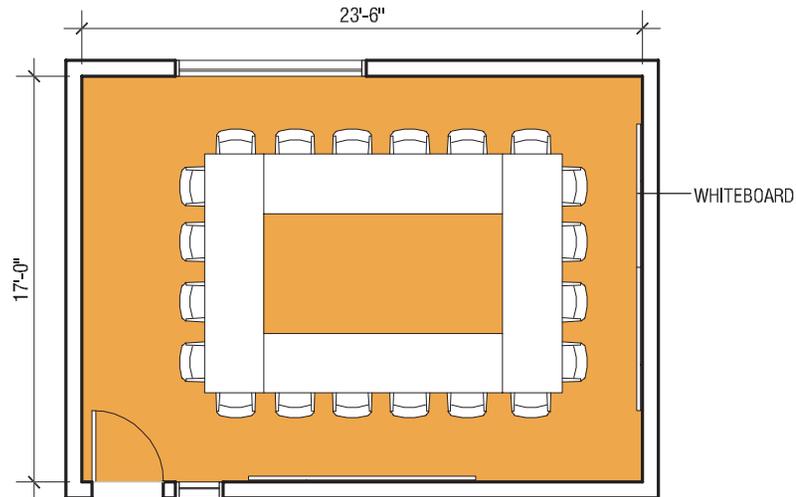
LAYOUT 5:
54 seats

MEDIUM MEETING ROOM

GENERAL

Meeting room and community space

TOTAL ASF	400
NO. OF OCCUPANTS	20
ADJACENCIES	Centrally located
VIEWS	To outside
MIN. CEILING HEIGHT	9'-6"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB/Resilient
FLOORS	Carpet
WINDOWS	Aluminum, Thermal break
DOORS	FSC certified solid-core wood
FRAMES	Aluminum with side lite
DAYLIGHTING	Exterior sun shading where applicable

TECHNOLOGY PER ROOM

VOICE/DATA	1 phone / 2 data ports in floor and walls for flexibility
MEDIA	-
OTHER	Wireless

ENGINEERING SYSTEMS

ELECTRICAL	Power ports in floor and walls for flexibility
LIGHTING	General lighting 30-40 Fc
MECHANICAL	Dedicated zone
ACOUSTICS	Provide sound attenuation as required
PLUMBING	-
SECURITY	Card key access, security camera
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm horn & strobe

FURNITURE & EQUIPMENT

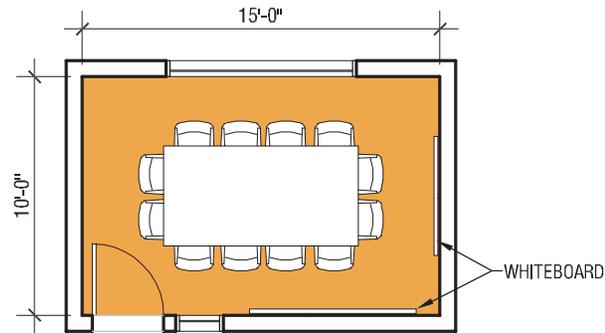
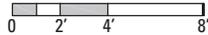
BUILT-IN	None
FIXED	1-10'x4' and 1-12'x4' whiteboard, window blinds with blackout capability
MOVABLE	20 task chairs, 4 tables
OTHER	None

SMALL MEETING ROOM

GENERAL

Small meeting room

TOTAL ASF	200
NO. OF OCCUPANTS	12
ADJACENCIES	Centrally located
VIEWS	To outside
MIN. CEILING HEIGHT	9'-6"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB/Resilient
FLOORS	Carpet
WINDOWS	Aluminum, Thermal break
DOORS	FSC certified solid-core wood
FRAMES	Aluminum with side lite
DAYLIGHTING	Exterior sun shading where applicable

TECHNOLOGY PER ROOM

VOICE/DATA	1 phone / 2 data ports in floor and walls for flexibility
MEDIA	-
OTHER	Wireless

ENGINEERING SYSTEMS

ELECTRICAL	Power ports in floor and walls for flexibility
LIGHTING	General lighting 30-40 Fc
MECHANICAL	Dedicated zone
ACOUSTICS	Provide sound attenuation as required
PLUMBING	-
SECURITY	Card key access, security camera
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm horn & strobe

FURNITURE & EQUIPMENT

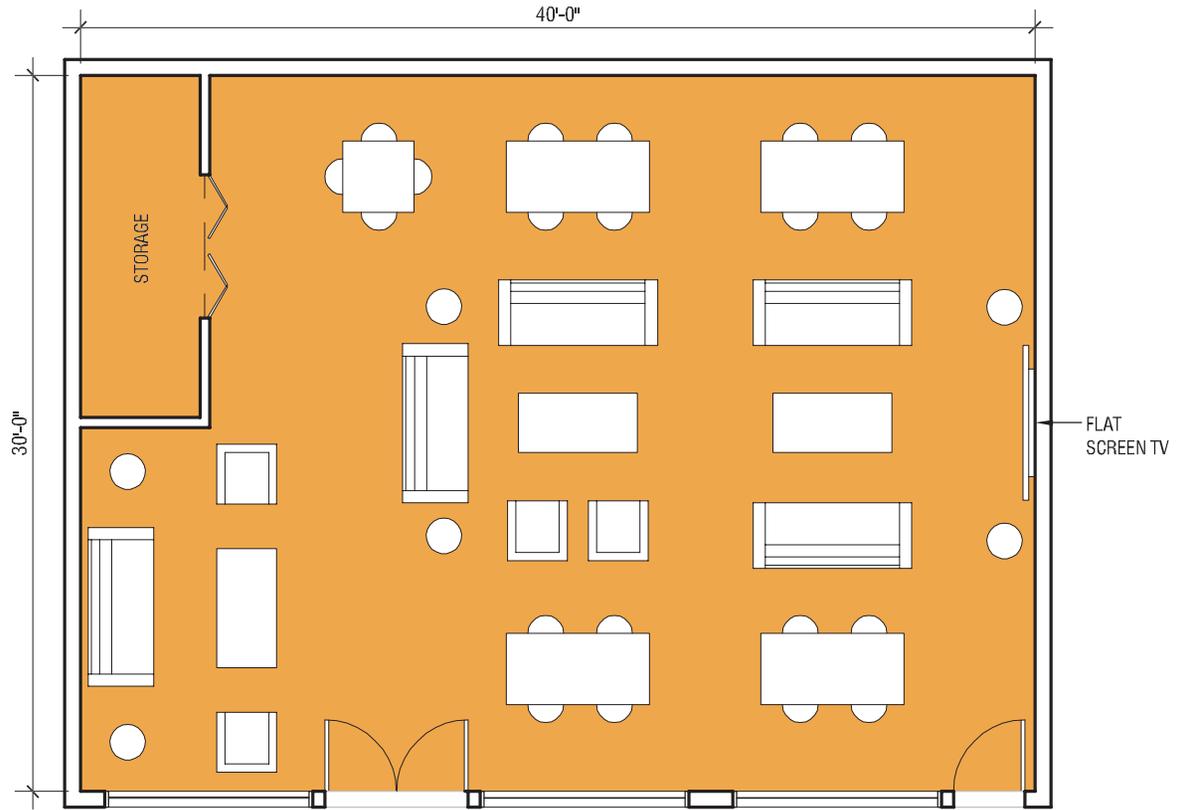
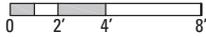
BUILT-IN	None
FIXED	2-6'x4' whiteboards, window blinds with blackout capability
MOVABLE	12 task chairs, 1 conference table
OTHER	None

LIVING ROOM

GENERAL

Social gathering area and informal study area

TOTAL ASF	1,200
NO. OF OCCUPANTS	-
ADJACENCIES	Off of main corridor and adjacent to kitchen, laundry room, and lounge
VIEWS	To outside
MIN. CEILING HEIGHT	9'-6"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB/Resilient
FLOORS	Resilient
WINDOWS	Aluminum, Thermal break
DOORS	FSC certified solid-core wood
FRAMES	Aluminum
DAYLIGHTING	Exterior sun shading where applicable

TECHNOLOGY PER ROOM

VOICE/DATA	1 phone / 4 data
MEDIA	1 cable TV, built-in smart systems (multi-media, AV, sound speaker, screen)
OTHER	Wireless

ENGINEERING SYSTEMS

ELECTRICAL	Per CEC 210, floor grid/access floor, hardwire
LIGHTING	General lighting 30-40 Fc, Task lighting 50 Fc
MECHANICAL	Dedicated zone
ACOUSTICS	Provide sound attenuation as required
PLUMBING	N/A
SECURITY	Card key access, security camera
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm horn & strobe

FURNITURE & EQUIPMENT

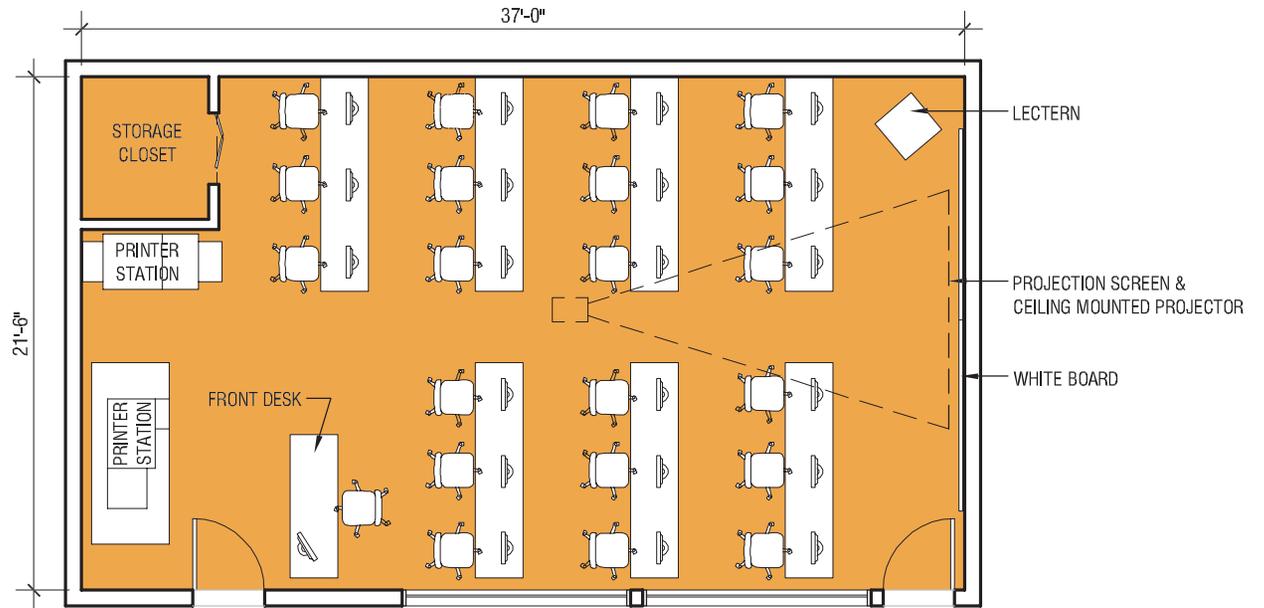
BUILT-IN	Storage
FIXED	Window blinds, flat screen TV
MOVABLE	5 couches, 4 lounge chairs, 6 side tables, 3 low tables, 4 rectangular study tables, 1 square study table, 20 task chairs
OTHER	Trash and recycling containers (not shown)

COMPUTER LAB

GENERAL

Computer lab, classes and training

TOTAL ASF	800
NO. OF OCCUPANTS	22
ADJACENCIES	Off of main corridor
VIEWS	To outside
MIN. CEILING HEIGHT	9'-6"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB with tackable wall surface/Resilient
FLOORS	Low VOC carpet or Resilient
WINDOWS	Aluminum, Thermal break
DOORS	FSC certified solid-core wood
FRAMES	Aluminum
DAYLIGHTING	Exterior sun shading where applicable

TECHNOLOGY PER ROOM

VOICE/DATA	1 phone / data in floors & walls
MEDIA	1 cable TV, roll-down projection screen, ceiling mounted digital projector and speakers
OTHER	Wireless

ENGINEERING SYSTEMS

ELECTRICAL	Duplex receptacles, floor grid/access floor for power & data
LIGHTING	Indirect/direct artificial lighting 30-35 Fc
MECHANICAL	Dedicated zone
ACOUSTICS	Provide sound attenuation as required
PLUMBING	N/A
SECURITY	Card key access, security camera, window sash locks
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm horn & strobe

FURNITURE & EQUIPMENT

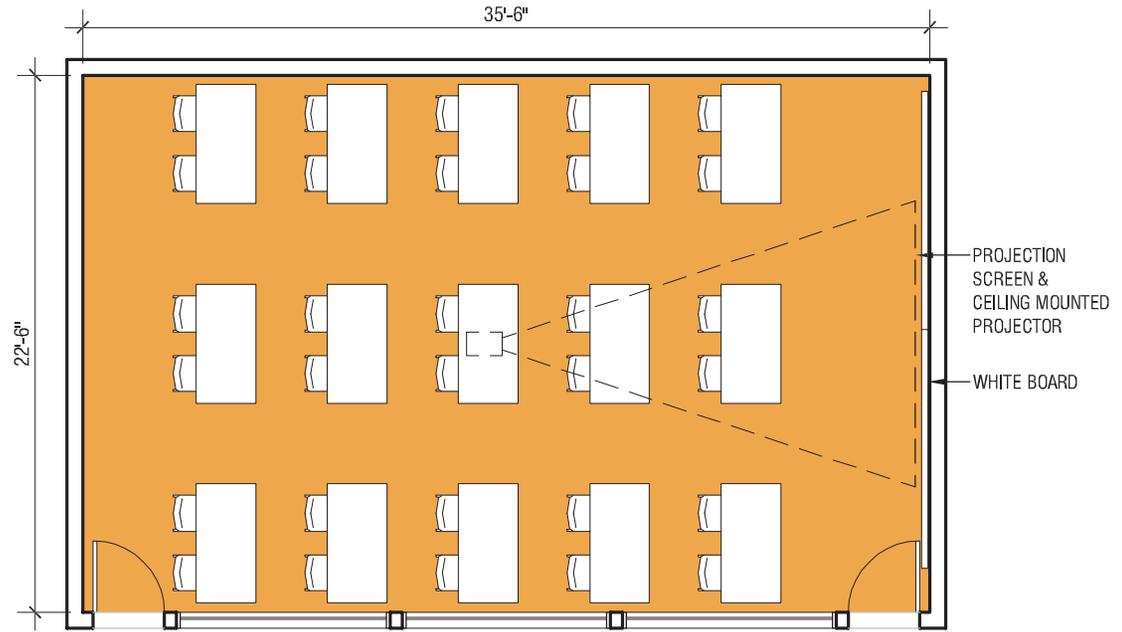
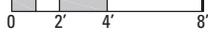
BUILT-IN	Storage
FIXED	2-8' x 4' white boards, window blinds with blackout capability
MOVABLE	22 Computers, 2 color printer/copiers, 8 computer tables, 22 chairs, lectern
OTHER	Trash and recycling containers (not shown)

ASSEMBLY

GENERAL

Classroom

TOTAL ASF	800
NO. OF OCCUPANTS	Per layout
ADJACENCIES	Computer lab
VIEWS	To outside
MIN. CEILING HEIGHT	9'-6"
ACCESSIBILITY	Per code
OTHER	Flexible seating, "Smart" classroom
SCALE	1/8" = 1'-0"



LAYOUT 1:
30 seats, 15 tables

FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB/Resilient
FLOORS	Carpet
WINDOWS	Aluminum, thermal break
DOORS	FSC certified solid-core wood
FRAMES	Aluminum
DAYLIGHTING	Exterior sun shading where applicable

TECHNOLOGY PER ROOM

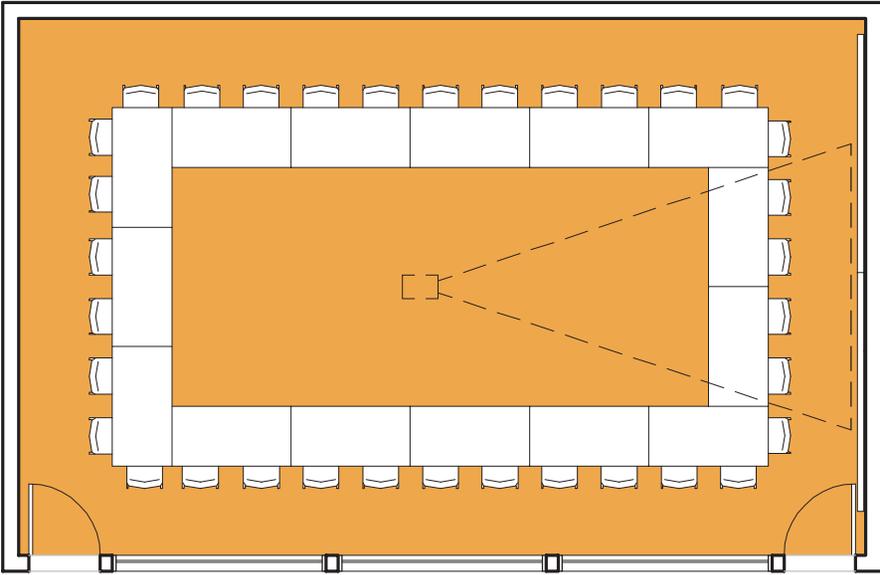
VOICE/DATA	1 phone / 2 data ports in floor and walls for flexibility, projection in ceiling
MEDIA	Roll-down projection screen, ceiling mounted digital projector and speakers
OTHER	Wireless

ENGINEERING SYSTEMS

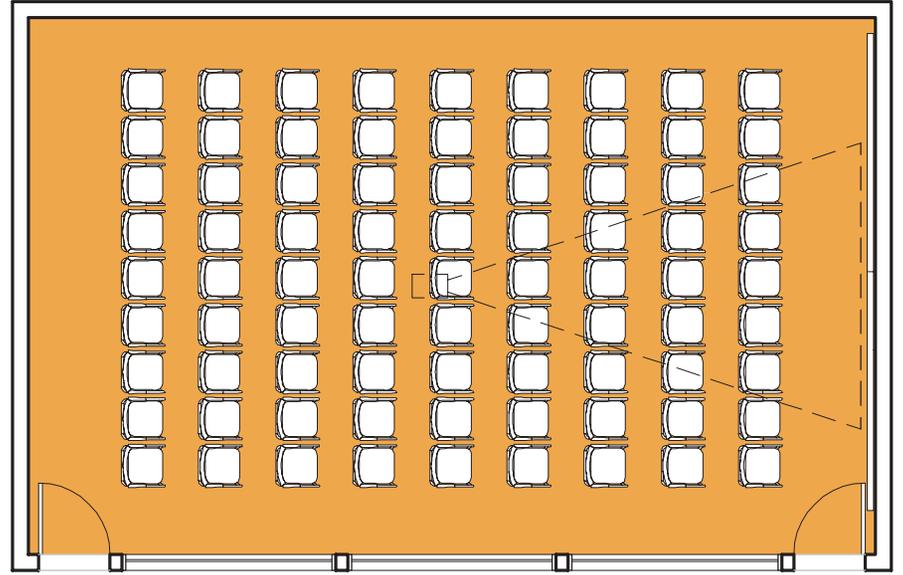
ELECTRICAL	Power receptacles floor and wall mounted
LIGHTING	General lighting 30-40 Fc
MECHANICAL	Dedicated zone
ACOUSTICS	Provide sound attenuation as required
PLUMBING	None
SECURITY	Card key access, security camera
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm horn & strobe

FURNITURE & EQUIPMENT

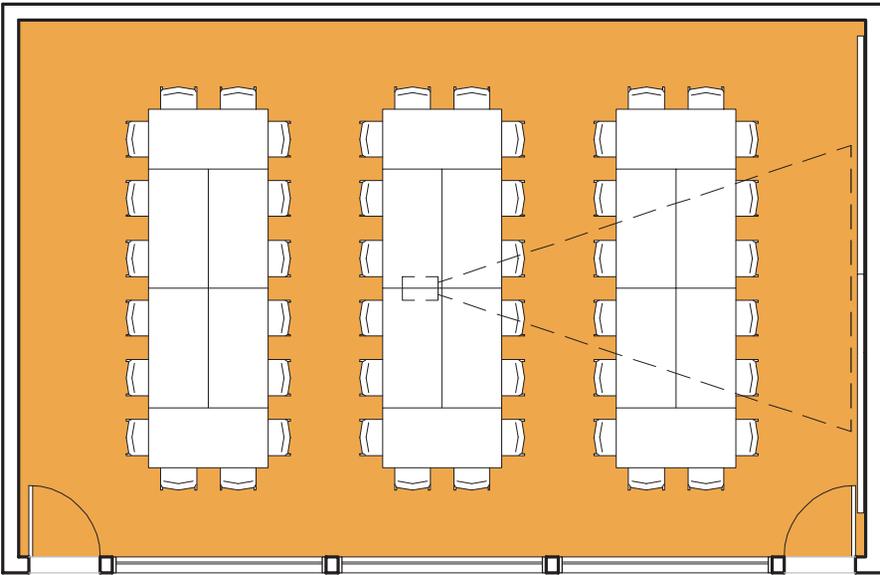
BUILT-IN	None
FIXED	2-8'x4' whiteboards, window blinds with blackout capability
MOVABLE	Chairs and tables per layout
OTHER	None



LAYOUT 2:
34 seats, 15 tables



LAYOUT 4:
81 seats



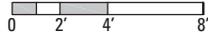
LAYOUT 3:
48 seats, 18 tables

FITNESS ROOM

GENERAL

Fitness room with equipment

TOTAL ASF	1,000
NO. OF OCCUPANTS	-
ADJACENCIES	Centrally located, away from residences
VIEWS	To outside
MIN. CEILING HEIGHT	9'-6"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



see opposite page for diagram

FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB/Resilient
FLOORS	Resilient
WINDOWS	Aluminum, Thermal break
DOORS	FSC certified solid-core wood
FRAMES	Aluminum
DAYLIGHTING	Exterior sun shading where applicable

TECHNOLOGY PER ROOM

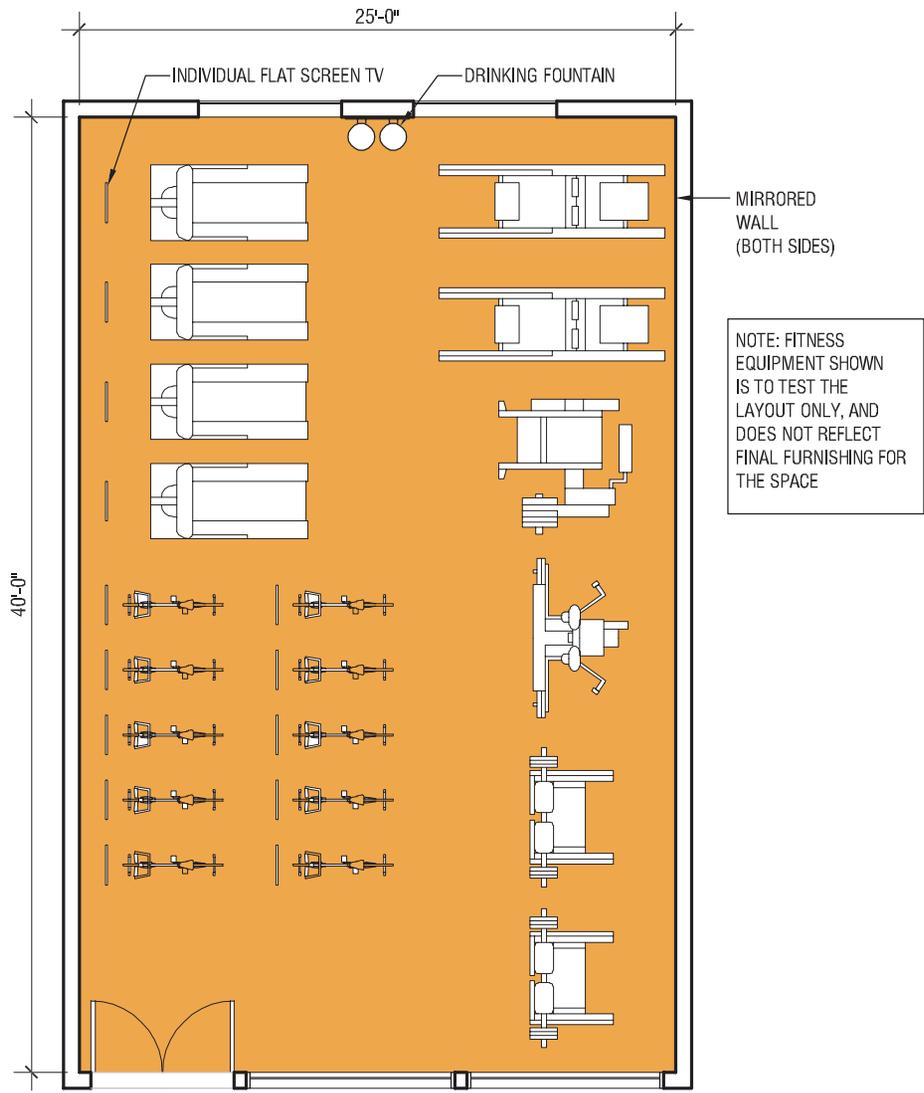
VOICE/DATA	None required
MEDIA	Cable TV
OTHER	Wireless

ENGINEERING SYSTEMS

ELECTRICAL	Flush floor outlets and dedicated circuits for equipment
LIGHTING	Indirect/direct artificial lighting 30-40 Fc
MECHANICAL	Dedicated zone
ACOUSTICS	Provide sound attenuation as required
PLUMBING	Drinking fountain
SECURITY	Card key access, security camera
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm horn & strobe

FURNITURE & EQUIPMENT

BUILT-IN	-
FIXED	Mirrors on walls, individual flat screen TV per cardio fitness machine
MOVABLE	Fitness equipment per UCR
OTHER	None

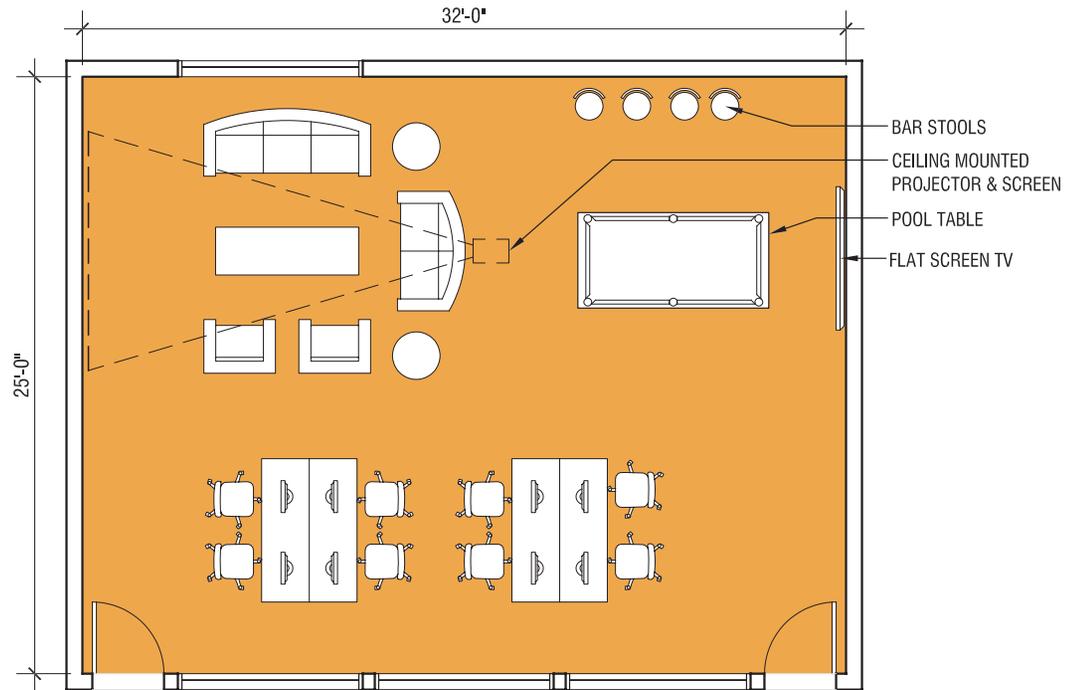


GAMING LOUNGE

GENERAL

Community gaming lounge

TOTAL ASF	800
NO. OF OCCUPANTS	-
ADJACENCIES	Centrally located
VIEWS	To outside
MIN. CEILING HEIGHT	9'-6"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB/Resilient
FLOORS	Carpet
WINDOWS	Aluminum, Thermal break
DOORS	FSC certified solid-core wood
FRAMES	Aluminum
DAYLIGHTING	Exterior sun shading where applicable

TECHNOLOGY PER ROOM

VOICE/DATA	1 phone / 2 data
MEDIA	Roll-down projection screen, ceiling mounted projector and speakers, 1 cable TV
OTHER	Wireless

ENGINEERING SYSTEMS

ELECTRICAL	Power receptacles floor and wall mounted
LIGHTING	General lighting 30-40 Fc, zoned
MECHANICAL	Dedicated zone
ACOUSTICS	STC 50 Recommended
PLUMBING	No special requirements
SECURITY	Card key access, security camera
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm horn & strobe

FURNITURE & EQUIPMENT

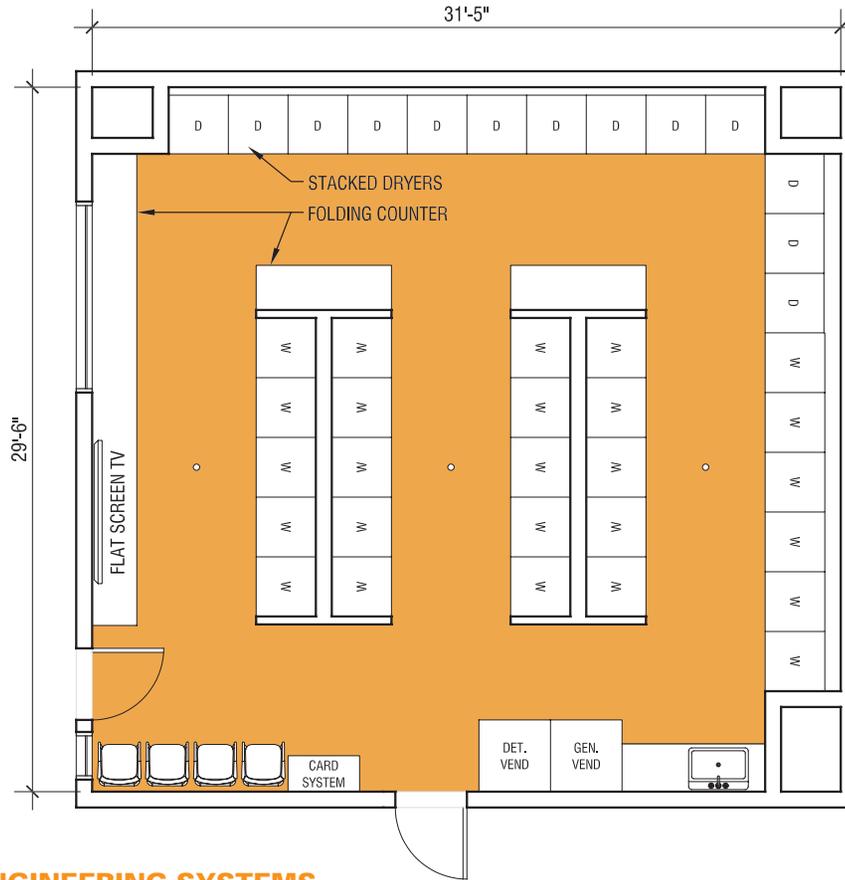
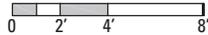
BUILT-IN	None
FIXED	Blinds at windows, flat screen TV
MOVABLE	4 computer tables, 8 computers, 8 task chairs, 1 low table, 2 sofas, 2 lounge seats, 2 side tables, 4 bar stools, 1 pool table
OTHER	None

LAUNDRY

GENERAL

Laundry area

TOTAL ASF	930
NO. OF OCCUPANTS	-
ADJACENCIES	Off of main corridor
VIEWS	To outside
MIN. CEILING HEIGHT	9'-6"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB/Resilient
FLOORS	Concrete
WINDOWS	Aluminum, Thermal break
DOORS	FSC certified solid-core wood
FRAMES	Aluminum w/ side lite
DAYLIGHTING	Exterior sun shading where applicable

TECHNOLOGY PER ROOM

VOICE/DATA	1 phone / 3 data, additional as required for laundry and vending systems
MEDIA	cable TV
OTHER	Card system for laundry vending machine, washers/dryers connected to system, wireless

ENGINEERING SYSTEMS

ELECTRICAL	Duplex receptacles per CEC 210, power as required for washers and dryers
LIGHTING	Direct artificial lighting 20-30 Fc
MECHANICAL	Exhaust air, make-up air and dryer vent
ACOUSTICS	Provide sound attenuation as required
PLUMBING	26 washers, 26 dryers (stacked), floor drains, laundry sink. Note: 600 students, Per Web Laundry Services, assume 23 students per washer/dryer ratio
SECURITY	Card key access, camera
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm horn & strobe

FURNITURE & EQUIPMENT

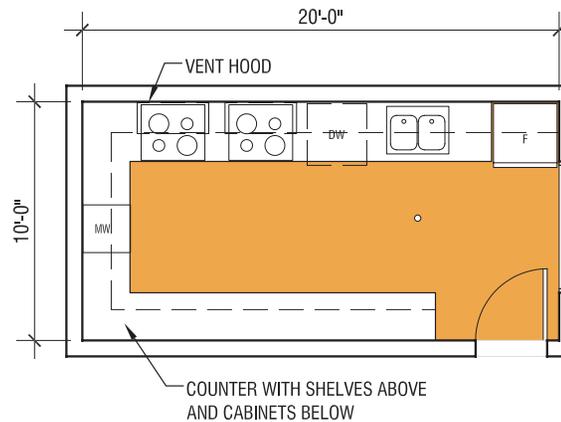
BUILT-IN	Folding counters
FIXED	Flat screen TV
MOVABLE	4 chairs, trash and recycling containers (not shown)
OTHER	Detergent vending machine, general vending machine

COMMUNITY KITCHEN

GENERAL

Food preparation and storage space for

TOTAL ASF	200
NO. OF OCCUPANTS	-
ADJACENCIES	Living Room
VIEWS	To outside
MIN. CEILING HEIGHT	8'-0"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB/Resilient
FLOORS	Resilient
WINDOWS	Aluminum, Thermal break
DOORS	FSC certified solid-core wood
FRAMES	Hollow metal
DAYLIGHTING	Exterior sun shading where applicable

TECHNOLOGY PER ROOM

VOICE/DATA	1 phone
MEDIA	None
OTHER	None

ENGINEERING SYSTEMS

ELECTRICAL	Per CEC 210, GFCI receptacles at countertop
LIGHTING	General lighting 30-40 Fc
MECHANICAL	Exhaust air
ACOUSTICS	Provide sound attenuation as required
PLUMBING	Stainless steel double compartment sink with garbage disposal, dishwasher, make-up water for refrigerator, gas stoves (8 burners), floor drain
SECURITY	Card key access
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm horn & strobe

FURNITURE & EQUIPMENT

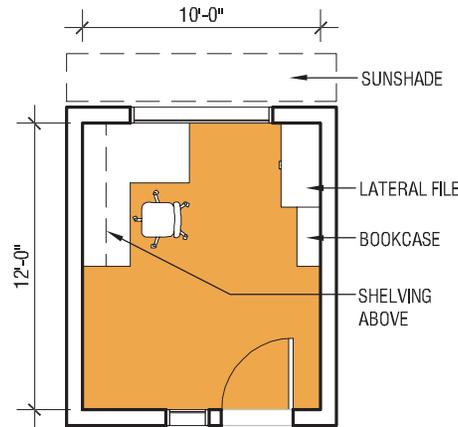
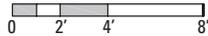
BUILT-IN	Lockable wall and base cabinets
FIXED	None
MOVABLE	None
OTHER	2 Gas ranges/ovens, refrigerator (F), dishwasher (DW), microwave (MW), trash and recycling containers (not shown)

FACULTY IN-RESIDENCE OFFICE

GENERAL

Office for Faculty in Residence

TOTAL ASF	120
NO. OF OCCUPANTS	1
ADJACENCIES	-
VIEWS	To outside
MIN. CEILING HEIGHT	9'-6"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB/Resilient
FLOORS	Carpet
WINDOWS	Aluminum, Thermal break
DOORS	FSC certified solid-core wood
FRAMES	Aluminum with side lite
DAYLIGHTING	Exterior sun shading where applicable

TECHNOLOGY PER ROOM

VOICE/DATA	1 phone / 1 data
MEDIA	None
OTHER	Wireless

ENGINEERING SYSTEMS

ELECTRICAL	Per CEC 210, power outlets on wall
LIGHTING	General lighting 35-40 Fc
MECHANICAL	No special requirements
ACOUSTICS	Provide sound attenuation as required
PLUMBING	None
SECURITY	Key lock
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm strobe

FURNITURE & EQUIPMENT

BUILT-IN	None
FIXED	Blinds at windows
MOVABLE	1 L-Shaped desk with overhead storage, 1 task chair, 1 lateral file, 1 bookcase, task lamp (not shown)
OTHER	None

2: PROGRAM

ROOM DATA SHEETS CAFÉ

SERVING

GENERAL

Refrigerated Storage and Merchandising, Dry Goods Merchandising, Self-Service Beverage Counter and Queuing, Coffee Platform, Coffee Platform Queuing, Food Platform #1, Food Platform Queuing, Food Platform #2, Food Platform Queuing, Cashiering and General Circulation

TOTAL ASF	2,150
NO. OF OCCUPANTS	-
ADJACENCIES	-
VIEWS	To outside
MIN. CEILING HEIGHT	12'-0"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



see opposite page for diagram

FINISHES/TREATMENT

CEILING	-
WALLS/BASE	-
FLOORS	-
WINDOWS	-
DOORS/FRAMES	-
DAYLIGHTING	-

ENGINEERING SYSTEMS

ELECTRICAL	-
LIGHTING	-
MECHANICAL	-
PLUMBING	-
ACOUSTICS	-
SECURITY	-
FIRE PROTECTION	-

TECHNOLOGY PER ROOM

VOICE/DATA	-
MEDIA	-
OTHER	-

FURNITURE & EQUIPMENT

BUILT-IN	-
FIXED	-
MOVABLE	-
OTHER	-

TO BE DETERMINED

TO BE DETERMINED

Refrigerated Storage and Merchandising	250 ASF
Dry Goods Merchandising	500 ASF
Self-Service Beverage Counter and Queuing	130 ASF
Coffee Platform	180 ASF
Coffee Platform Queuing	120 ASF
Food Platform #1	250 ASF
Food Platform Queuing	160 ASF
Food Platform #2	250 ASF
Food Platform Queuing	160 ASF
Cashiering and General Circulation	150 ASF

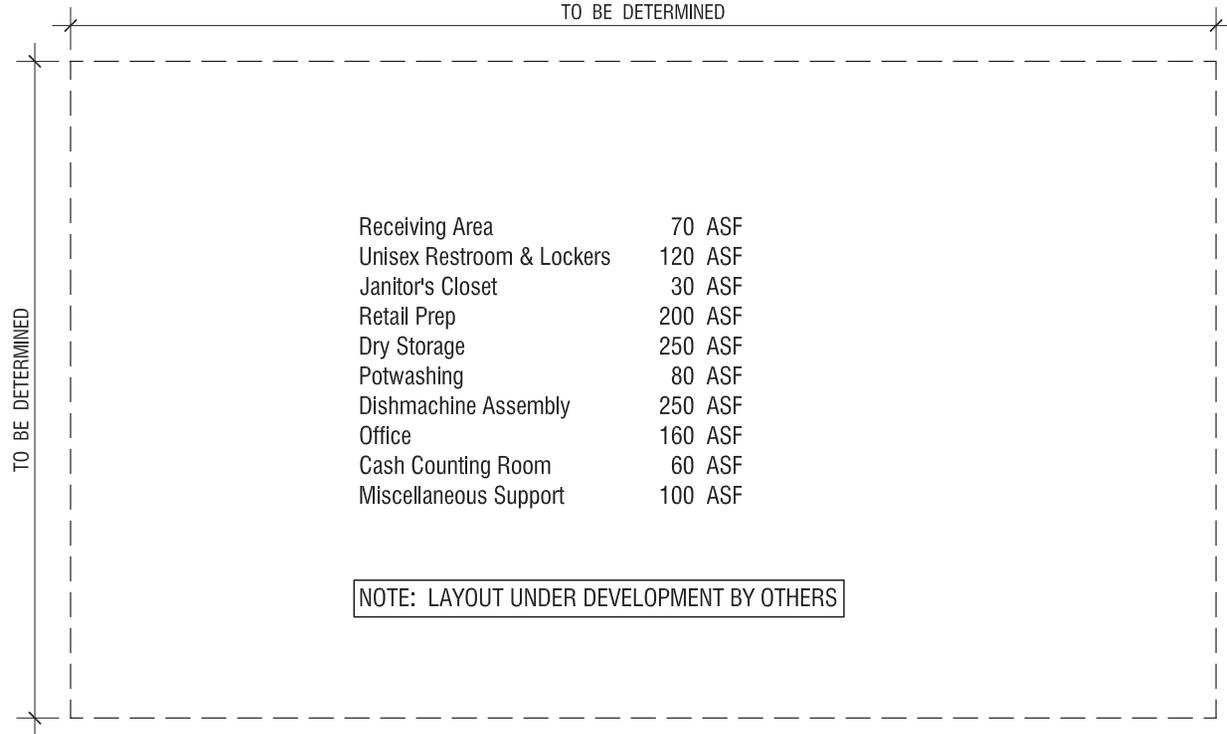
NOTE: LAYOUT UNDER DEVELOPMENT BY OTHERS

BACK OF HOUSE

GENERAL

Receiving Area, Unisex Restroom & Lockers, Janitor's Closet, Retail Prep, Dry Storage, Potwashing, Dishmachine Assembly, Office, Cash Counting Room, Miscellaneous Support

TOTAL ASF	1,320
NO. OF OCCUPANTS	-
ADJACENCIES	-
VIEWS	-
MIN. CEILING HEIGHT	12'-0"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	-
WALLS/BASE	-
FLOORS	-
WINDOWS	-
DOORS/FRAMES	-
DAYLIGHTING	-

TECHNOLOGY PER ROOM

VOICE/DATA	-
MEDIA	-
OTHER	-

ENGINEERING SYSTEMS

ELECTRICAL	-
LIGHTING	-
MECHANICAL	-
PLUMBING	-
ACOUSTICS	-
SECURITY	-
FIRE PROTECTION	-

FURNITURE & EQUIPMENT

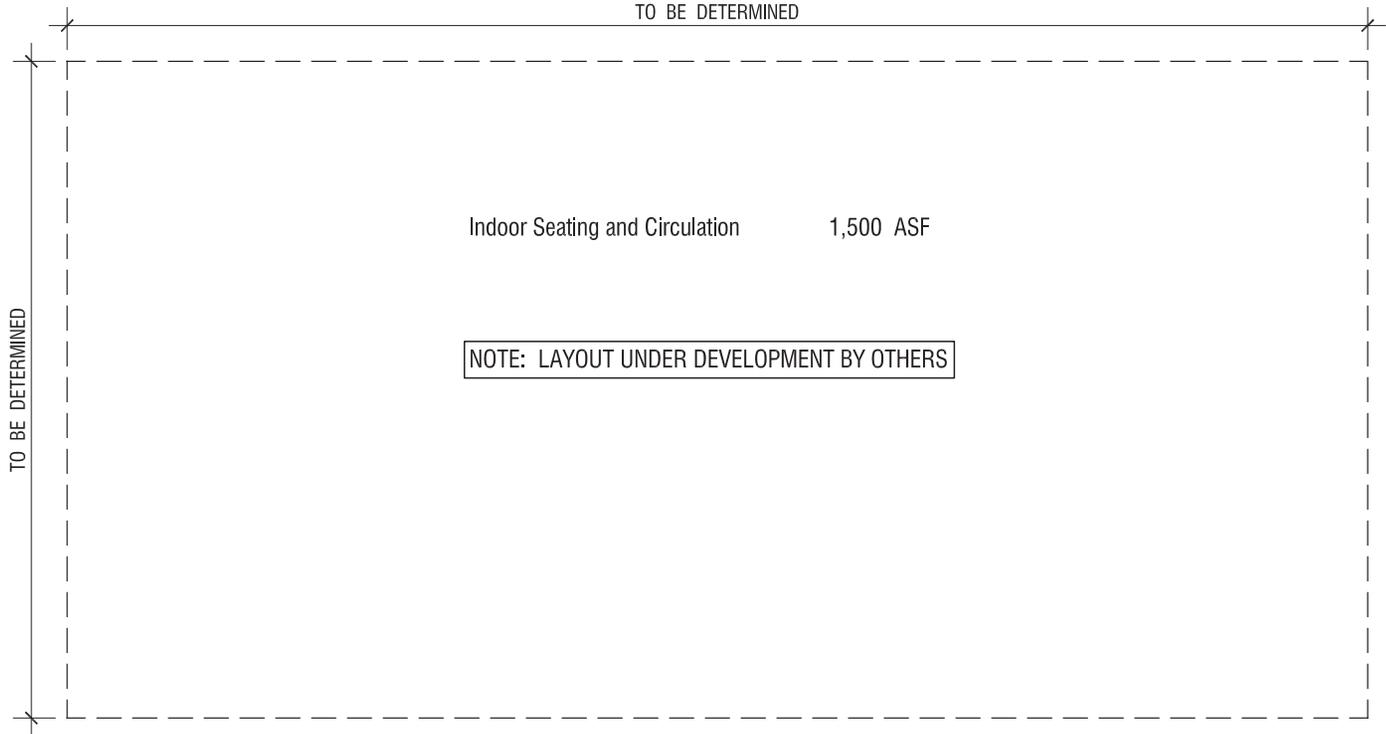
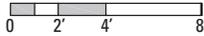
BUILT-IN	-
FIXED	-
MOVABLE	-
OTHER	-

INDOOR SEATING

GENERAL

Indoor Seating and Circulation

TOTAL ASF	1,500
NO. OF OCCUPANTS	80 to 90
ADJACENCIES	-
VIEWS	To outside
MIN. CEILING HEIGHT	12'-0"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	-
WALLS/BASE	-
FLOORS	-
WINDOWS	-
DOORS/FRAMES	-
DAYLIGHTING	-

TECHNOLOGY PER ROOM

VOICE/DATA	-
MEDIA	-
OTHER	-

ENGINEERING SYSTEMS

ELECTRICAL	-
LIGHTING	-
MECHANICAL	-
ACOUSTICS	-
PLUMBING	-
SECURITY	-
FIRE PROTECTION	-

FURNITURE & EQUIPMENT

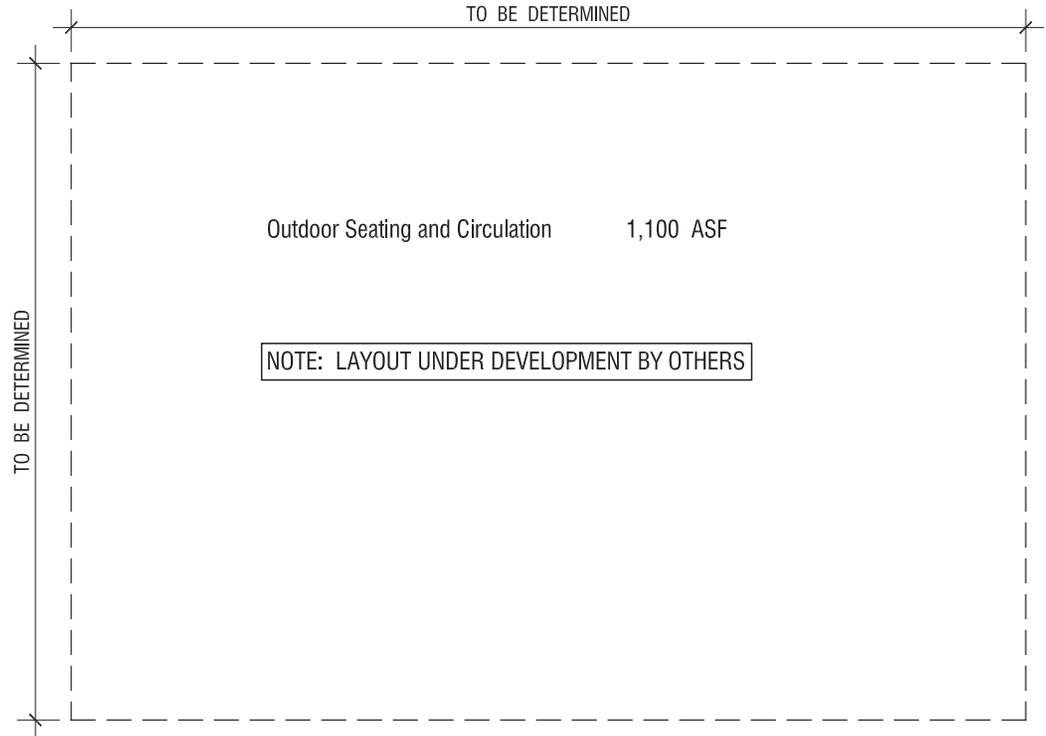
BUILT-IN	-
FIXED	-
MOVABLE	-
OTHER	-

OUTDOOR SEATING

GENERAL

Outdoor seating and circulation.

TOTAL ASF	1,100
NO. OF OCCUPANTS	60
ADJACENCIES	-
VIEWS	-
MIN. CEILING HEIGHT	-
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	-
WALLS/BASE	-
FLOORS	-
WINDOWS	-
DOORS/FRAMES	-
DAYLIGHTING	-

TECHNOLOGY PER ROOM

VOICE/DATA	-
MEDIA	-
OTHER	-

ENGINEERING SYSTEMS

ELECTRICAL	-
LIGHTING	-
MECHANICAL	-
PLUMBING	-
ACOUSTICS	-
SECURITY	-
FIRE PROTECTION	-

FURNITURE & EQUIPMENT

BUILT-IN	-
FIXED	-
MOVABLE	-
OTHER	-

2: PROGRAM

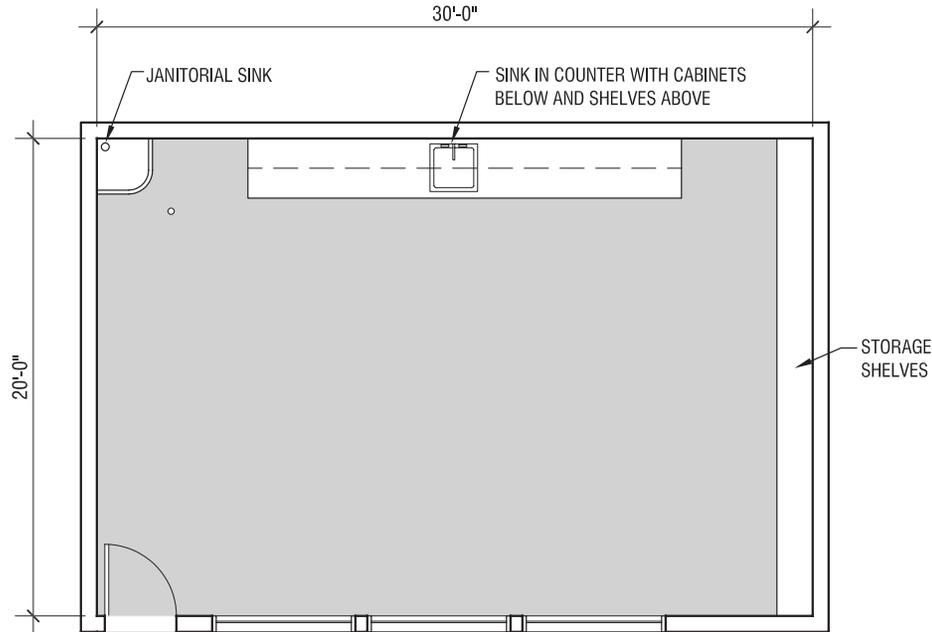
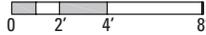
ROOM DATA SHEETS MAINTENANCE SPACES

MAINTENANCE SHOP

GENERAL

Facility maintenance

TOTAL ASF	600
NO. OF OCCUPANTS	-
ADJACENCIES	Break room for maintenance staff
VIEWS	Views desirable where possible
MIN. CEILING HEIGHT	8'-0"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC Painted GWB/Resilient
FLOORS	Sealed concrete
WINDOWS	Aluminum, Thermal break
DOORS	FSC certified solid wood-core
FRAMES	Hollow metal
DAYLIGHTING	Exterior sun shading where applicable

ENGINEERING SYSTEMS

ELECTRICAL	Per CEC 210, GFCI receptacles at countertop, power for shop equipment
LIGHTING	Direct general lighting 30-40 Fc
MECHANICAL	Exhaust air
ACOUSTICS	Provide sound attenuation as requested
PLUMBING	Janitorial sink, single basin stainless steel sink, floor drain
SECURITY	Key access
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm horn & strobe

TECHNOLOGY PER ROOM

VOICE/DATA	1 phone / 4 data
MEDIA	None
OTHER	Wireless

FURNITURE & EQUIPMENT

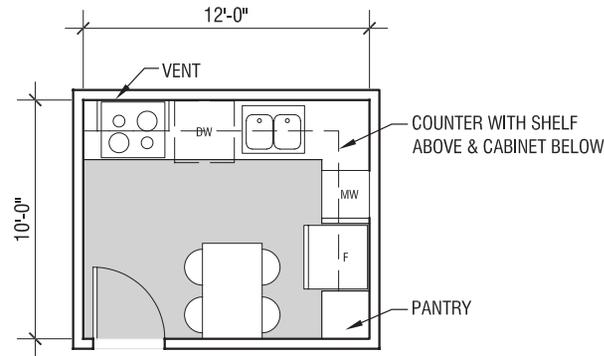
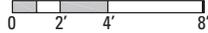
BUILT-IN	Counter and shelves above
FIXED	None
MOVABLE	None
OTHER	None

STAFF BREAK ROOM FOR MAINTENANCE STAFF

GENERAL

Food preparation and storage space for maintenance staff

TOTAL ASF	120
NO. OF OCCUPANTS	-
ADJACENCIES	Off of main corridor
VIEWS	Views desirable where possible
MIN. CEILING HEIGHT	8'-0"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB/Resilient
FLOORS	Resilient
WINDOWS	Aluminum, Thermal break
DOORS	FSC certified wood-core
FRAMES	Hollow metal
DAYLIGHTING	Exterior sun shading where applicable

TECHNOLOGY PER ROOM

VOICE/DATA	1 phone / 1 data
MEDIA	None
OTHER	Wireless

ENGINEERING SYSTEMS

ELECTRICAL	Per CEC 210, GFCI receptacles at countertop
LIGHTING	Ambient artificial light; indirect/direct 20-30 Fc
MECHANICAL	Exhaust air
ACOUSTICS	Provide sound attenuation as required
PLUMBING	Stainless steel double compartment sink with garbage disposal, dishwasher
SECURITY	Card key access
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm horn & strobe

FURNITURE & EQUIPMENT

BUILT-IN	Lockable pantry and base cabinets
FIXED	None
MOVABLE	1 table with 4 chairs
OTHER	Gas range, sink, oven, refrigerator (F) and microwave (MW), dishwasher (DW), trash and recycling containers (not shown)

2: PROGRAM

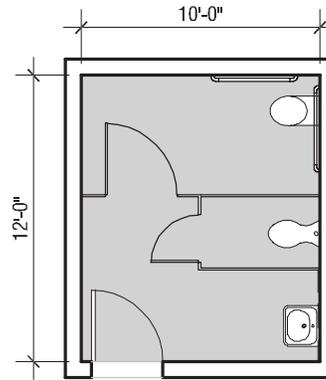
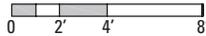
ROOM DATA SHEETS **SUPPORT SPACES**

PUBLIC RESTROOMS

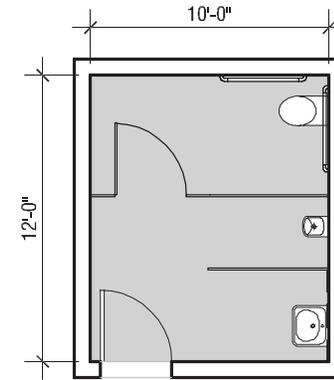
GENERAL

Restrooms for visitors

TOTAL ASF	120 EA.
NO. OF OCCUPANTS	N/A
ADJACENCIES	Off of main corridor
VIEWS	None
MIN. CEILING HEIGHT	8'-0"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FEMALE



MALE

FINISHES/TREATMENT

CEILING	Moisture resistant GWB
WALLS/BASE	GWB/Ceramic tile wainscot
FLOORS	Ceramic tile
WINDOWS	None
DOORS	FSC certified solid-core wood
FRAMES	Hollow metal
DAYLIGHTING	-

ENGINEERING SYSTEMS

ELECTRICAL	General duplex receptacles per CEC 210
LIGHTING	Direct artificial lighting 30-40 Fc
MECHANICAL	Exhaust air, no air conditioning
ACOUSTICS	Provide sound attenuation as required
PLUMBING	Dual flush toilets, flow control aerator on lavatory, urinal
SECURITY	None
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm strobe

TECHNOLOGY PER ROOM

VOICE/DATA	None
MEDIA	None
OTHER	None

FURNITURE & EQUIPMENT

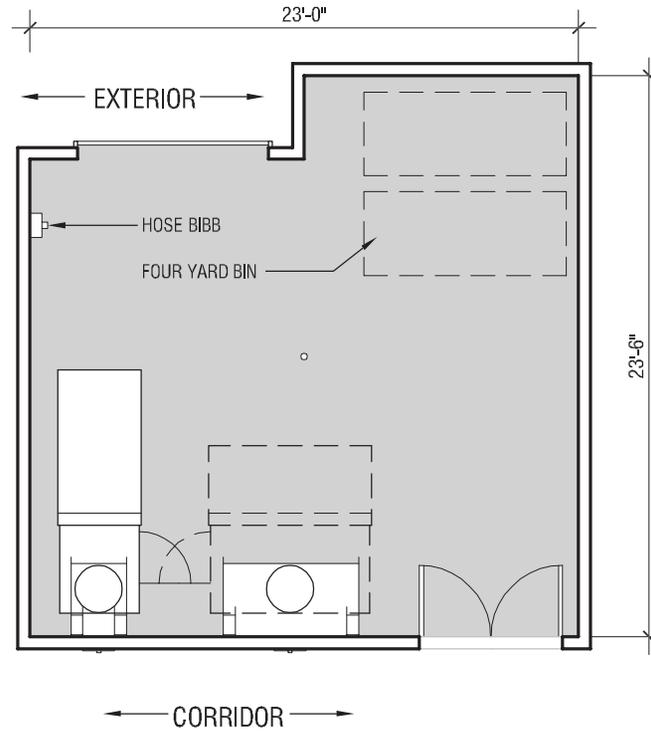
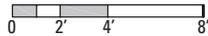
BUILT-IN	Bathroom casework/fixtures
FIXED	None
MOVABLE	None
OTHER	None

TRASH & RECYCLE ROOM

GENERAL

Trash and recycling bins on ground floor

TOTAL ASF	500
NO. OF OCCUPANTS	-
ADJACENCIES	Off of main corridor
VIEWS	None
MIN. CEILING HEIGHT	8'-0"
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Exposed underside
WALLS/BASE	Epoxy painted CMU/ None
FLOORS	Concrete
WINDOWS	None
DOORS	Roll-up at exterior, FSC certified solid-core at interior
FRAMES	Hollow metal interior
DAYLIGHTING	-

TECHNOLOGY PER ROOM

VOICE/DATA	None
MEDIA	None
OTHER	None

ENGINEERING SYSTEMS

ELECTRICAL	General duplex receptacles (verify power requirements for compactors)
LIGHTING	Direct artificial lighting 10-20 Fc
MECHANICAL	Exhaust air
ACOUSTICS	Provide sound attenuation as required
PLUMBING	Hose bibb, floor drain
SECURITY	Card key access
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm strobe

FURNITURE & EQUIPMENT

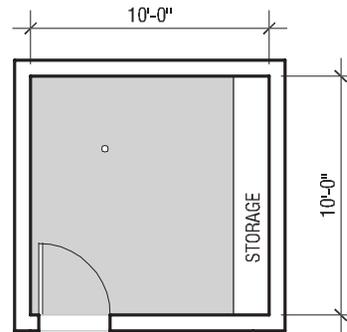
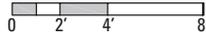
BUILT-IN	None
FIXED	Trash dumpsters, trash compactor
MOVABLE	Paper and recycling (CRV) bins
OTHER	None

HOUSEKEEPING SERVICES

GENERAL

Housekeeping room

TOTAL ASF	100
NO. OF OCCUPANTS	-
ADJACENCIES	Off of main corridor
VIEWS	None
MIN. CEILING HEIGHT	8'-0"
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB/Resilient
FLOORS	Resilient
WINDOWS	None
DOORS	FSC certified solid-core wood
FRAMES	Hollow Metal
DAYLIGHTING	-

ENGINEERING SYSTEMS

ELECTRICAL	N/A
LIGHTING	Direct artificial lighting 20-30 Fc
MECHANICAL	No special requirements
ACOUSTICS	N/A
PLUMBING	Floor drain
SECURITY	Key lock
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm strobe

TECHNOLOGY PER ROOM

VOICE/DATA	-
MEDIA	-
OTHER	-

FURNITURE & EQUIPMENT

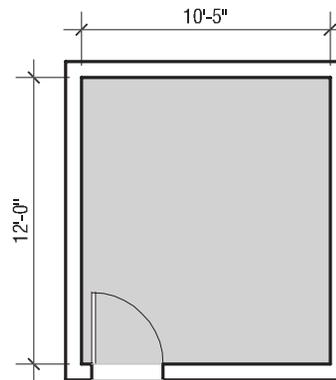
BUILT-IN	None
FIXED	None
MOVABLE	Shelves
OTHER	None

TELECOMMUNICATIONS CLOSET

GENERAL

Telecommunications equipment room

TOTAL ASF	125
NO. OF OCCUPANTS	-
ADJACENCIES	Off of main corridor
VIEWS	None
MIN. CEILING HEIGHT	8'-0"
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB/Resilient
FLOORS	Resilient
WINDOWS	None
DOORS	FSC certified solid-core wood
FRAMES	Hollow Metal
DAYLIGHTING	-

ENGINEERING SYSTEMS

ELECTRICAL	N/A
LIGHTING	Direct artificial lighting 20-30 Fc
MECHANICAL	No special requirements
ACOUSTICS	N/A
PLUMBING	-
SECURITY	Key lock
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm strobe

TECHNOLOGY PER ROOM

VOICE/DATA	Per telecom requirements
MEDIA	Per telecom requirements
OTHER	-

FURNITURE & EQUIPMENT

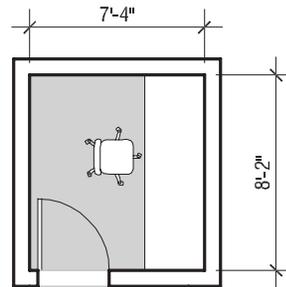
BUILT-IN	None
FIXED	Per telecom requirements
MOVABLE	None
OTHER	None

SECURITY ROOM

GENERAL

Security surveillance office

TOTAL ASF	60
NO. OF OCCUPANTS	-
ADJACENCIES	Off of main corridor
VIEWS	None
MIN. CEILING HEIGHT	8'-0"
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Low VOC painted GWB
WALLS/BASE	Low VOC painted GWB/Resilient
FLOORS	Carpet
WINDOWS	None
DOORS	FSC certified solid-core wood
FRAMES	Hollow Metal
DAYLIGHTING	-

ENGINEERING SYSTEMS

ELECTRICAL	Per CEC 210, power outlets on wall
LIGHTING	Indirect/direct articial lighting generally 5-10Fc and 40-50 Fc for task lights
MECHANICAL	No special requirements
ACOUSTICS	Provide sound attenuation as required
PLUMBING	No special requirements
SECURITY	Key lock
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm strobe

TECHNOLOGY PER ROOM

VOICE/DATA	1 phone / number and capacity of data lines to be determined
MEDIA	Security CCTV
OTHER	Wireless

FURNITURE & EQUIPMENT

BUILT-IN	Counter
FIXED	None
MOVABLE	1 Task chair, 1 task lamp (not shown)
OTHER	Security monitoring devices (not shown)

2: PROGRAM

ROOM DATA SHEETS OUTDOOR FACILITIES

BICYCLE STORAGE & BIKE REPAIR

GENERAL

Bicycle storage and repair area, should have visual impact to encourage bike riding

TOTAL ASF	To be determined
NO. OF OCCUPANTS	-
ADJACENCIES	Near main path of travel
VIEWS	None
MIN. CEILING HEIGHT	8'-0"
SCALE	1/8" = 1'-0"



see opposite page for diagram

FINISHES/TREATMENT

CEILING	Exposed Underside
WALLS/BASE	Low VOC painted GWB or painted CMU/Resilient
FLOORS	Concrete
WINDOWS	None
DOORS	Hollow metal exterior
FRAMES	Hollow metal exterior
DAYLIGHTING	Exterior sun shading where applicable

TECHNOLOGY PER ROOM

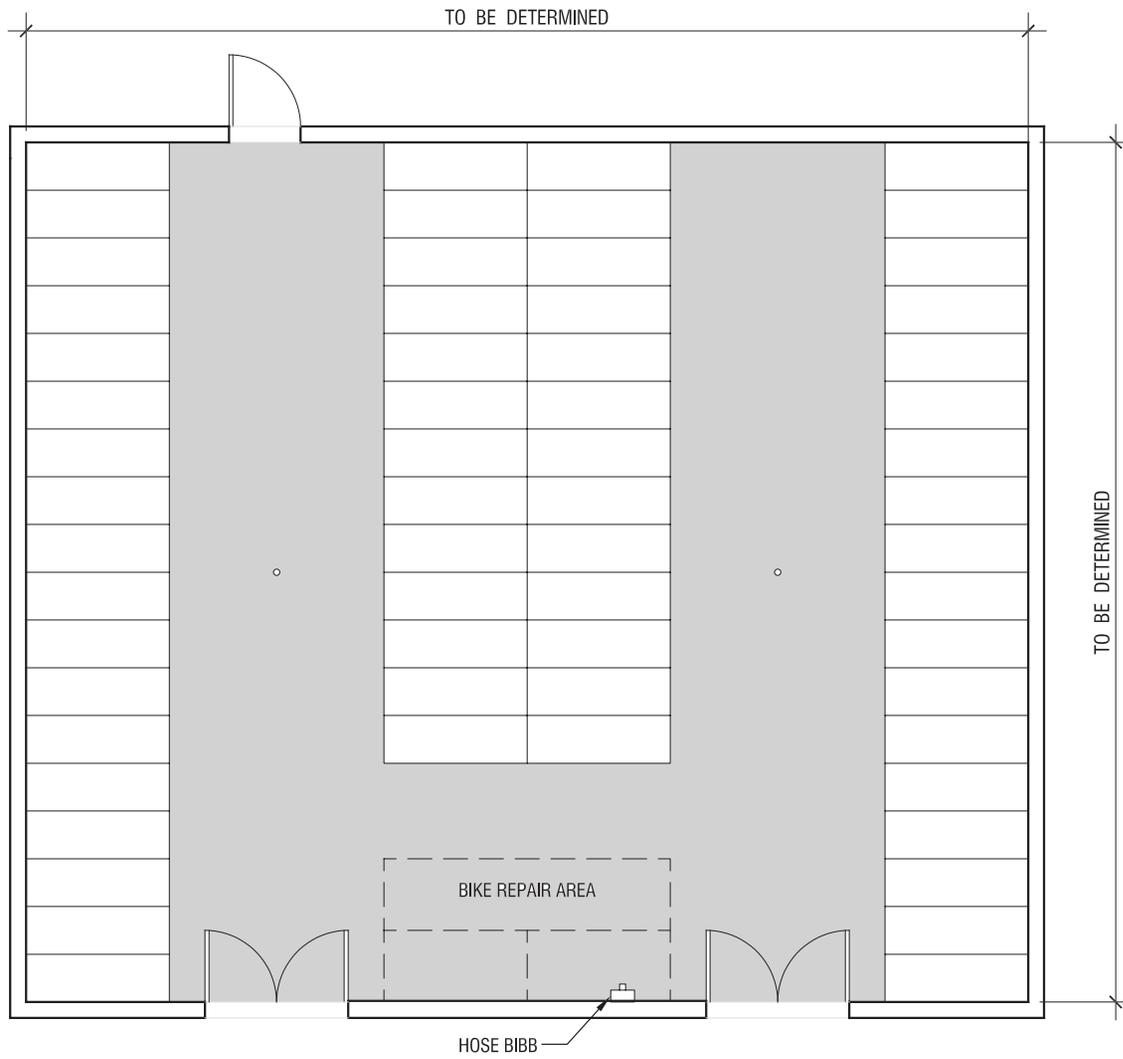
VOICE/DATA	None
MEDIA	None
OTHER	None

ENGINEERING SYSTEMS

ELECTRICAL	General duplex receptacles
LIGHTING	Direct artificial lighting 10-20 Fc
MECHANICAL	Per Mechanical Consultant
ACOUSTICS	Provide sound attenuation as required
PLUMBING	Floor drain, hose bibb
SECURITY	Card key access, security camera
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm horn & strobe

FURNITURE & EQUIPMENT

BUILT-IN	None
FIXED	2 bike repair stands with work benches, task lighting & compressor equipment (not shown), number of bicycle storage racks to be determined upon building layout and LEED requirements
MOVABLE	None
OTHER	None



RECREATION FIELDS

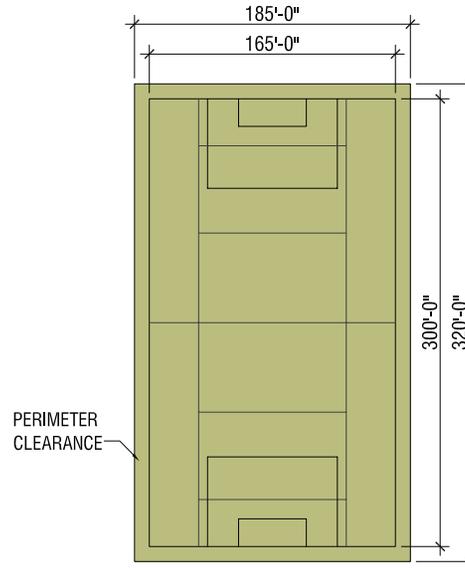
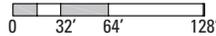
GENERAL

Athletic fields for intramural and club sports

TOTAL ASF	59,200
NO. OF OCCUPANTS	-
ADJACENCIES	Public restrooms and field storage
VIEWS	
CRITICAL CLEARANCES	10' clearance around perimeter
TURF SECTION	6" imported top soil, 6" No.20 silica sand base, geotextile filter fabric, subsurface drainage system, turf type Bullseye, GN1 or Tiftway2

ACCESSIBILITY
SCALE

1/128" = 1'-0"



FINISHES/TREATMENT

CEILING	-
WALLS/BASE	-
FLOORS	-
WINDOWS	-
DOORS	-
FRAMES	-
DAYLIGHTING	-

ENGINEERING SYSTEMS

ELECTRICAL	GFCI receptacles at select light pole locations to be determined
LIGHTING	30 Fc at field surface
MECHANICAL	-
ACOUSTICS	-
PLUMBING	-
SECURITY	12' high black vinyl coated chain link fence provided along closed sides of the fields. One card access pedestrian gate to be provided on each open side of the fields
FIRE PROTECTION	-

TECHNOLOGY PER ROOM

VOICE/DATA	Emergency phone call at edge of fields
MEDIA	None
OTHER	None

FURNITURE & EQUIPMENT

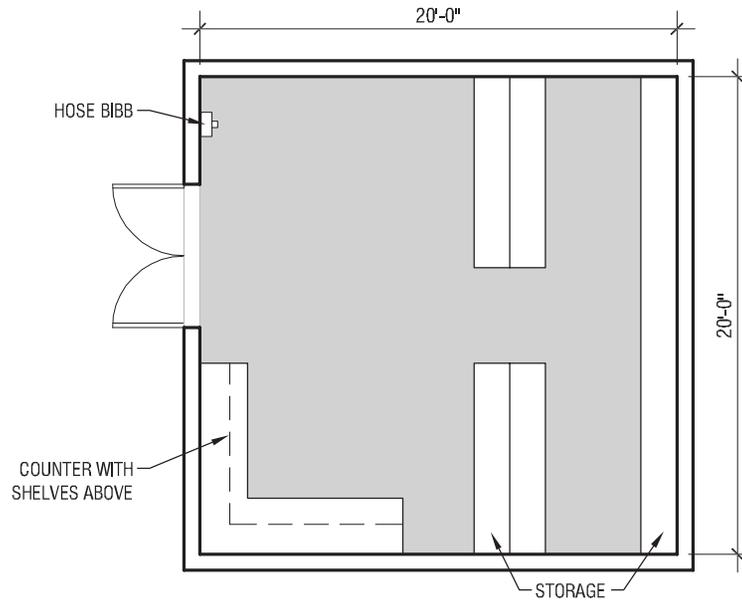
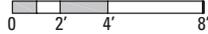
BUILT-IN	-
FIXED	-
MOVABLE	-
OTHER	-

FIELD STORAGE

GENERAL

Storage space for field and athletic equipments (goal posts, nets, etc.)

TOTAL ASF	400
NO. OF OCCUPANTS	-
ADJACENCIES	Fields
VIEWS	None
ACCESSIBILITY	Per code
SCALE	1/8" = 1'-0"



FINISHES/TREATMENT

CEILING	Exposed underside
WALLS/BASE	Low VOC painted GWB or CMU/ Resilient
FLOORS	Concrete
WINDOWS	None
DOORS	Hollow metal
FRAMES	Hollow metal
DAYLIGHTING	-

TECHNOLOGY PER ROOM

VOICE/DATA	None
MEDIA	None
OTHER	None

ENGINEERING SYSTEMS

ELECTRICAL	General duplex receptacles
LIGHTING	General lighting
MECHANICAL	Per mechanical consultant
ACOUSTICS	-
PLUMBING	Hose bibb
SECURITY	Key access
FIRE PROTECTION	Sprinkler, smoke detector, fire alarm horn & strobe

FURNITURE & EQUIPMENT

BUILT-IN	-
FIXED	-
MOVABLE	-
OTHER	-



3: BUILDING DESCRIPTION

Dundee Residence Halls Phases 1 and 2
Building Description
Building Envelope

The Dundee Residence Halls Phases 1 and 2 building organization is described in plan and section. The building envelope is discussed within the context of the campus precedent of arcades, sunshades, and materials as well as other integrated solutions to minimize building heat gain.

vision users community connections **flexibility** sustainability technology operations security design layers accessibility diversity safety respect opportunity educational experiential timeless efficiency practical logical identity viability collaboration productive future native active integrated scale performance variety indoor/outdoor innovative vision users **community** connections flexibility sustainability technology operations security design **layers** accessibility diversity safety respect opportunity educational experiential timeless efficiency practical **logical** identity viability collaboration productive future native active integrated scale performance variety **indoor/outdoor** innovative vision users community connections flexibility sustainability technology operations security **design** layers accessibility diversity safety respect opportunity educational experiential timeless **efficiency** practical logical identity viability collaboration productive future native active integrated scale performance variety indoor/outdoor innovative vision users community connections flexibility sustainability technology operations security design layers accessibility diversity safety respect opportunity educational experiential **timeless** efficiency

3: BUILDING DESCRIPTION

DUNDEE RESIDENCE HALLS
PHASES 1 AND 2
BUILDING DESCRIPTION

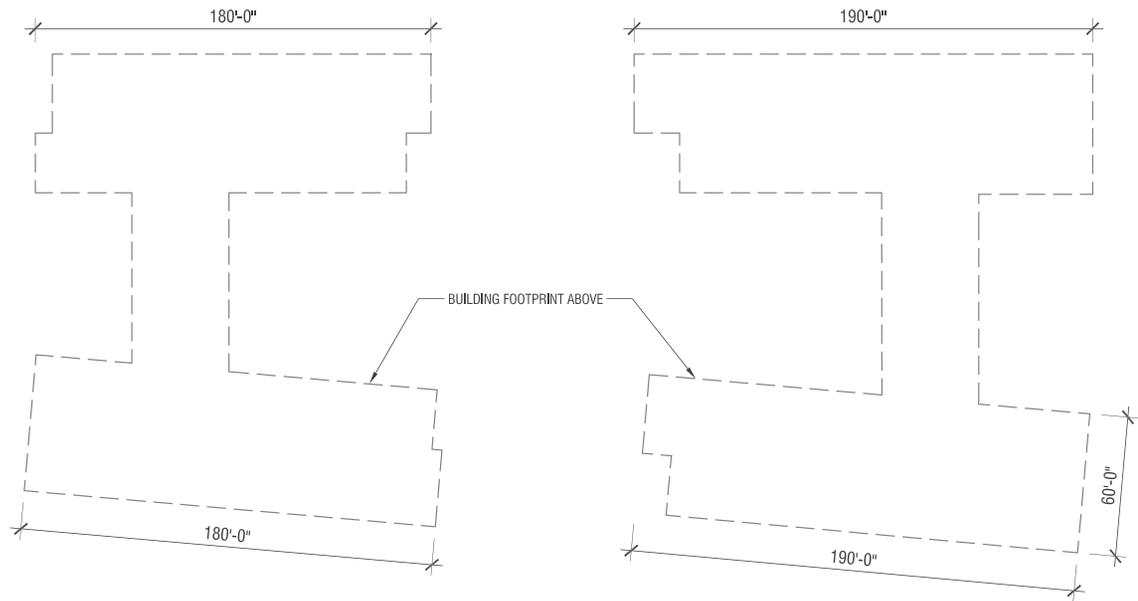
PROGRAM ORGANIZATION

The Dundee Residence Halls are separated into two building phases: Phase 1 and Phase 2.

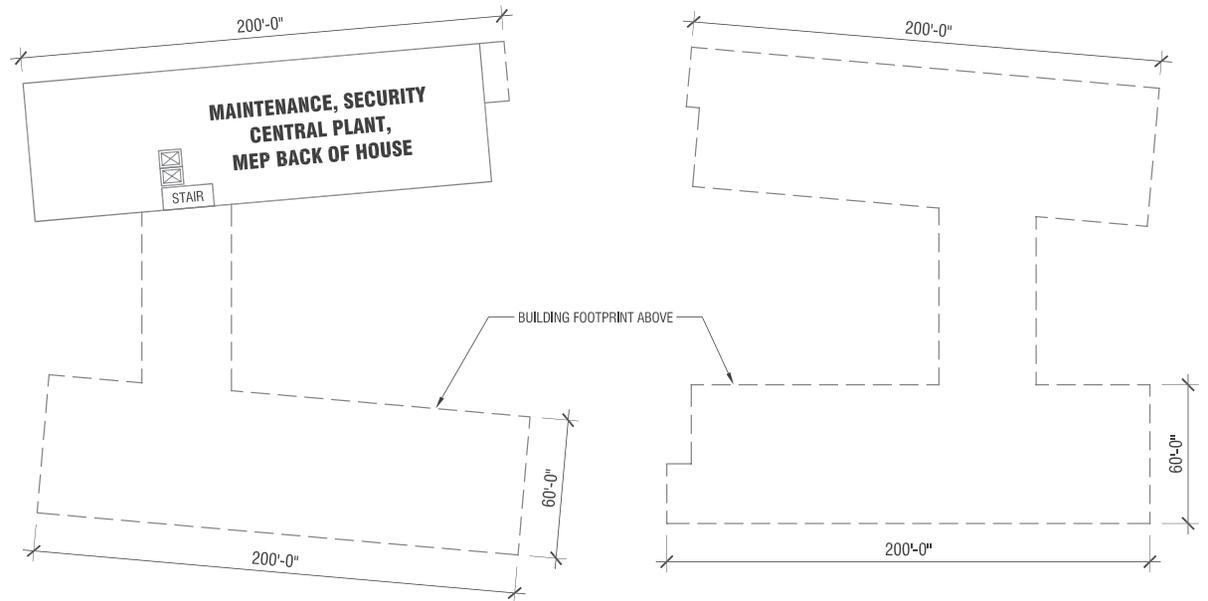
BASEMENT:

A basement will be located in the north-west bar of the Dundee Residence Halls Phase 1 buildings and will house the central plant, maintenance, security and additional MEP back of house programmatic requirements.

The central plant will ultimately serve both Phase 1 and Phase 2 of the Dundee Residence Halls community including the conference center and catering kitchen .



Dundee Residence Halls Phase 2: Building Footprint Diagram



Dundee Residence Halls Phase 1: Basement Floor Plan Diagram

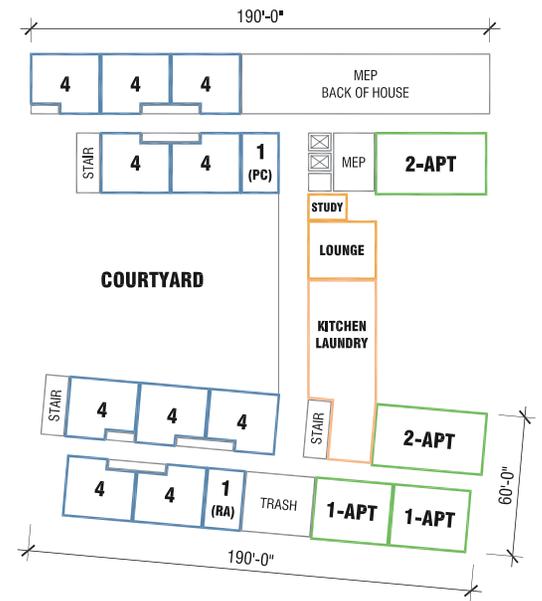
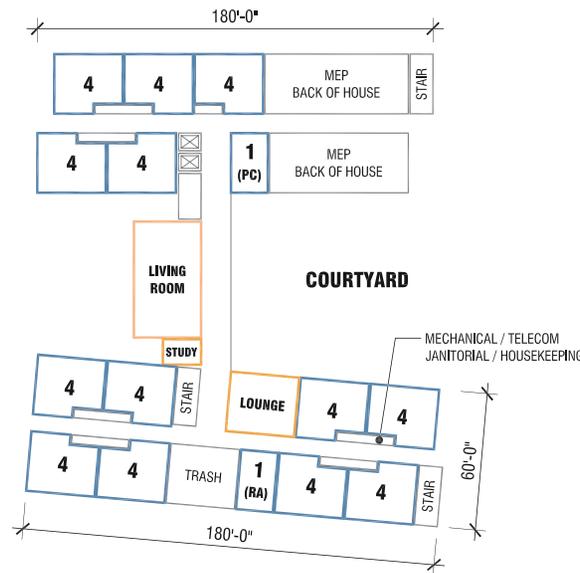


GROUND FLOOR:

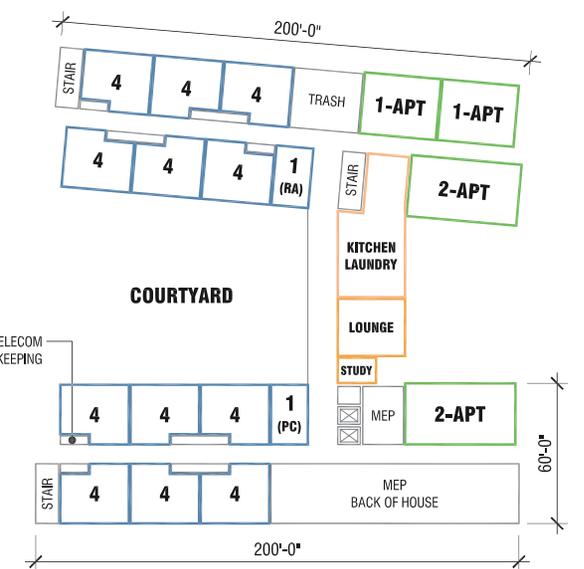
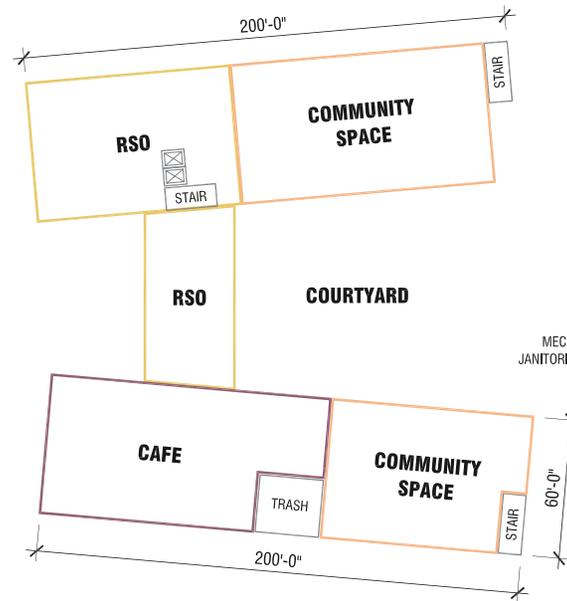
In order to activate the Aberdeen Drive Extension from Linden Street, all public spaces including the Resident Services Office (RSO), the Community Space and the Café are located on the ground floor of the south-west bar of the Dundee Residence Halls Phase 1 buildings.

The permeable nature of the ground floors of buildings on campus fosters a high level of interaction between building and user. Passage ways through buildings are an important element in the campus system of circulation and a link between campus open spaces. (Other examples of open circulation paths include attached arcades and open-air connections to courtyards as well as direct entries to first-floor classrooms from adjacent malls or open spaces.)

The RSO, Community Space and Café will ultimately serve both Phase 1 and Phase 2 of the Dundee Residence Halls community.



Dundee Residence Halls Phase 2: Ground Floor Plan Diagram



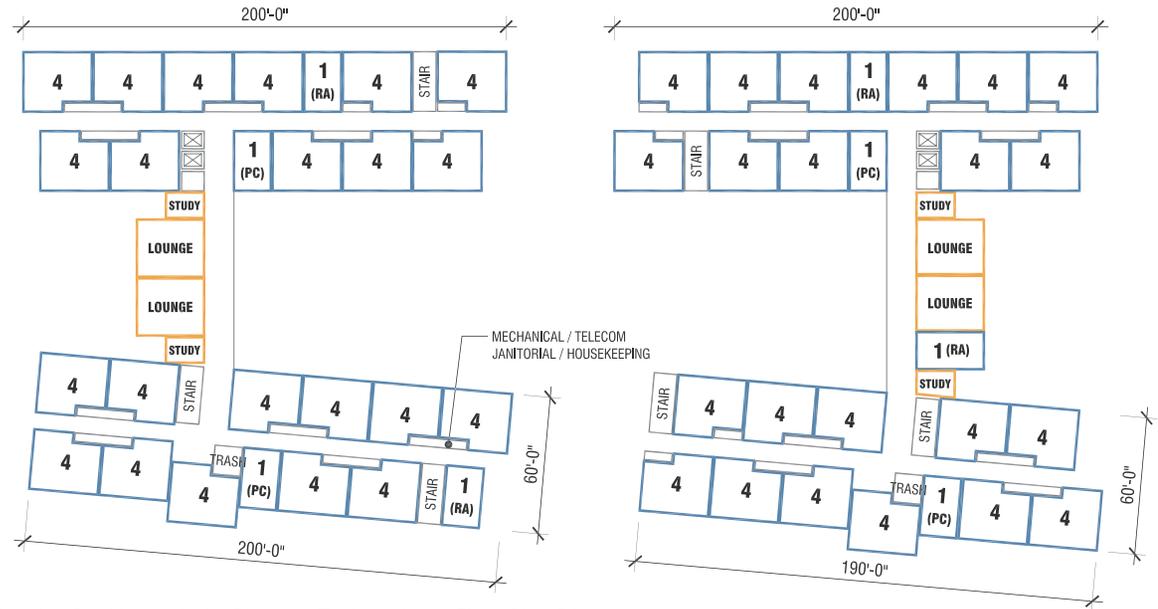
Dundee Residence Halls Phase 1: Ground Floor Plan Diagram



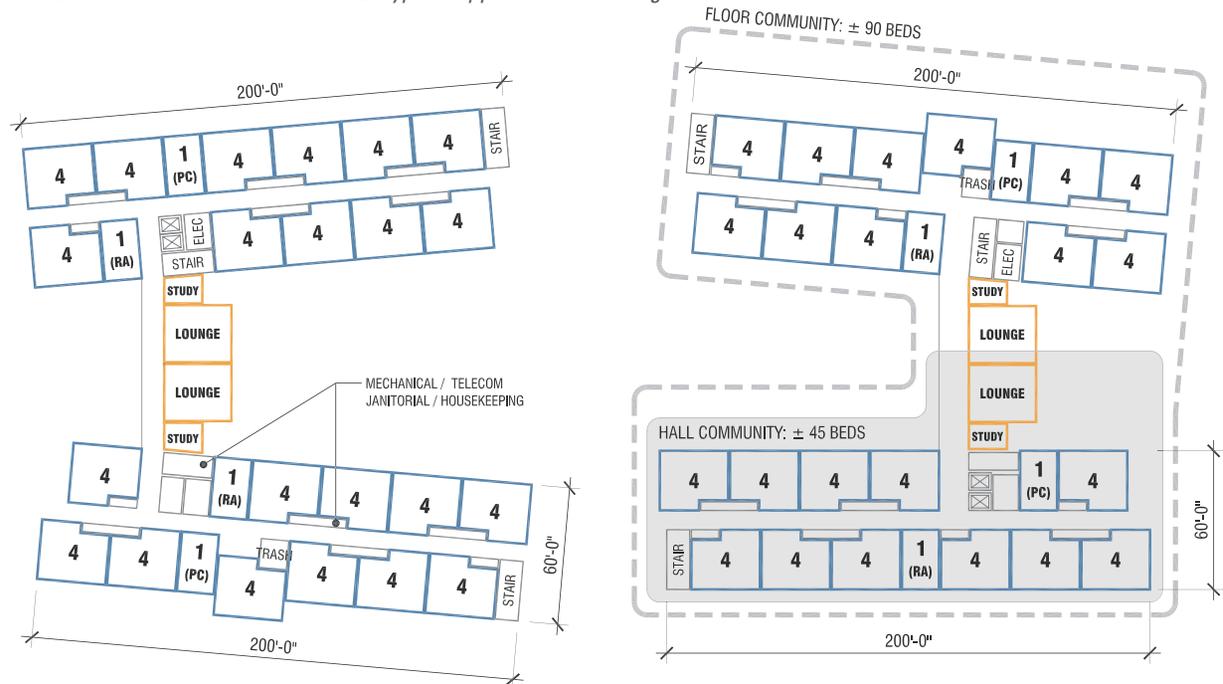
PROGRAM ORGANIZATION

TYPICAL UPPER FLOOR:

Each building floor community is divided into two hall communities of no more than 50 students each. Each hall community has one Resident Advisor and one Program Coordinator. Typical units are 4 person units consisting of two doubles with one shared bathroom. Additional residence hall program includes student lounges and study rooms.



Dundee Residence Halls Phase 2: Typical Upper Floor Plan Diagram



Dundee Residence Halls Phase 1: Typical Upper Floor Plan Diagram



BUILDING SECTION

Two structural framing options are under consideration for the Phase 1 construction of the Dundee Residence Halls project – light gauge steel framing and wood framing. The selection of a structural system will affect the typical building section. However, regardless of the structural system chosen, the conceptual idea of the building section is as follows:

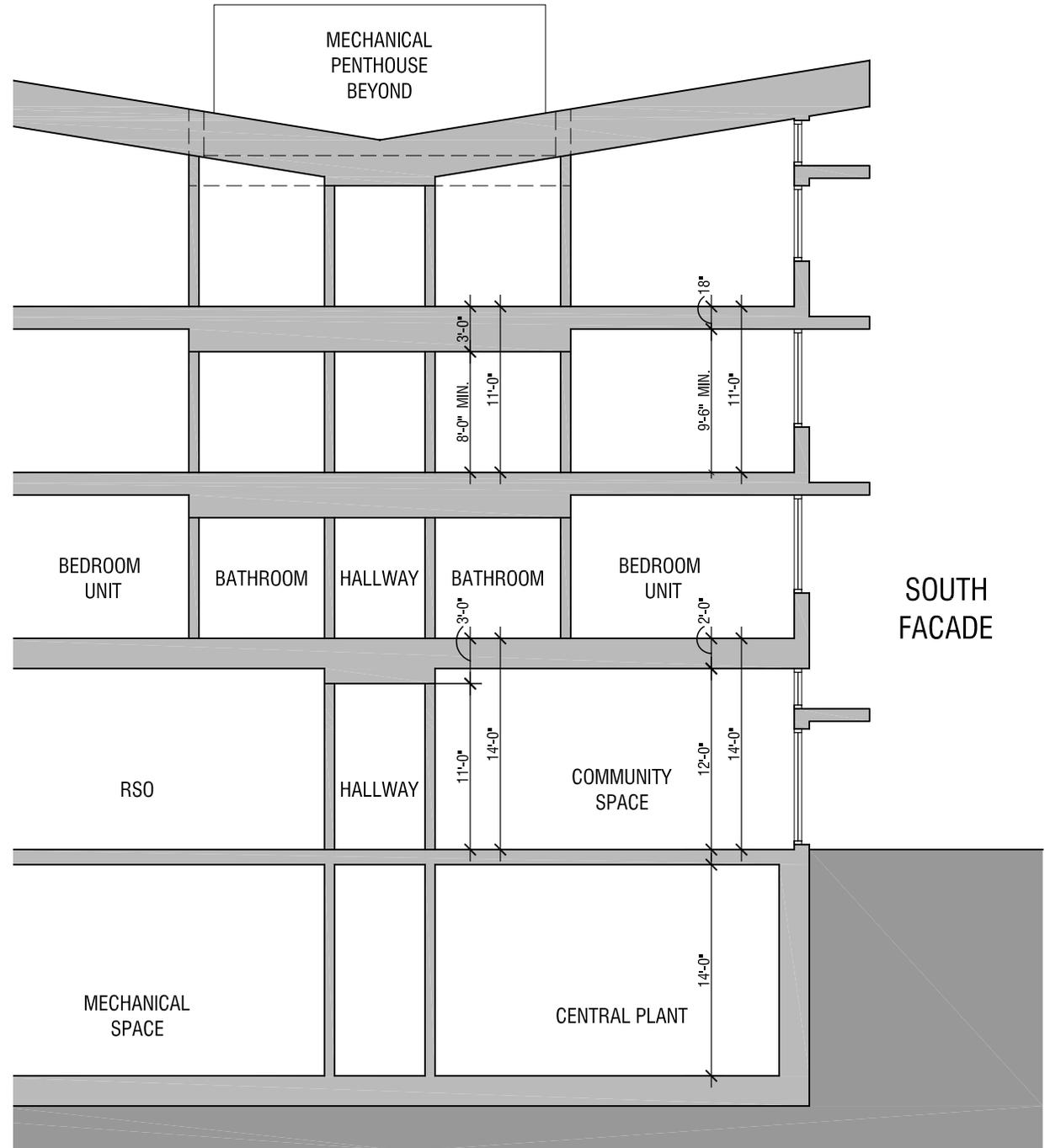
Ground Floor – The ground floor will accommodate a higher floor to floor height than a typical floor in order to house public program functions; the ground floor will be permeable in nature to foster a high level of interaction between building and user as well as outdoors and indoors.

Hallways and Bathrooms – The ceiling cavity in the hallways and bathrooms will house and route the building systems. As a result, the floor to floor height needed in a typical hallway to accommodate building systems and a minimum clear height of 8' within the space will govern the floor to floor height of the typical residence floor.

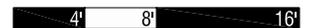
Typical Floor – Will be governed by the floor to floor height required in the hallways and bathrooms to accommodate building systems.

Exterior Wall Envelope – Will be varied in materials and will incorporate sunshades.

Roof – The roof will house mechanical equipment and a solar hot-water system. The roof line will be studied with respect to creating neighborhoods with diverse architectural character within the parameters of the UCR Campus Design Guidelines.



Building Section Diagram



3: BUILDING DESCRIPTION

BUILDING ENVELOPE

ARCADES

CAMPUS PRECEDENT:

A variety of arcade types are found across the campus; arched, rectilinear, freestanding and attached to buildings. Arcades provide shade and visually obvious circulation routes between many buildings of different scales, as well as informal gathering space.



UC Riverside

Source: EHDD



UC Riverside

Source: EHDD



UC Riverside

Source: EHDD

SUNSHADES

CAMPUS PRECEDENT:

Found on most campus buildings, sunshades range from integral building elements (deeply recessed windows) to those attached to façades, in a variety of materials.



UC Riverside

Source: EHDD



UC Riverside

Source: EHDD



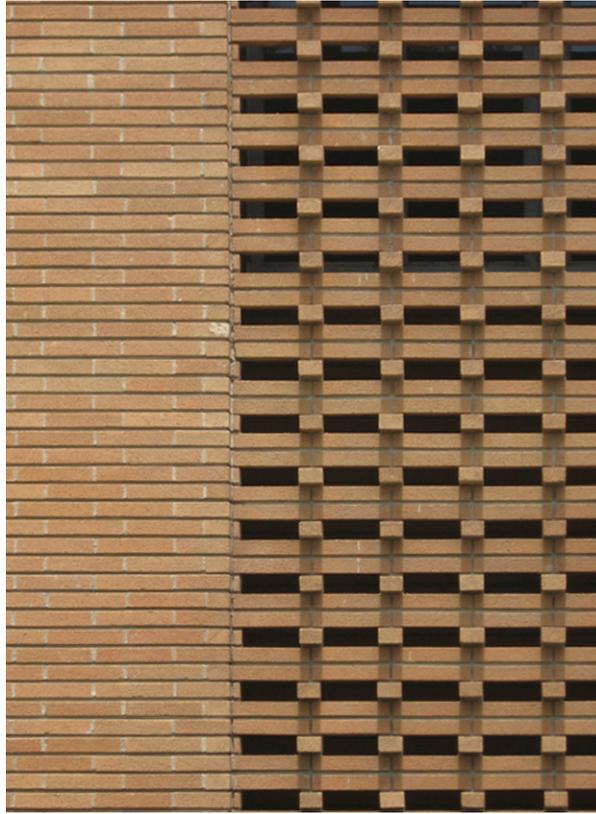
UC Riverside

Source: EHDD

MATERIAL VOCABULARY

CAMPUS PRECEDENT:

The use of the UCR blend of brick is evident throughout the campus and is accompanied by cast-in-place concrete, pre-cast concrete, and cement plaster as well as metal panel and metal mesh. The UCR 2007 Campus Design Guidelines states that UCR brick should appear on all permanent buildings, especially main entries or façades.



Brick

Source: EHDD



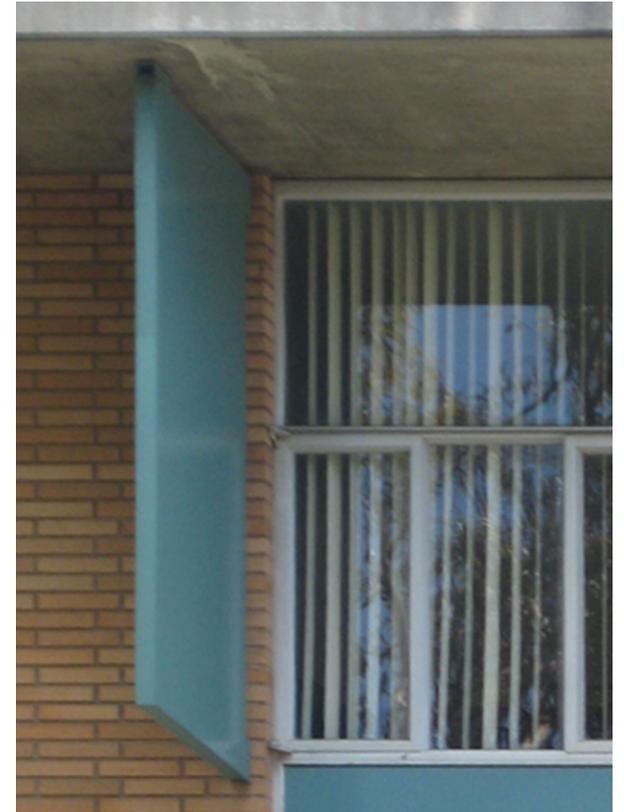
Precast Concrete

Source: EHDD



Wood, Cement Plaster, Brick

Source: EHDD



Painted Panel

Source: EHDD



Concrete

Source: EHDD



Metal Screen

Source: EHDD

EXTERIOR ENVELOPE DESIGN

The proposed materials and design of the exterior envelope of the Dundee Residence Halls will respect the legacy of the modernist tradition that established the original campus buildings.

Materials will include a palette of brick veneer, cement plaster, cast-in-place and pre-cast concrete.

Adjacent landscape, sun shades, high performance glass and insulation, as well as siting the buildings with an east-west orientation, will work as integrated solutions to minimize building heat gain.



Aberdeen-Inverness Residence Halls: an original campus building and adjacent landscape
Source: EHDD



4: SUPPORT DOCUMENTS

System Narratives

- Civil
- Landscape
- Structural
- Mechanical
- Plumbing
- Fire Protection
- Electrical

Code Analysis

LEED Checklist

The Support Documents include civil, landscape, structural, mechanical, plumbing, fire protection, and electrical narratives reflecting the initial criteria for the Dundee Residence Halls building systems. The code analysis states relevant codes and identifies occupancy and construction type. The LEED Checklist calls out initial possible LEED points with the target goal of LEED Silver Certification with LEED Gold Certification as an add alternate.

vision users community connections flexibility sustainability technology **operations** security design layers accessibility diversity safety respect opportunity educational experiential timeless efficiency practical logical identity viability collaboration productive future native active **integrated** scale performance variety indoor/outdoor innovative vision users community connections flexibility sustainability technology operations security design layers accessibility diversity safety respect opportunity educational experiential timeless efficiency practical logical identity viability collaboration productive future **native** active integrated scale **performance** variety indoor/outdoor **innovative** vision users community connections flexibility sustainability **technology** operations security **design** layers accessibility diversity safety respect opportunity educational experiential timeless efficiency practical logical identity viability collaboration productive future native active integrated scale performance variety indoor/outdoor innovative vision users community connections flexibility **sustainability** technology operations security design layers accessibility diversity safety respect opportunity educational experiential timeless efficiency practical

4: SUPPORT DOCUMENTS

SYSTEM NARRATIVES

CIVIL DESCRIPTION

PROJECT DESCRIPTION

The proposed Canyon Crest Precinct is located on the University of California Riverside's East Campus. The Canyon Crest Precinct will be divided into multiple design and construction phases. For purposes of this narrative, Dundee Residence Halls Phases 1 and 2 will be discussed only.

Dundee Residence Halls Phase 1 includes the construction of two four-story residence halls, vehicular turnaround and access road to Linden Street, an extension of Aberdeen Drive, a new surface parking lot to accommodate 150 parking spaces, a main entrance off Watkins Drive, and various landscape/hardscape areas. The Dundee Residence Halls Phase 1 project site is approximately 9.7-acres and is located north of Linden Street, south of the Child Development Center, west of the Corporation Yard and east of Utah Street within the existing Canyon Crest Family/Student Housing development.

Dundee Residence Halls Phase 2 includes the construction of two four-story residence halls, a two story Conference Center / Catering Kitchen, an additional new surface parking lot to accommodate 150 parking spaces, a two-level parking structure, (located south of Linden Street and east of Aberdeen-Inverness Residence Halls,) to accommodate 500 parking spaces, an approximately 600 lineal foot extension of the Dundee Residence Halls Phase 1 main entrance along the northeast border of the development and various landscape/hardscape areas. The Dundee Residence Halls Phase 2 project is approximately 12.8-acres and is located immediately to the north of the Dundee Phase 1 development, with the exception of the proposed parking structure, and extends all the way to Blaine Street.

Based on meetings and coordination with the various project consultants and representatives from the University of California Riverside, specific goals have been identified for the project site. It is the intention of the project to create an aesthetically pleasing and integrated development, which will provide a desirable environment for students and faculty. It is understood that one of the project goals is to incorporate sustainable planning and design in accordance with the University of California Policy on Green Building Design and Clean Energy Standards and that the project will meet a minimum LEED Silver certification with a Gold certification as an add alternate.

GENERAL DESIGN CRITERIA

In the course of developing the 2009 Dundee Residence Halls DPP, on-campus workshops with University representatives and the design team were held. Based on these meetings and coordination with the various project consultants, a Dundee Residence Halls Phases 1 and 2 site plan was developed to meet the original goals of the project while addressing the University's vision for the future.

Additionally, a Systems Criteria meeting was conducted at the University with representatives from the Physical Plant to determine proposed utility points of connection and verification of existing capacities of those systems to be utilized. The Physical Plant team identified the University's expectations for proposed points of connection and project infrastructure layout. Based on this meeting and preliminary research with the City of Riverside, the following civil narratives have been developed.

DEMOLITION

Demolition for the Dundee Residence Halls Phase 1 project site is to include clearing and grubbing activities, demolition of various existing asphalt concrete surface parking areas, approximately 300 lineal feet of Avocado Avenue, the existing radio tower, approximately 28 buildings (53 units) and various hardscape/landscape features.

Dundee Residence Halls Phase 2 demolition also includes clearing and grubbing activities, demolition of various existing asphalt concrete surface parking areas, an existing surface parking lot south of Linden Street (P22), the remaining approximately 900 lineal feet of Avocado Avenue, approximately 31 buildings (47 units) and various hardscape/landscape features.

During the preliminary design phase of the project, it should be discussed with the project Geotechnical Consultant to see if any of the above mentioned demolished materials (structures, asphalt, concrete, etc) may be recycled and used as structural fill for the new buildings and site work.

Based on available record data provided, existing water lines, electrical lines and transformers, telecommunication lines, gas lines, and sanitary sewer lines and manholes will have to be re-routed and/or demolished due to the location and limits of both the proposed Dundee Residence Halls Phases 1 and 2 development.

Any items to be salvaged and reused for the University's purposes will be studied and noted in future design phases. Additionally, any mature trees to be protected in place or boxed for replanting will be studied and noted in future design phases.

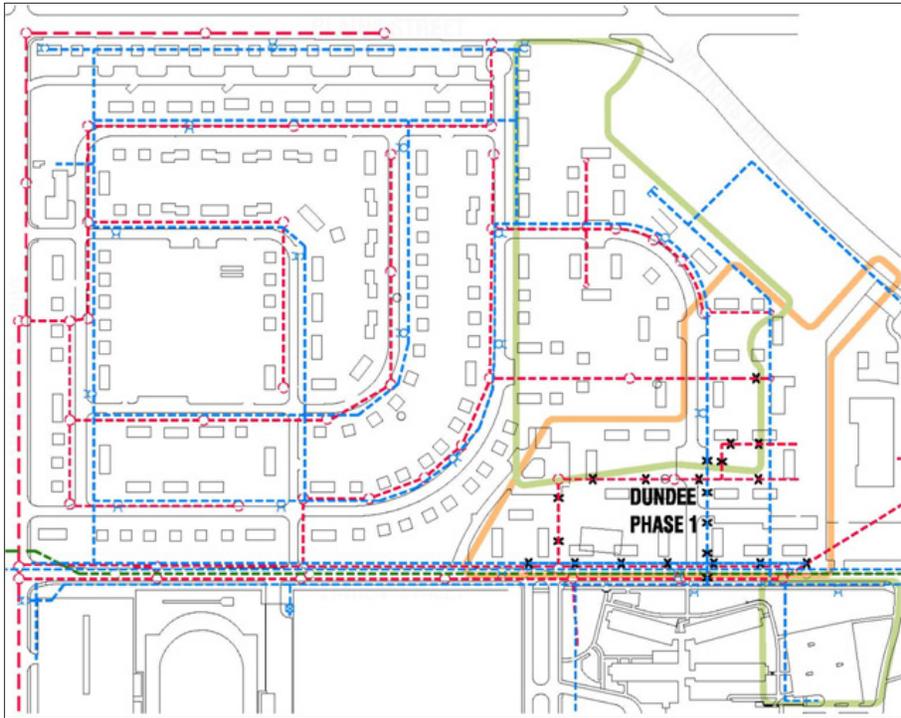


Figure C.1A Existing Systems & Demolition Diagram
PHASE 1

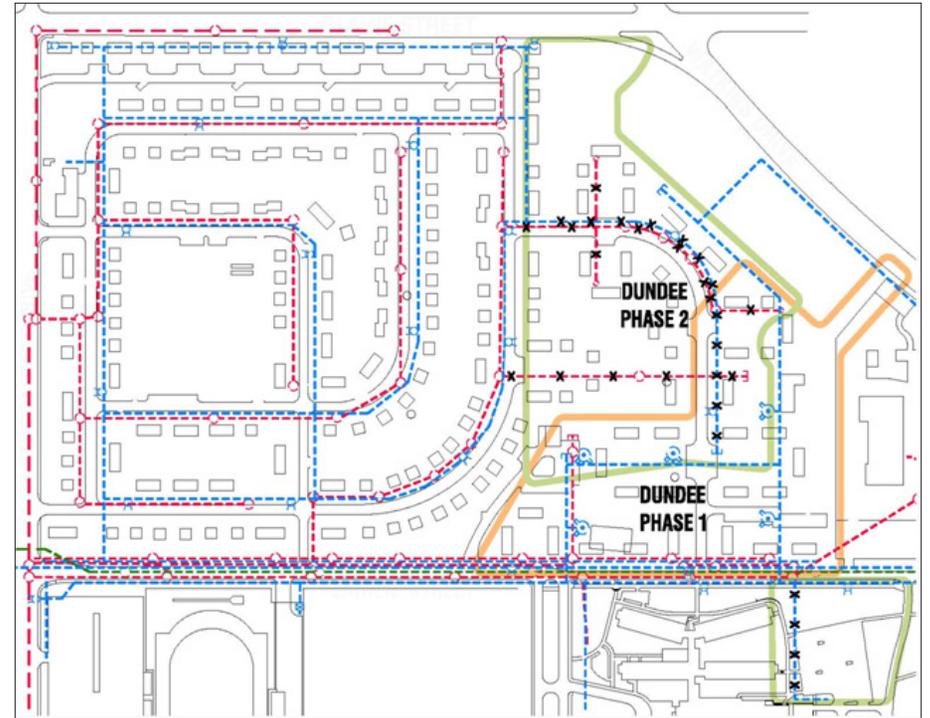


Figure C.2B Existing Systems & Demolition Diagram
PHASE 2

LEGEND

- PHASE 1 (DUNDEE RESIDENCE HALLS)
- PHASE 2 (DUNDEE RESIDENCE HALLS)
- - - EXISTING SEWER LINE
- - - EXISTING STORM DRAIN LINE
- - - EXISTING WATER LINE
- x-x OR x-x EXISTING UTILITY LINE TO BE REMOVED OR ABANDONED IN PHASE 2
- H EXISTING FIRE HYDRANT

GRADING AND STORM DRAINAGE

Based on a site visit and existing site storm drain plans obtained from the University and the City of Riverside, the existing drainage of both the Dundee Residence Halls Phases 1 and 2 project sites indicate sheet flow from the eastern limits of the site to the western limits of the site. Drainage is currently conveyed to the internal streets via sheet flow, and ultimately to the public streets via a series of asphalt swales located along the edges of the internal roadways.

There is an approximate 15-foot elevation drop from the Dundee Residence Halls Phase 1 project high point located at the proposed main entrance along Watkins Drive to the project low point located along Linden Street at the proposed Aberdeen Drive Extension. The average cross slope of the Dundee Residence Halls Phase 1 project site is approximately 3% east to west. The Dundee Residence Halls Phase 2 project high point is located at the intersection of Watkins Drive and Blaine Street and is approximately 5 feet above the project low point which is located at the northwest corner of the Dundee Residence Halls Phase 1 development. The western edge of Dundee Residence Halls Phase 2 project site is Utah Street which flows north to south at approximately 1%.

The proposed drainage system for both Dundee Residence Halls Phases 1 and 2, at a minimum, will be designed using sustainable methods so as to not exceed existing outflow conditions. It is the goal of the project site to meet the requirements necessary to obtain the LEED Sustainable Sites Stormwater Management credits 6.1 and 6.2.

Specifically, proposed site development grading and drainage for the Dundee Residence Halls Phase 1 will include the following:

- Two I-shaped, four-story buildings situated around an internal courtyard. Roof drains will either be directed to planter areas for primary stormwater treatment prior to collection in area drains, or, directly to an underground storm drain pipe network. If the latter is chosen, roof drain filter inserts will be installed accordingly for filtration purposes. Underground PVC piping for this network will discharge to an infiltration trench that will have an overflow pipe discharging to the existing 18" city storm drain line located in Linden Street.
- Various landscape areas will be developed along all sides of the buildings. Landscape and courtyard areas will be graded to flow to local area drains within the planter/landscape areas. Where feasible, bioswales will be incorporated into the landscape design. Underground PVC piping for this network will discharge to an infiltration trench that will have an overflow pipe discharging to the existing 18" city storm drain line located in Linden Street.
- Aberdeen Drive Extension will be approximately 200 lineal feet for pedestrian and vehicular purposes. The extension will be graded to discharge to a bioswale located within the median of Aberdeen Drive Extension for storm water treatment purposes prior to discharging to an underground PVC piping network.
- Entrance located off Watkins Drive with an internal access road of approximately 880 lineal feet to Linden Street. The road will have a circular turnaround located just south of the Child Development Center and a surface parking lot to accommodate approximately 150 parking spaces. We recommend that the parking stalls within the proposed surface parking lot and the proposed gutters along the entrance drive and access drive to Linden Street utilize permeable pavement for infiltration purposes. Additionally, these areas will be graded in coordination with the existing topography to various catch basins and curb inlet catch basins with filter inserts prior to discharging runoff to an infiltration trench. The infiltration trench will have an overflow that will discharge to the existing 18" storm drain located in Linden Street.
- For reduction of storm water runoff, all pedestrian paths should be constructed of permeable pavement and/or decomposed granite.

Specifically, proposed site development grading and drainage for the Dundee Residence Halls Phase 2 will include the following:

- Two I-shaped, four-story buildings immediately to the north of, and similar to Dundee Residence Halls Phase 1 and a two-story Conference Center / Catering Kitchen surrounded by hardscape/patio area. Drainage design will resemble that of Dundee Residence Halls Phase 1.
- Various landscape areas will again be developed along all sides of the residence halls and throughout the Dundee Residence Halls Phase 2 project site. Grading and drainage for these areas will be similar to that of Dundee Residence Halls Phase 1.
- The approximately 600 lineal foot extension of the new entrance off Watkins Drive and adjacent new surface parking lot are located to the north east of the circular turnaround of the Dundee Residence Halls Phase 1 development. These areas will be graded in coordination with the existing topography as well as the Dundee Residence Halls Phase 1 developed topography and drainage design will coincide with that of the Dundee Residence Halls Phase 1 improvements.
- A two-level parking structure on the south side of Linden Street will accommodate 500 parking spaces. Storm water from the parking structure will be filtered prior to discharging to an infiltration trench located east of the proposed structure, with an overflow pipe discharging to the existing 18" city storm drain line located in Linden Street.

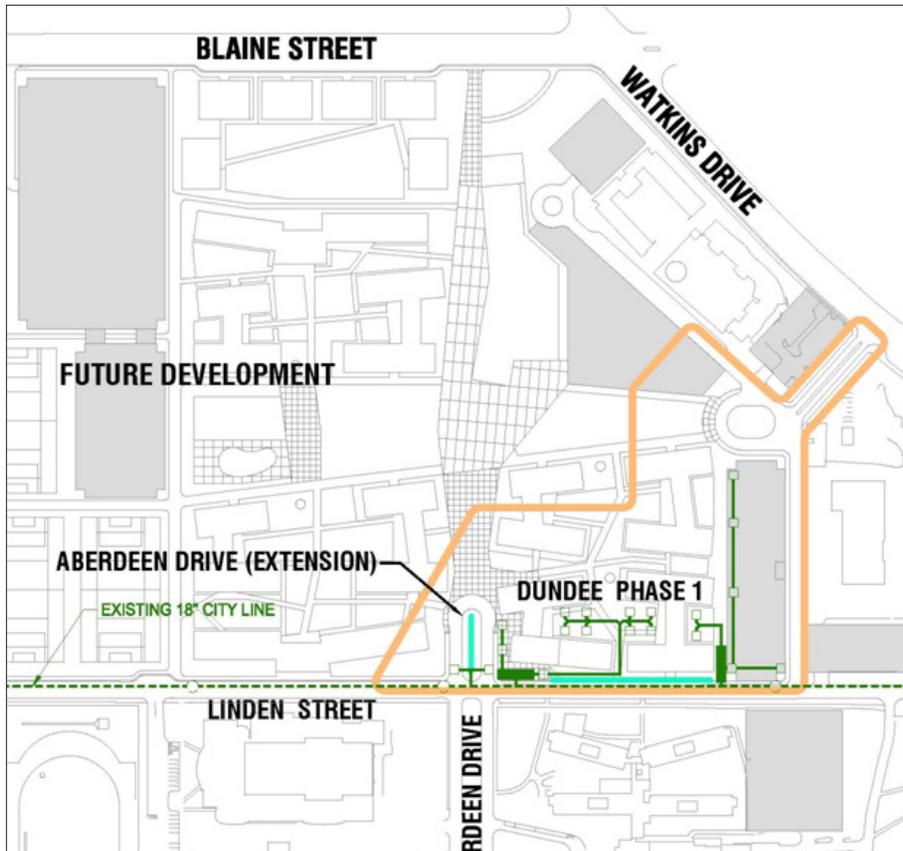


Figure C.2A Stormwater System Diagram
PHASE 1

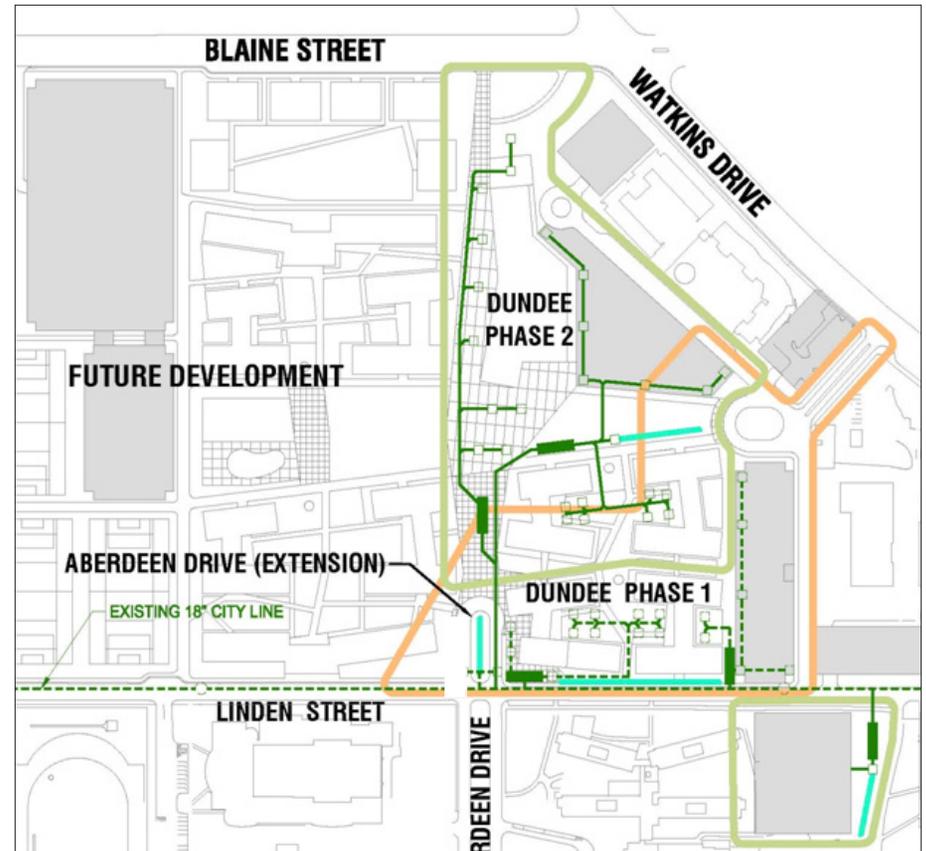


Figure C.2B Stormwater System Diagram
PHASE 2

LEGEND

- | | | | |
|---|----------------------------------|---|------------------------------|
|  | PHASE 1 (DUNDEE RESIDENCE HALLS) |  | EXISTING JUNCTION STRUCTURE |
|  | PHASE 2 (DUNDEE RESIDENCE HALLS) |  | PROPOSED INLET |
|  | EXISTING STORM DRAIN LINE |  | PROPOSED INFILTRATION TRENCH |
|  | PROPOSED STORM DRAIN LINE |  | PROPOSED BIOSWALE |

DOMESTIC FIRE / WATER SYSTEM

Based on site plan parameters, the existing combined domestic and fire water lines that run within the proposed project limits will be demolished and removed as a part of the project scope. The existing 6" combined water line that runs north-south within Avocado Avenue will be capped just north of the proposed Dundee Residence Halls Phase 1 project limits so as to maintain service to the existing residences located outside the scope of Dundee Residence Halls Phase 1 construction and to provide future service for the Dundee Residence Halls Phase 2 development.

Per meetings with the UCR Physical Plant and the fire marshal, both domestic and fire protection water will be supplied from the same system. In Dundee Residence Halls Phase 1, a new 8" line, approximately 330 lineal feet, will extend from the existing campus 8" line located in Linden Street, north along Aberdeen Drive Extension and capped for future construction. A new 6" line, running east-west, will connect the new 8" line to the existing 8" line previously constructed for the Child Development Center creating the first phase of a loop system. In Dundee Residence Halls Phase 2, the new 8" line will be further extended approximately 800 lineal feet to the north then turn to the east and extend an additional 300 lineal feet where it will connect to the existing 8" line that was capped in Dundee Residence Halls Phase 1, completing the larger loop system around both Dundee Residence Halls Phases 1 and 2 project sites. Another 6" line, running east-west and connecting the loop will be installed in Dundee Residence Halls Phase 2. The Domestic water laterals will tee off the loop system to serve the individual buildings. Per the request of the University, each building will have a separate water meter for purposes of identifying possible leaks.

Building fire sprinkler systems will tee off this loop, through a Double Detector Check Backflow Prevention Assembly. A single FDC will serve multiple buildings where possible. Three (3) fire hydrants will be added to the water loop system for Dundee Residence Halls Phase 1 and (6) fire hydrants will be added for Dundee Residence Halls Phase 2 such that all faces of the buildings can be reached at ground level within 150 feet of a fire hydrant. Per discussion with the University Campus Fire Marshall, a fire flow test was recently performed on an existing fire hydrant located along the new 8" water line for the Child Development Center. The information is as follows:

- Static Pressure: 92 psi
- Residual Pressure: 66 psi
- Pitot Pressure: 58 psi
- Computed Flow: 995 gpm
- Flow at 20 psi: 1725 gpm

Ongoing coordination with the University Campus Fire Marshall is occurring to determine additional existing fire hydrant flow conditions and the required minimum pressure for future fire hydrant/fire line construction.

Based on preliminary information received from campus personnel, it has been stated that sufficient capacity is available in the existing 8" combined campus line to serve Dundee Residence Halls Phases 1 and 2, and all future phases planned as a part of the Canyon Crest Precinct.

Refer to figure C.3A for Dundee Residence Halls Phase 1 system layout and C.3B for Dundee Residence Halls Phase 2.

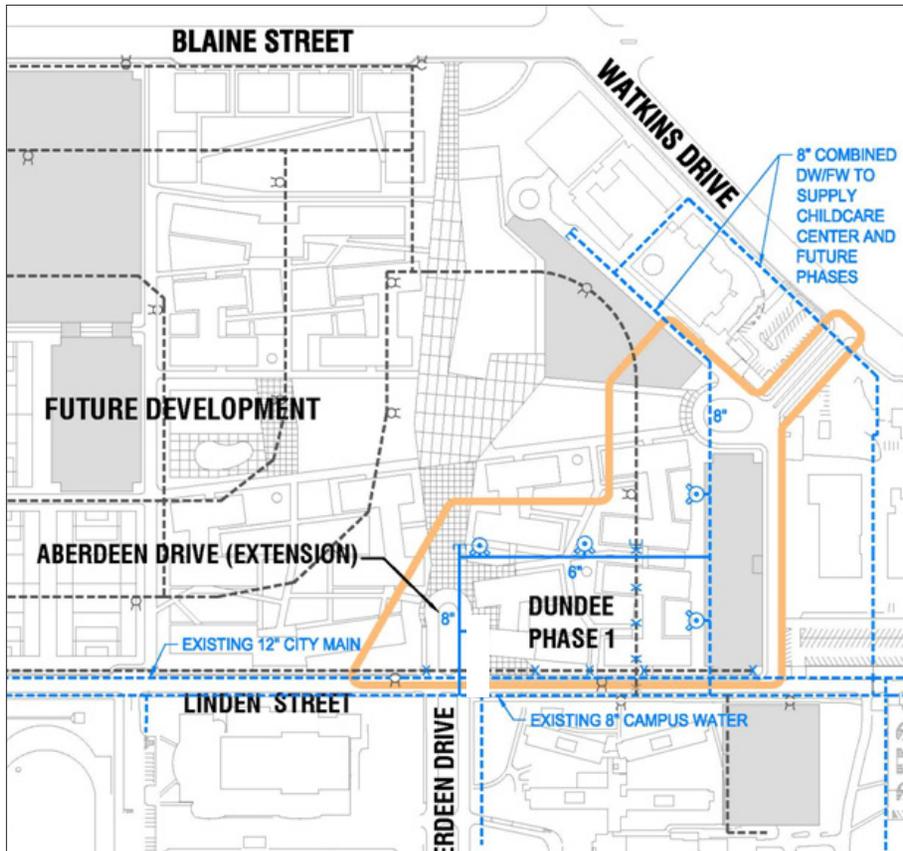


Figure C.3A Combined Water System Diagram
PHASE 1

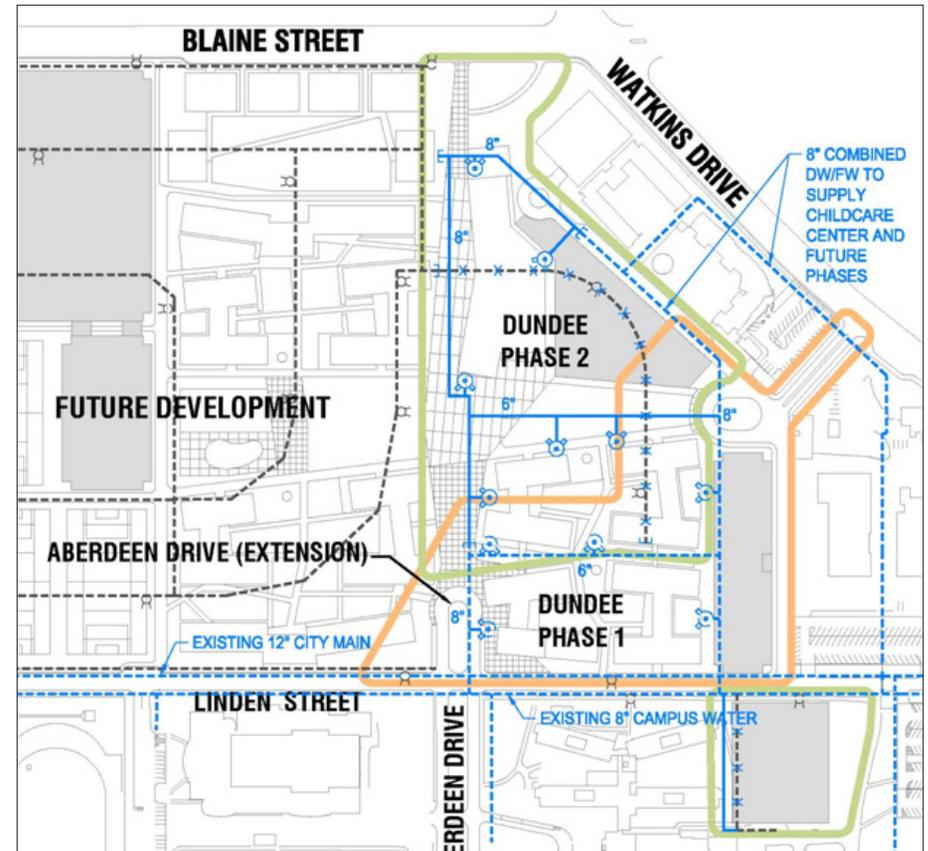


Figure C.3B Combined Water System Diagram
PHASE 2

LEGEND

- PHASE 1 (DUNDEE RESIDENCE HALLS)
- PHASE 2 (DUNDEE RESIDENCE HALLS)
- EXISTING WATER LINE TO REMAIN
- EXISTING WATER LINE TO BE DEMOLISHED IN FUTURE PHASES
- x-x- EXISTING WATER LINE TO BE DEMOLISHED IN PHASE 2
- PROPOSED WATER LINE
- ⊕ PROPOSED FIRE HYDRANT
- ⊕ EXISTING FIRE HYDRANT
- ⊕ CAP

SANITARY SEWER SYSTEM

Interviews with campus facilities personnel revealed that the existing sanitary sewer lines located in the Canyon Crest Precinct are badly deteriorated and should not be considered for future use. Therefore, an entirely new system is being proposed not only for Dundee Residence Halls Phases 1 and 2, but for all future work as proposed for the Canyon Crest Precinct.

In Dundee Residence Halls Phase 1, a proposed 8" PVC sanitary sewer line will be constructed to run parallel to the two existing 8" sanitary sewer lines located along Linden Street. The new 8" line, approximately 1800 lineal feet, will run via gravity and tie into the existing 8" sanitary sewer located in Canyon Crest Drive with a manhole junction structure. Additionally, a sanitary sewer manhole will be installed every 300 lineal feet along the new line. Based on interviews with campus facilities personnel, it is anticipated that this new line will be sufficient to support the Canyon Crest Precinct. For Dundee Residence Halls Phase 1 purposes, a new 8" sanitary sewer line will run north-south, within the Aberdeen Drive Extension and Aberdeen Mall, for approximately 250 lineal feet, at which point a manhole will be installed with a stub out for future development. In Dundee Residence Halls Phase 2, this 8" line will be extended approximately 700 feet further to the north. Each building will have a sanitary sewer lateral that will tie into this 8" line via gravity flow. A series of cleanouts will be provided at appropriate distances and/or bends.

Studies with previous consultants have determined that the current phasing for construction of Dundee Residence Halls Phase 1 and 2 will not require upgrades to the existing public sanitary sewer. However, during discussions with the City of Riverside Department of Public Works, they determined that sufficient information on the capacity of the existing public sewer lines that serve UCR campus is unavailable. Therefore, in order to determine whether or not the existing 8" public sanitary sewer in Canyon Crest Drive will need to be upsized, sewer flow monitoring/gauging, or other studies to determine its available capacity, will need to be performed. The City of Riverside currently plans to construct an 18" sewer trunk line in University Avenue from Canyon Crest Drive to Chicago Avenue. This new line is designed to support future expansion through 2015 at UCR assuming a 25,000 student population and 15,000 faculty and visitors with 50% of the students living on campus. Therefore, if upsizing of public sewer lines is required, it will be limited to the existing 8" line located in Canyon Crest Drive.

Additionally, a greywater system where wastewater from sinks, bathtubs, showers and laundry machines is captured, filtered and reused for drip irrigation purposes is being considered for the proposed development. This would decrease the load on the sewer infrastructure system and, therefore, could potentially decrease the size of the proposed sewer lines and reduce the chance of having to upsize any public sewer lines.

Refer to figure C.4A for Dundee Residence Halls Phase 1 system layout and C.4B for Dundee Residence Halls Phase 2.

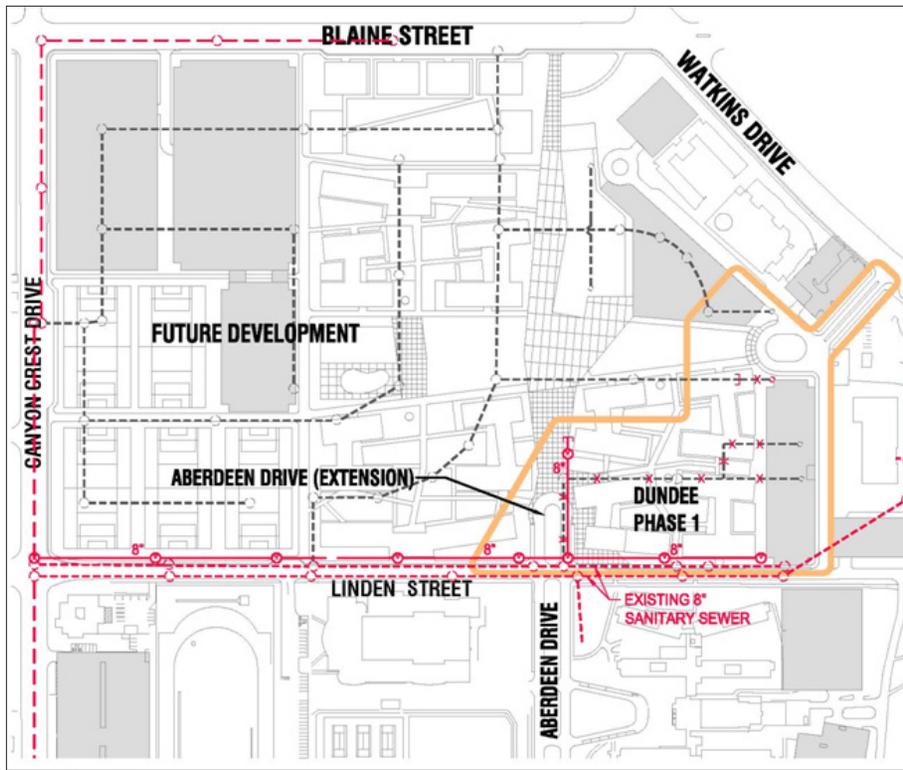


Figure C.4A SANITARY SEWER Diagram
PHASE 1

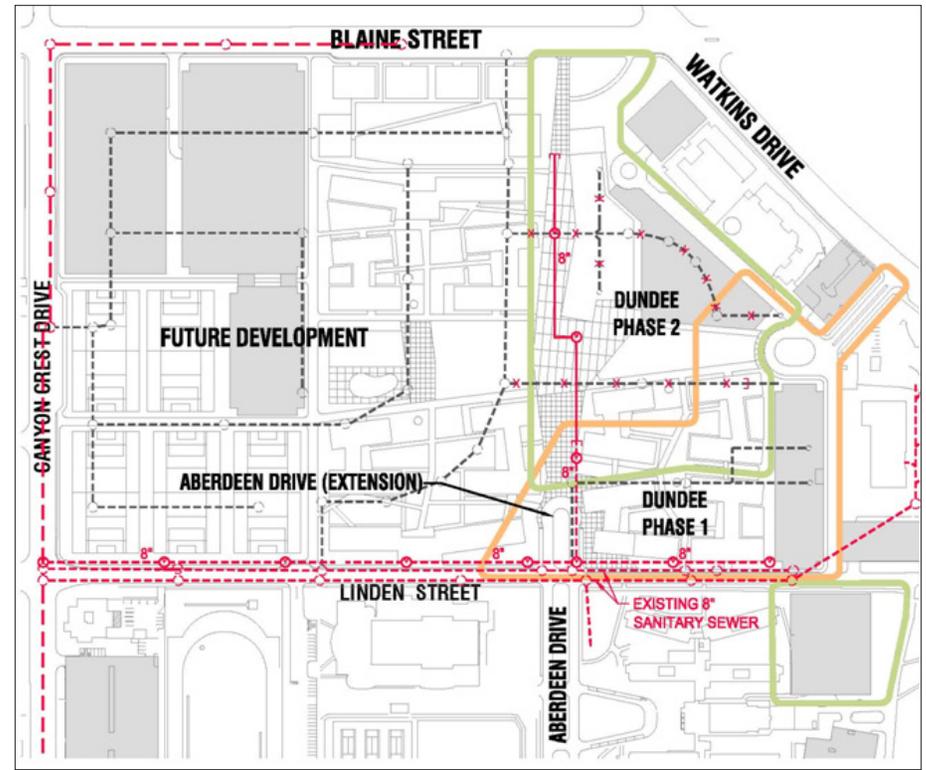


Figure C.4B SANITARY SEWER Diagram
PHASE 2

LEGEND

- PHASE 1 (DUNDEE RESIDENCE HALLS)
- PHASE 2 (DUNDEE RESIDENCE HALLS)
- - - EXISTING SEWER TO REMAIN
- - - EXISTING SEWER LINE TO BE DEMOLISHED IN FUTURE PHASES
- x - x - x EXISTING SEWER LINE TO BE DEMOLISHED OR ABANDONED IN PHASE 1
- PROPOSED SEWER LINE
- (o) — PROPOSED MANHOLE
-] CAP

LANDSCAPE

OVERALL APPROACH

OVERALL APPROACH

UC Riverside is creating new residence halls in the initial phases of the Canyon Crest Precinct development. Located at the north end of the existing east campus, the Canyon Crest Precinct is currently developed with duplex housing, which will be redeveloped.

The existing landscape is composed of randomly planted large shade trees of a variety of species, many over 50 years old. The primary groundcover is turf with irrigation.

An internal system of asphalt roads and sidewalks follows a suburban housing pattern and will be reconstructed. Currently, bicycle and pedestrian routes follow existing roads and walks and are not consistent with the overall campus "mall" development.

DESIGN RECOMMENDATIONS

IRRIGATION:

- Provide a new, low flow automatic irrigation system that utilizes reclaimed water.
- Utilize campus standard controllers and emitters to make compatible with maintenance requirements.

PLANTING:

- Limit turf to areas of active use, recreation and minor pedestrian traffic.
- Use hybrid species of turf that are more drought tolerant than typical turf grasses.
- Utilize drought tolerant groundcovers and shrubs to provide coverage, erosion control, storm water runoff filtration and aesthetic interest.

PEDESTRIAN PAVING:

- Utilize concrete paving with a simple texture on primary pedestrian pathways. Use recycled materials in the concrete as possible.
- Utilize a porous pavement in areas of secondary pedestrian travel to limit the amount of impervious surfaces. Surfaces could include unit pavers set in sand, "turf-block" pavers or decomposed granite. Color should match closely to the existing "UCR Tan" standard.

Where decomposed granite is used, provide a walk-off surface (hard paving) at any building entry to prevent migration of granite into buildings.

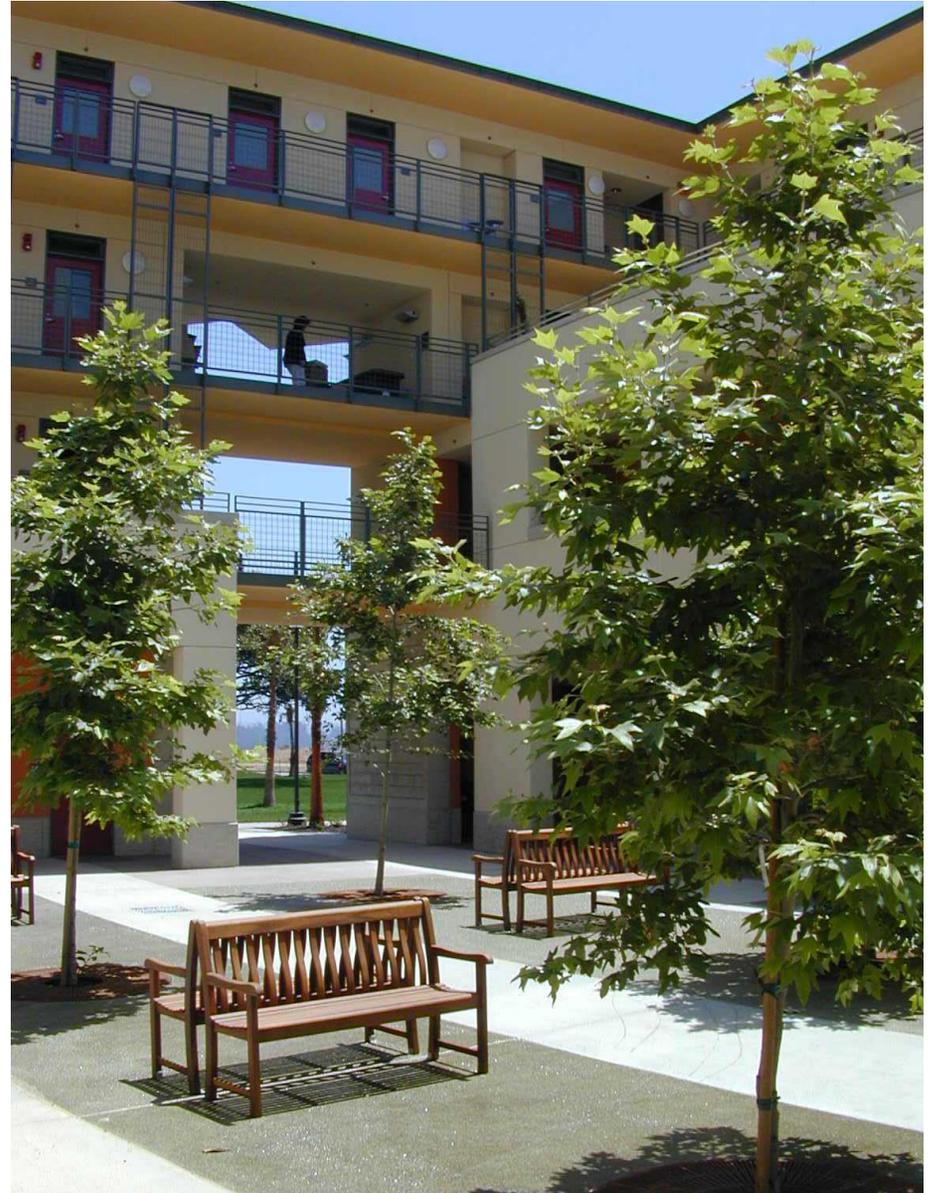
DUNDEE RESIDENCE HALLS PHASE 1 DEMOLITION - TEMPORARY LANDSCAPE:

AREA COVERED: Excess demolished area surrounding Dundee Residence Halls Phase 1 after the completion of Phase 1 construction.

DESCRIPTION: The excess demolished area for Dundee Residence Hall Phase 1 construction is in need of temporary landscape before the construction of Phase 2. This area should be planted with a groundcover hydroseed mix to control erosion and prevent the growth of weeds. A temporary irrigation system will need to be installed. If time between phases is more than several years, the University may consider using this area as additional informal recreation fields.



Top: Courtyard/Garden - UC San Diego Eleanor Roosevelt College, Source: WRT
Bottom: Open Space Mall - UC Los Angeles Campus, Source: WRT



Courtyard - UC Santa Barbara Bren School
Source: WRT

LANDSCAPE

PHASE 1

WATKINS DRIVE ENTRY

AREA COVERED: southwest from Watkins Drive up to and including 'cul de sac'

DESCRIPTION: The Canyon Crest Entry Road from Watkins Drive will be approximately an 80 foot wide corridor with a 25'-0" wide entry road that terminates at a "cul de sac" adjacent to the Dundee Residence Halls Phase 2 housing and the major Canyon Crest Open Space. Each side of the road has 8'-0" wide standard finish concrete sidewalks, canopy trees planted at 30' on center (32 canopy trees at 24" box), and 3 specimen trees (36" box) in the cul-de-sac circle. A small (4,000 sf) concrete plaza space is at the head of the cul-de-sac for drop off and gathering, along with low concrete seat wall (300 LF). Furnishings would include lighting and signage. All planted areas will be irrigated.

PLANTING:

- Provide canopy trees for shade in the drop off plaza near the seat walls
- Appropriately sized shrubs should be used to buffer adjacent parking lots and views along sidewalks.
- Vary texture and color of shrubs and groundcover along pedestrian corridors for visual interest.
- Turf should not be used in this area as activity is limited to the entry plaza space.
- Plant palette selection should be limited to drought tolerant species and native to Southern California when possible.

PEDESTRIAN PAVING:

- Standard broom finish concrete along entry road sidewalk should be used
- Use unit pavers in the plaza space in an interlocking pattern for long term stability
- Colors selected for the unit pavers should be complimentary to adjacent buildings



Entry - Caltrans District 11 Headquarters

Source: WRT



ABERDEEN DRIVE EXTENSION:

AREA COVERED: north from Linden Street up to and including 'cul de sac' with 40'-0" wide median to match Aberdeen Drive south of Linden Street.

DESCRIPTION: The Aberdeen Drive Entry north from Linden Street will be approximately a 110' wide corridor with a 25'-0" wide entry road (12'-0" travel lane, 10'-0" parking/drop off) that terminates at a small plaza near Dundee Phase 1 housing. Each side of the road has 10'-0" wide standard finish concrete sidewalks, canopy trees planted at 30' on center along the perimeter. The median is wide (40'x150') and is designed to reflect the existing Aberdeen Drive with clusters of palm trees and specimen citrus trees (36" box) in the median. In Phase 1, a small (3,000 sf) concrete plaza space is at the terminus for drop off and gathering, along with low concrete seat wall (200 LF). Furnishings would include bike shelters, lighting and signage. All planted areas will be irrigated.

PLANTING:

- Provide shade trees in concrete plaza near seat walls to enhance user comfort.
- Vary texture and color of shrubs and groundcover along pedestrian corridors for visual interest.
- Shrubs and groundcover should be used to define user spaces and provide a visual buffer between different use areas.
- Trees should be planted to mimic the current tree pattern along Aberdeen Drive to visually connect the campus across Linden Street.
- Planting areas in the median of Aberdeen Drive should be used as infiltration areas to capture and filter stormwater from adjacent areas.
- Plant palette selection should be limited to drought tolerant species and native to Southern California when possible.

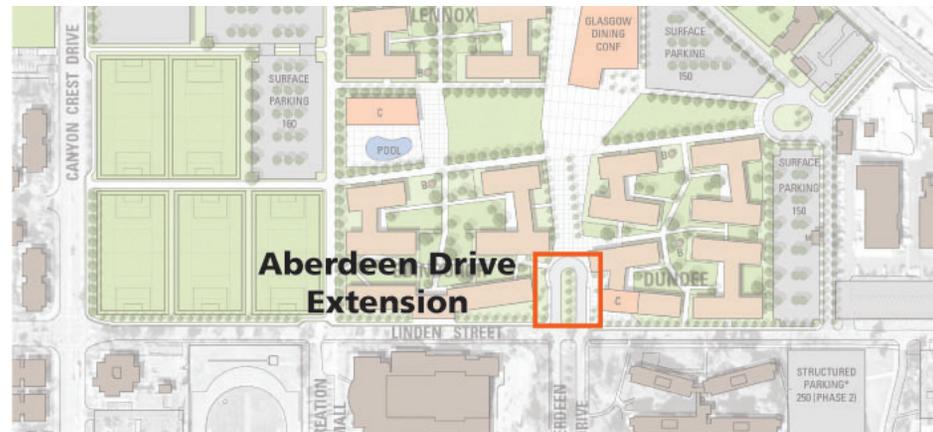
PEDESTRIAN PAVING:

- Cast-in-place broom finish concrete should be used along the sidewalks on both sides of the road.
- Use unit pavers in the plaza space in an interlocking pattern for long term stability
- Colors selected for the unit pavers should be complimentary to adjacent buildings
- Porous concrete could be used in areas of the entry plaza to allow infiltration of stormwater and prevent runoff into storm drains.



Entry Plaza - Caltrans District 11 Headquarters

Source: WRT



LANDSCAPE

PHASE 1

DUNDEE RESIDENCE HALLS PHASE 1 COURTYARDS/GARDENS:

AREA COVERED: Internal large courtyard within Dundee Residence Halls Phase 1, pedestrian entry court from Linden and pedestrian entry court from student parking to the east.

DESCRIPTION: The Dundee Residence Halls Courtyards and Garden spaces are the central outdoor activity area in the housing complex. Designed as a series of small garden rooms around a larger open space, it will have an active lawn area for recreation, small garden spaces, seating and tables with shade, small plaza (2000 SF) with seatwalls (400 LF), pedestrian lighting, and several large specimen trees (32" box) and shade trees (24" box). All planted areas will be irrigated.

PLANTING:

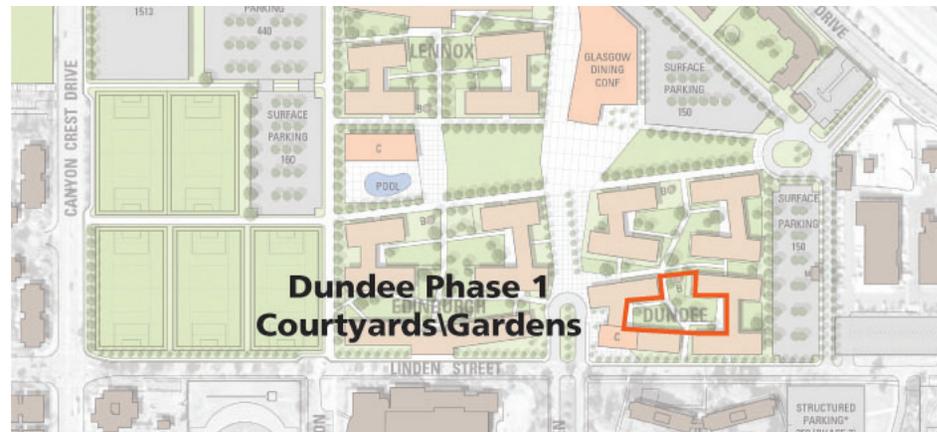
- Provide canopy trees for shade in seating areas as well as lawn areas for user comfort.
- Vary texture and color of shrubs and groundcover along pedestrian corridors and in planted areas for visual interest.
- Canopy and specimen trees should be used to define outdoor spaces and pedestrian routes.
- A unique planting palette should be used in each garden space to give the space a sense of identity.
- The large open turf area should double as a stormwater infiltration basin to hold and infiltrate stormwater alleviating the need for an extensive storm drain system.
- Mix deciduous and evergreen trees in the courtyard and garden spaces. Deciduous trees should be planted to allow shade in the summer months and sunlight in the winter months in heavily used areas.
- Plant palette selection should be limited to drought tolerant species and native to Southern California when possible.

PEDESTRIAN PAVING:

- Utilize unit pavers in garden spaces to allow for pervious surfaces as well as provide a more intimate and unique space.
- Decomposed granite should be used along the soft paths such as areas along the open lawn. Color should closely match the existing "UCR Tan" standard.
- Cast-in-place broom finish concrete should be used along primary paths and major pedestrian routes within the courtyard.



*Small courtyard/garden with umbrellas and large shade trees - The Mission Inn, Riverside California
Source: WRT*



DUNDEE RESIDENCE HALLS PHASE 1 PERIMETER:

AREA COVERED: external areas surrounding Dundee Housing Phase 1, sidewalk along Linden Street and pedestrian sidewalk along north and east.

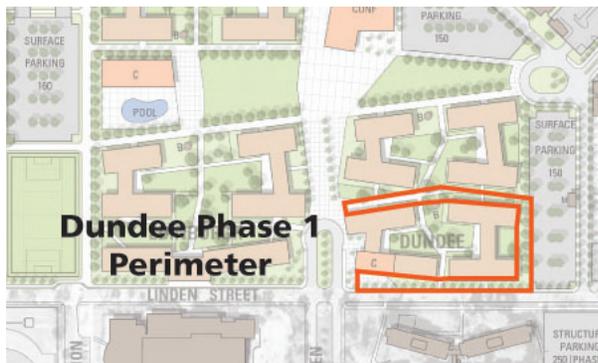
DESCRIPTION: The Dundee Perimeter landscape provides the interface between Dundee Residence Halls Phase 1 and 2 and buffers from the parking lot and Linden St. These are buffer landscapes, primarily of trees, shrubs, groundcovers and pedestrian paths.

PLANTING:

- A rustic style of edge treatment should be incorporated into the planting along the perimeter by using native trees and shrubs in a naturalistic and informal pattern.
- Mix canopy trees with low groundcover and shrubs to allow visibility for safety concerns
- Vary texture and color of shrubs and groundcover along pedestrian corridors for visual interest
- Utilize planting beds as locations for stormwater treatment and infiltration areas
- Plant palette selection should be limited to drought tolerant species and native to Southern California when possible.

PEDESTRIAN PAVING:

- Cast-in-place broom finish concrete should be used along the pedestrian paths in this area



DUNDEE RESIDENCE HALLS PHASE 1 PARKING LOT:

AREA COVERED: 150 surface parking lot east of Dundee Residence Halls Phase 1.

DESCRIPTION: The Dundee Residence Halls parking lot will have canopy trees for shade (planted at 24" box) and perimeter groundcover/shrubs for screening/buffers. All planted areas will be irrigated.

PLANTING:

- Canopy trees shall be used in the parking lot to provide shade to reduce the urban heat island effect.
- Varying heights of groundcover and shrubs should be used along the perimeter to provide a buffer from adjacent uses.
- Planting areas in and along the perimeter should be utilized as stormwater infiltration areas for parking lot runoff.
- Plant palette selection should be limited to drought tolerant species and native to Southern California when possible.

PEDESTRIAN PAVING:

- Utilize porous pavement in strategic areas, such as parking stalls, of the parking lot to capture and infiltrate stormwater runoff and to reduce the amount of runoff going into untreated storm drains.



DUNDEE RESIDENCE HALLS PHASE 1 CAFÉ PATIO:

AREA COVERED: Patio space adjacent to the Café on the southwest corner of the Dundee Residence Hall.

DESCRIPTION: The patio adjacent to the Café will serve as an outdoor eating and gathering space for patrons of the café. Seating, tables and chairs with shade, and lighting, will be incorporated into the patio design, along with a bike shelter. Shade trees (24" box), and planting areas will surround the patio.

PLANTING:

- Provide canopy trees for shade
- Vary texture and color of shrubs and groundcover for visual and seasonal interest.
- Plant palette selection should be limited to drought tolerant species and native to Southern California when possible.

PEDESTRIAN PAVING:

- Use unit pavers in the patio space in an interlocking pattern for long term stability
- Colors selected for the unit pavers should be complimentary to adjacent buildings and prevent glare from the pavement surface.



LANDSCAPE

PHASE 2

DUNDEE RESIDENCE HALLS PHASE 2 COURTYARDS/GARDENS:

AREA COVERED: Internal large courtyard within Dundee Residence Halls Phase 2, pedestrian entry court from Phase 1.

DESCRIPTION: The Dundee Residence Halls Courtyards and Garden spaces are the central outdoor activity area in the Phase 2 housing. Designed as a series of small garden rooms around a larger open space, it will have an active lawn area for recreation, small garden spaces, seating and tables with shade, small plaza (2000 SF) with seatwalls (400 LF), pedestrian lighting, and several large specimen trees (32" box) and shade trees (24" box). All planted areas will be irrigated.

PLANTING:

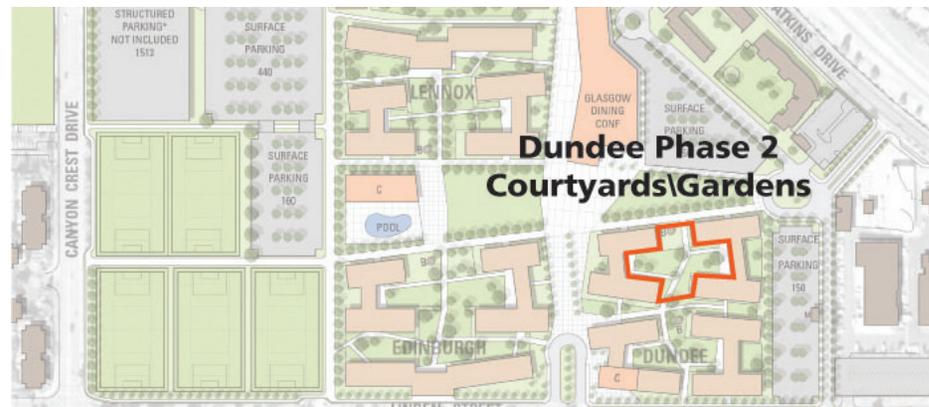
- Provide canopy trees for shade in seating areas as well as lawn areas for user comfort.
- Vary texture and color of shrubs and groundcover along pedestrian corridors and in planted areas for visual interest.
- Canopy and specimen trees should be used to define outdoor spaces and pedestrian routes.
- A unique planting palette should be used in each garden space to give the space a sense of identity.
- The large open turf area should double as a stormwater infiltration basin to hold and infiltrate stormwater alleviating the need for an extensive storm drain system.
- Mix deciduous and evergreen trees in the courtyard and garden spaces. Deciduous trees should be planted to allow shade in the summer months and sunlight in the winter months in heavily used areas.
- Plant palette selection should be limited to drought tolerant species and native to Southern California when possible.

PEDESTRIAN PAVING:

- Unit pavers should be utilized in garden spaces to allow for pervious surfaces as well as provide a more intimate and unique space.
- Decomposed granite should be used along secondary paths such as areas along the open lawn.
- Cast-in-place broom finish concrete should be used along primary paths and major pedestrian routes within the courtyard and garden spaces.



*Courtyard with movable tables and chairs with shade and drought tolerant landscape
Santa Monica Public Library
Source: WRT*



ABERDEEN MALL:

AREA COVERED: West of Dundee Residence Halls Phases 1 and 2, extending north from the Aberdeen Drive drop off to Blaine Street at the north end of campus. Assumes an approximately 100' average width.

DESCRIPTION: The Aberdeen Mall will be designed as a major pedestrian corridor connecting from the north (Blaine Street and Watkins Drive) through Canyon Crest Precinct Housing to the campus core. The main pedestrian path will be wide enough to serve both pedestrians and cyclists and serve as a fire lane. Depending upon fire requirements, it may be designed as two parallel paths at 12' wide or one wide 24' path. Planted areas will continue the median treatment and character of Aberdeen Drive, south of Linden Street with palm trees (12' BTH) as intersection demarcations, citrus trees as specimens (36" box) and canopy trees (24" box) for pedestrian shade and comfort. The final cross section may include turf-block or other planted structural cell units to increase fire lanes without increasing non-permeable paving (25,000 SF). It is envisioned that these are planted with a low growing groundcover that is drought tolerant. At the Blaine Street intersection, the Aberdeen Mall expands to embrace the corner and provide a direct connection to Watkins Drive as well as an entry open space feature or small plaza (3000 SF). Site furnishing include pedestrian lighting, signage, and a bike shelter.

PLANTING:

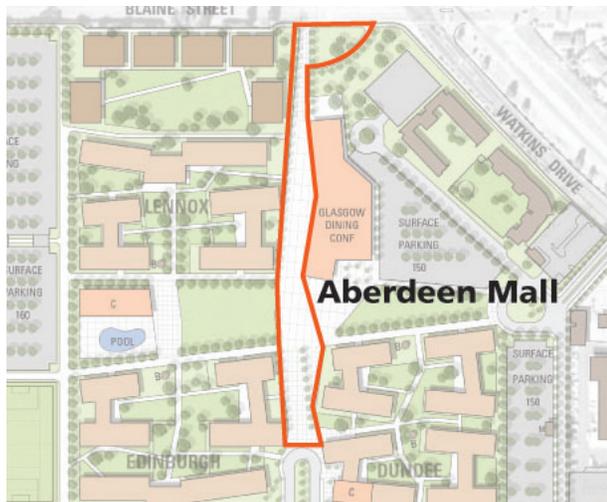
- Provide shade for seating areas along the mall extension with the use of canopy trees.
- Continue the specimen citrus trees and clusters of palms along the median up to Blaine Street to match the existing Aberdeen Drive pattern.
- Use a durable and drought tolerant groundcover where the structural cell units are installed.
- Vary color and texture of groundcovers and shrubs in seating areas and in node areas along the mall to provide visual interest and to define important spaces.
- Plant palette selection should be limited to drought tolerant species and native to Southern California when possible.

PEDESTRIAN PAVING:

- Turf block or structural cell units should be used for fire lane applications to keep the area vegetated and pervious.
- Incorporate a regular pattern of brick banding and edging within cast-in-place concrete along primary pedestrian paths. Cast-in-place broom finish concrete should be used on all secondary paths.



Mall - San Jose State University
Source: WRT



LANDSCAPE

PHASE 2

DUNDEE RESIDENCE HALLS PHASE 2 PERIMETER:

AREA COVERED: external areas surrounding Dundee Residence Halls Phase 2 and west to the Aberdeen Mall extension.

DESCRIPTION: The Dundee Residence Halls Perimeter landscape provides the interface between Dundee Residence Halls Phase 1 and 2 and buffers from the parking lot. These are buffer landscapes, primarily of trees (24" box and 15 gal), shrubs, groundcovers and pedestrian paths. Site furnishings include pedestrian lighting and a bike shelter.

PLANTING:

- A rustic style of edge treatment should be incorporated into the planting along the perimeter by using native trees and shrubs in a naturalistic and informal pattern.
- Mix canopy trees with low groundcover and shrubs to allow visibility through for safety concerns.
- Vary texture and color of shrubs and groundcover along pedestrian corridors for visual interest.
- Utilize planting beds as locations for stormwater treatment and infiltration areas.
- Plant palette selection should be limited to drought tolerant species and native to Southern California when possible.

PEDESTRIAN PAVING:

- Cast-in-place broom finish concrete should be used along the pedestrian paths in this area.

CONFERENCE CENTER/DINING PERIMETER:

AREA COVERED: external areas surrounding Dining / Conference Center and west to the Aberdeen Mall.

DESCRIPTION: The perimeter landscape provides interface between the conference facilities and the parking lot. These are buffer landscapes, primarily of trees (24" box and 15 gal), shrubs, groundcovers and pedestrian paths. It is assumed that any outside dining plaza will be covered as part of the detailed design of the conference center/dining facility. Site furnishing would include pedestrian lighting and a bike shelter.

PLANTING:

- Incorporate a rustic style of edge treatment into the planting along the perimeter by using appropriate trees and shrubs in a naturalistic and informal pattern.
- Mix canopy trees with low groundcover and shrubs to allow visibility through for safety concerns.
- Vary texture and color of shrubs and groundcover along pedestrian corridors for visual interest.
- Utilize planting beds as locations for stormwater treatment and infiltration areas.
- Plant palette selection should be limited to drought tolerant species and native to Southern California when possible.

PEDESTRIAN PAVING:

- Cast-in-place broom finish concrete should be used along the pedestrian paths in this area.

DUNDEE PHASE 2 PARKING LOT:

AREA COVERED: 150 surface parking lot east of Dining / Conference Center and north of Dundee Residence Halls Phase 2.

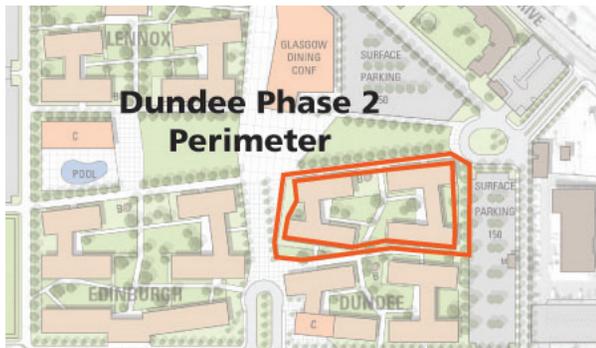
DESCRIPTION: The Dundee Residence Halls parking lot will have canopy trees for shade (24" box) and perimeter groundcover/shrubs for screening/buffers. All planted areas will be irrigated.

PLANTING:

- Canopy trees shall be used in the parking lot to provide shade to reduce the urban heat island effect.
- Vary heights of groundcover and shrubs along the perimeter to provide a buffer from adjacent uses.
- Utilize planting areas in and along the perimeter as stormwater infiltration areas for parking lot runoff.
- Plant palette selection should be limited to drought tolerant species and native to Southern California when possible.

PEDESTRIAN PAVING:

- Porous pavement should be considered in strategic areas of the parking lot to capture and infiltrate stormwater and to reduce the amount of runoff going into untreated storm drains.



MAJOR OPEN SPACE - MALL:

AREA COVERED: open space area north of Dundee Residence Halls Phase 2, south of Conference/Dining and west to the Aberdeen Mall Extension.

DESCRIPTION: The Open Space Mall landscape takes its cue from the major malls on campus, including the Carillon Mall. These are wide open spaces with gracious paths with pedestrian lighting and large canopy trees (24" box and 15 gal). Because of their active use, large areas may be turf. Shrubs and groundcovers as well as specialty gardens will be developed.

PLANTING:

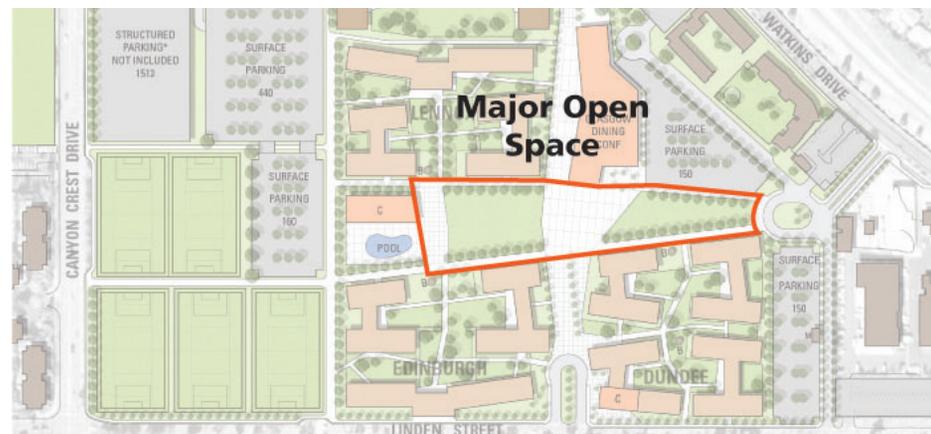
- Provide canopy trees for shade in seating areas as well as lawn areas for user comfort.
- Vary texture and color of shrubs and groundcover along pedestrian corridors and in planted areas for visual interest.
- Canopy and specimen trees should be used to define outdoor spaces and pedestrian routes. Distinctive species should be used along primary routes and secondary routes to delineate the hierarchy of paths.
- A unique planting palette should be used in each garden space to give the space a sense of identity.
- The large open turf area should double as a stormwater infiltration basin to hold and infiltrate stormwater alleviating the need for an extensive storm drain system.
- Mix deciduous and evergreen trees in the courtyard and garden spaces. Deciduous trees should be planted to allow shade in the summer months and sunlight in the winter months heavily used areas.
- Plant palette selection should be limited to drought tolerant species and native to Southern California when possible.

PEDESTRIAN PAVING:

- Unit pavers should be utilized in garden spaces to allow for pervious surfaces as well as provide a more intimate and unique space
- Decomposed granite should be used along soft surface paths and colored to match the existing "UCR-Tan" standard.
- Incorporate a regular pattern of brick banding and edging within cast-in-place broom finish concrete along the primary pedestrian routes.



Mall - San Jose State University
Source: WRT



STRUCTURAL

PROJECT DESCRIPTION

The proposed Dundee Residence Halls consists of Dundee Residence Halls Phase 1 and 2. Dundee Residence Halls Phase 1 consists of two four-story structures. The primary occupancy of these structures is residential, with the ground floor of each building also being used for offices and common area.

Dundee Residence Halls Phase 2 also consists of two four-story structures, similar to Dundee Phase 1. The ground floors of these buildings also have common areas, but do not contain offices.

Please note that, due to the project being in its early stages, the following information is preliminary in nature and is dependent upon further development of the buildings.

PHASE 1 AND PHASE 2 RESIDENCE HALLS

BUILDING DESCRIPTION

Stories/Height:	4 Stories/Height TBD
Building Type:	Load-Bearing Wood Framing or Load-Bearing Light Gauge Steel Framing
Occupancy Use:	Residential

GEOMETRIC DESCRIPTION: Each phase is broken up into two separate structures, each four stories in height. Each of the four structures consists of two separate wings, both rectangular in shape, connected by a corridor with common areas on the side. Portions of the ground floor level of each building consists of open areas, while other portions are identical to the upper floors.

STRUCTURAL SYSTEM OPTION 1 – WOOD FRAMING

GRAVITY SYSTEM: The typical floor assembly consists of 2x12 joists or 11-7/8" TJI's @ 16" o.c., topped with 3/4" plywood sheathing and 1-1/2" light weight concrete. The typical floor assembly would span between the load-bearing walls, consisting of 2x6 studs at 16" o.c. Note that deeper joists or TJI's may be required based upon final floor layouts and acoustical requirements.

Steel framing will be required above the open areas on the ground floor level where the typical bearing walls from the floor levels above are not continuous to the foundations. This framing will consist of wide-flange beams, located directly underneath the bearing walls above, which span to HSS tube columns. This steel is in addition to the typical floor assembly noted above.

LATERAL SYSTEM: The lateral system will utilize wood shear walls, consisting of the typical wood stud wall, sheathed with plywood that is rated for shear resistance. The typical sheathing thickness will be 1/2" thick and may occur on one or both sides of the shear wall. Both ends of every shearwall will require a compression post made of built-up wall studs and also require a continuous shearwall tie-down rod system.

At the open portions of the ground floor level, where shearwalls are not continuous to the foundation, steel moment resisting frames will be utilized as the lateral system.

FOUNDATION: The foundation system may be composed of either continuous spread footings or a mat foundation. Note that, until further information is provided by the geotechnical engineer, it is assumed that either foundation system will require the complete removal and re-compaction of any existing fill material:

- Continuous Spread Footings Option: All load-bearing and/or shear walls will require a spread footing underneath. These spread footing will vary in size from 24" to 54" wide. The ground floor area will be composed of a 5" slab on grade, with thickened areas above the spread footings.
- Mat Foundation Option: The entire floor area of the structures will be supported by a 13" thick mat foundation. The entire perimeter of the mat will consist of a thickened edge, approximately 24" wide x 24" deep.

STRUCTURAL SYSTEM OPTION 2 – LIGHT GAUGE STEEL FRAMING

GRAVITY SYSTEM: The typical floor assembly consists of 10" joists at 24" o.c., topped with 9/16" thick metal deck and 1-1/2" light weight concrete. The typical floor assembly would span between the load-bearing walls, consisting of 4" studs at 24" o.c. Note that deeper joists may be required based upon final floor layouts and acoustical requirements.

See Option 1 for information relating to the framing at the open areas of the ground floor level.

LATERAL SYSTEM: The lateral system will utilize light gauge shear walls, consisting of the typical light gauge stud wall, sheathed with exterior gypsum board with metal panels (Cemco Sure Board or similar) rated for shear resistance. The typical sheathing may occur on one or both sides of the shear wall. Both ends of every shearwall will require a compression post made of either built-up wall studs or a 10 GA Paco column. Compression posts require a welded hold-down connection to connect them through each floor level.

FOUNDATION: The foundation description for Option 2 is the same as Option 1.

SEISMIC ISSUES

SEISMIC HAZARDS:

The project site is located approximately 8 km southwest of the San Jacinto Fault. Determination by the geotechnical engineer is that the site is not located in a Seismic Hazard Liquefaction Zone.

SEISMIC CRITERIA:

Soil Site Class	C
Occupancy Category	II
MCE Spectral Response Acceleration Parameters	$S_s = \text{TBD}, S_1 = \text{TBD}$
Site Coefficients	$F_a = \text{TBD}, F_v = \text{TBD}$
Seismic Design Category	TBD
Bearing Wall System with Light Framed Shear Walls:	$R = 6.5, \Omega_o = 3, C_d = 4$
Importance Factor	$I = 1.0$
Redundancy	$\rho_x = \text{TBD}, \rho_y = \text{TBD}$
Approximate Period	$T_a = C_t \cdot h_n^{0.75} = \text{TBD}$
Fundamental Period (Model)	$T_x = \text{TBD}, T_y = \text{TBD}$
Seismic Response Coefficient	$C_{sx} = \text{TBD}, C_{sy} = \text{TBD}$
Design Base Shear	$V_x = \text{TBD}, V_y = \text{TBD}$

LOAD CRITERIA

WIND CRITERIA:

Exposure	C
Importance Factor	$I = 1.0$
Basic Wind Speed	85 mph

LIVE LOAD CRITERIA:

Roof	20 psf (reducible)
Residential	40 psf (reducible)
Exit Corridors/Lobbies	100 psf (non-reducible)
Exit Stairs	100 psf (non-reducible)

DEFLECTION CRITERIA:

- Live load deflection of beams and girders shall not exceed $l/360$ of span length where finish materials may be damaged by large deflections.
- Maximum live load deflection of any spandrel shall not exceed $1/360$ of span length or $3/8"$ whichever is smaller.
- Wind load deflection of total building shall not exceed $1/400$ of building height. Wind induced interstory drift shall not exceed $1/360$.
- Elevator structural supports shall be designed within limits of deflection prescribed by ANSI A17.1.
- Story drift due to earthquake forces shall not exceed $0.02 h_i$, where h_i = story height below level i .

STRUCTURAL

STRUCTURAL MATERIALS

CONCRETE:

All structural concrete mixes shall be Type II cement. All structural concrete shall have a minimum compressive strength at 28 days as follows:

Concrete Foundations	$f'c = 4000$ psi (150 pcf)
Slab-on-grade	$f'c = 3000$ psi (150 pcf)
All other Concrete	$f'c = 4000$ psi (150 pcf)

REINFORCEMENT

Typical Reinforcement	ASTM A615, Grade 60 ($F_y = 60$ ksi)
Welded Rebar	ASTM A706 ($F_y = 60$ ksi)
W.W.F. (Cold Drawn Wire)	ASTM A185 ($F_y = 65$ ksi)

STRUCTURAL STEEL

All W Shapes (U.N.O.)	ASTM A992, Grade 50
All Other Structural Sections	ASTM A572, Grade 50 (A992)
Plates	ASTM A572, Grade 50 (A992)
Structural Tubing	ASTM A500, Grade B ($F_y = 46$ ksi)
Anchor Bolts	ASTM A307

WELDING

Electrode Strength	E80XX (Reinforcing Steel) E70XX (Structural Steel)
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WOOD FRAMING (OPTION 1)

Joists and Beams	Douglas Fir-Larch, No. 1
Wall Studs	Stud Grade
Wood in Contact w/ Concrete	As noted above, and pressure-treated
Sheathing	APA Rated, Structural 1

LIGHT GAUGE FRAMING (OPTION 2)

Joists, Studs, Tracks, Miscellaneous Steel 16 GA and Thicker	ASTM A653, Grade 50 ($F_y = 50$ ksi)
Joists, Studs, Tracks, Miscellaneous Steel 18 GA and Lighter	ASTM A653, Grade 33 ($F_y = 33$ ksi)
Metal Deck	ASTM A653, Grade 50 ($F_y = 50$ ksi)

REFERENCES

GOVERNING DESIGN CODE:

2007 California Building Code (Title 24, Part 2, California Code of Regulations)/2006 International Building Code.

REFERENCE STANDARDS:

- ASCE 7-05, Minimum Design Loads for Buildings and Other Structures
- ACI 318-05, Building Code Requirements for Structural Concrete
- AISC 341-05, Seismic Provisions for Structural Steel Buildings
- AISC 360-05, Specifications for Structural Steel Buildings
- AISC Manual of Steel Construction, 13th Edition
- ICC-ES AC43, Acceptance Criteria for Steel Deck Roof and Floor Systems

REFERENCES:

- Geotechnical Investigation Proposed Canyon Crest Student Housing, Prepared for University of California, Riverside. Job No. 04705-3 by CHJ, Inc., dated July 30, 2004

MEP GENERAL

INTRODUCTION

The UCR Dundee Residence Halls consist of new buildings at the University of California Riverside campus. The Dundee Residence Halls will be developed in two phases. Phase 1 incorporates residence halls, staff apartments, community spaces, Resident Services Office and a cafe. Phase 2 includes residence halls and community spaces.

The objective of this report is to provide a narrative describing the design of the mechanical, electrical and plumbing systems for Dundee Residence Halls Phases 1 and 2.

This report can also be used as part of the document for applying for the LEED Energy and Amosphere credit.

In the draft Sustainability Action Plan 2009, the University has a goal of exceeding the Title 24 energy code by 30%. This requires adoption of premium efficiency mechanical, electrical and plumbing systems. All systems, including building façade performance, are considered holistically to provide the most economical energy efficient building.

CODES

The latest editions of the codes and standards are intended as guidelines for design. The codes and standards are not limited to the lists below.

- California Plumbing Code
- California Energy Conservation Code
- International Fire Protection Code
- California Mechanical Code, latest version.
- California Building Code, latest version.
- California Fire Code, latest version.
- California Administrative Code
- Title 8 General Industry Safety Order
- Title 17 Public Health
- Title 22 Social Security
- Title 24 Building Energy Efficiency Standards

STANDARDS

- ANSI American National Standards Institute
- UL Underwriters Laboratories
- AGA American Gas Association
- ASME American Society of Mechanical Engineers
- ASHRAE American Society of Heating Refrigerating and Air Conditioning Engineers
- ARI American Refrigeration Institute
- ASTM American Society for Testing and Materials
- FM Factory Mutual
- NFPA National Fire Protection Association

MECHANICAL

INTRODUCTION

The mechanical system incorporates a stand alone expandable chilled water and heating hot water central plant to provide cooling and hot water to each unit. The chilled water plant consists of water cooled chillers and associated pumps located at a basement level mechanical room with cooling towers on grade. Boilers will be located on the roof.

Air conditioning will be provided by a dedicated air conditioning unit in each residence. Water is pumped through the buildings from the plant. The base schemes assume a 4-pipe system will be utilized, two for chilled water and two for hot water. An option for utilizing a two pipe system where the heating hot water and chilled water share a common piping system will be investigated.

DESIGN CRITERIA

Heating and cooling load estimation for sizing system and equipment will be performed in accordance with ASHRAE Handbook – Fundamental based on the following design assumptions:

OUTDOOR DESIGN CONDITIONS:

Location	Riverside, California
Latitude	34
Elevation	840
Climate Zone	10
Outside Design Dry Bulb	99.0°F DB / 68°F WB
Winter Design	34.0°F

INDOOR DESIGN CRITERIA:

Room	Occupied Design Air Temperature Setpoint (°F)	
	Summer	Winter
General Office Area	75±/-2	72±/-2
Student Dorm	75±/-2	70±/-2
Assembly Area	75±/-4	72±/-4
Corridor and Lobby	78±/-2	68±/-2
Support Areas	78±/-5	68±/-5

Room	Unoccupied Design Air Temperature Setpoint (°F)	
	Summer	Winter
General Office Area	85	60
Student Dorm	85	60
Assembly Area	85	60
Corridor and Lobby	85	60
Support Areas	85	60

- Electrical Rooms will be conditioned as required to offset heat rejection of equipment and maintain room at or below 90°F
- Telecommunication Spaces will be maintained below a maximum of 78°F unless dictated otherwise by the IT consultant
- Indoor Relative Humidity: The cooling systems will be designed to ensure the summer humidity is maintained below 60%RH during part load conditions and winter humidity is maintained above 30%RH. However, in general, humidity will not be controlled and there will times when conditions are outside these limits.

BUILDING ENVELOPE:

The following table outlines the base case material types and required performance criteria that will be used in the modeling of the buildings.

Element	Location	U-Factor /R Value (Btu/hr.ft ² .F)	Solar Heat Gain Coefficient
Glazing	All Orientation	0.29	0.37
Wall	All	R19 wall	N/A
Roof	All	R30 roof	N/A

The design of the exterior construction shall be such as to minimize infiltration. An infiltration rate of 0.25 air changes per hour shall be assumed in the perimeter 15 feet. Rooms with openings to outdoors with either doors or operable windows shall assume an infiltration rate of 0.5 air changes per hour. Higher performance insulation and solar performance will be considered in conjunction with mechanical system sizing and selection.

VENTILATION RATES:

The more stringent of the CMC-2006 or ASHRAE Std. 62.1-2007 requirements will be used to determine minimum ventilation rates for the project. The proposed outdoor air ventilation criteria are described below:

- All residence hall unit rooms will be provided with operable windows, separate ventilation air will not be provided.
- For optimal indoor air quality for occupants, 15 CFM per person will be provided or 0.15 CFM/sq ft, whichever is greater, to all condition spaces other than dorm rooms.
- Kitchens will be provided with 100% outside air and fully exhausted.
- All occupancies smaller than 40 sq ft/person (including conference rooms) will be provided with a CO₂ sensor to modulate the outdoor air to improve indoor air quality and reduce energy consumption when possible. There shall be no more than 400 parts per million (PPM) of CO₂ in any space.
- The boiler room will be provided with combustion air at a rate of 1 square inch per 2,000 Btu of input.
- Make-up air will be provided to the chiller room to offset the required refrigerant exhaust.

Ventilation to occupied areas shall exceed minimum ventilation requirements of ASHRAE Standard 62-2004 by 30%.

AIR FILTRATION:

All systems will be provided with a minimum MERV8 filter.

BUILDING HOURS OF OPERATION:

The building is provided with conditioning 24/7. Consideration will be given to the provision of distinct heating and cooling seasons to allow the respective central plants to be shut down when not in use, and to summer schedules where only the staff apartments are occupied.

BUILDING MANAGEMENT SYSTEM:

All systems shall be monitored and controlled by the building management system (EMS). The system will use direct digital control (DDC) technology.

The EMS will be able to perform the following functions:

- Initiate alarms when monitored equipment exceed allowable limits and indicate necessary corrective measures to the user.
- Monitor status and run time for all equipment connected to the system
- Compile and print reports of system operation according to the predetermined schedule or as requested by the user.

INTERNAL HEAT GAIN

The HVAC system will be sized by the program to compensate for the following internal heat gains.

GENERAL INTERNAL HEAT GAINS – PEOPLE

Space	Basis	Heat Gain Sensible / Latent
General Office	100 ft ² /person	250/200 Btuh
Student Dorm	3 People/Room	250/200 Btuh
Assembly Areas	15 ft ² /person	250/250 Btuh
Corridors & Support Spaces	100 ft ² /person	250/250 Btuh
Classrooms	30ft ² /person	250/250 Btuh
Kitchens	200ft ² /person	250/475 Btuh
Conference/Meeting Rms.	15ft ² /person	250/250 Btuh

GENERAL INTERNAL HEAT GAINS – LIGHTING

Space	Lighting Load
General Office	1.2 Watts/ft ²
Student Dorm	1.5 Watts/ft ²
Assembly Areas	1.5 Watts/ft ²
Classrooms	1.0 Watts/ft ²
Kitchens	1.5 Watts/ft ²
Conference/Meeting Rms.	1.5 Watts/ft ²

GENERAL INTERNAL HEAT GAINS – MISCELLANEOUS EQUIPMENT

Space	Miscellaneous
General Offices	1.0 Watts/ft ²
Student Dorm	1.0 Watts/ft ²
Assembly Areas	0.5 Watts/ft ²
Classrooms	1.5 Watts/ft ²
Kitchens	TBD
Conference/Meeting Rms.	4.5 Watts/ft ²

MECHANICAL

HVAC SYSTEM

Consideration was given to three mechanical systems options:

1. Central chilled water and hot water plants serving unit mounted heating and cooling devices.
2. Variable Refrigerant Systems utilizing roof mounted condensers and room mounted fan coils.
3. Water source heat pumps utilizing closed circuit cooling towers, and room mounted heat pumps.

With the emphasis on sustainability and overall energy efficiency of the building it was decided to pursue a chilled and hot water central plant option for the building, coupled with thermal energy storage.

CENTRAL CHILLED WATER AND HEATING HOT WATER PLANT

The chilled water central plant will be located in the basement of the building with the cooling towers in a grade level mechanical enclosure away from the buildings to protect against noise and vibration. The basement of Dundee Residence Halls Phase 1 will be sized to accommodate future additional equipment for Phase 2.

The heating hot water central plant will be located on the roof of the building. A separate plant will be provided for each phase.

CHILLED WATER PLANT

The central chilled water plant will consist of two water cooled glycol centrifugal or turbocore chillers capable of producing ice, each sized for 50% of total capacity. Chillers are coupled to a partial ice storage thermal energy storage system. The chillers will be capable of operating simultaneously with the ice tanks. Ice will be generated utilizing off peak electricity for significant energy cost savings.

Each chiller will be provided with a constant volume primary chilled water pump. Variable secondary chilled water pumps distribute air to all terminal cooling devices. Consideration will also be given to a variable primary pumping arrangement. Heat is rejected via cooling towers and associated condenser water pumps.

Consideration will be given to the use of night sky radiation via hot water solar collectors for night time rejection of waste heat from the chillers in lieu of cooling towers, thus reducing energy cost and water use. It is possible that solar collectors utilized for domestic hot water could be used for this purpose providing a dual functionality.

The plant will be capable of being expanded to serve Phase 2.

- The manufacturer of the chiller, VFD and starter shall be listed by Underwriters Laboratories as an approved manufacturer. The manufacturer shall furnish proof of listing.
- The chiller shall be rated and certified in accordance with ARI Standard 550/590. The chiller shall be capable of starting and operating at part and full load with entering condenser water temperature of 55 degrees F. The chiller shall be factory assembled, piped, wired and leak tested. The chiller shall be charged with 2 to 3 psig dry nitrogen for shipping.
- The water cooled chiller shall have minimum efficiency of 6.10COP and 6.40IPLV in accordance with ARI 550/590.
- Design temperature of chilled water to the buildings is 42 degrees F to 58 degrees F supply and return.
- The chiller shall be supplied with R 134A refrigerant.
- Cooling tower – Induced draft counter flow or cross flow cooling tower with variable speed condenser fan shall be provided. The tower shall be constructed of corrosion-resistant materials.

- The cooling tower performance shall be certified by the Cooling Tower Institute according to CTI Certification Standard STD 201, or lacking such certification, a field acceptance test shall be conducted with the warranty period according with CTI Acceptance Code ATC 105 by a CTI-accredited independent testing agency.
- The tower shall perform at sound levels not exceed 71dBA when measured 5 feet above the top of cooling tower discharge. The manufacturer shall submit sound data rated in accordance with ATC 128.
- Pumps shall be centrifugal type with premium efficiency motors.
- Secondary chilled water pumps will be equipped with VFDs.
- All pumps shall bear UL778.

HEATING HOT WATER PLANT

Gas fired condensing boilers with associated variable volume pumps will provide heating hot water to the building systems.

The boilers shall be packaged with all components and controls factory pre-assembled. Burner control shall be return water temperature actuated and control sequences, such as modulating burner control and outside air reset, shall be utilized to maximum efficiency and performance.

- Design temperature of heating hot water is 150 to 120°F supply and return. Hot water temperature will be set down with outside temperature.
- The boilers shall have a thermal efficiency of 97% exceeding Title 24 minimum requirements of 75%. The efficiency information supplied by the manufacturer shall be verified in compliance with US Department of Energy certification requirements.
- The boilers shall be piped to a common heating water header with provisions to sequence boilers on-line to match the load requirements.
- All boilers shall have adequate valves to provide isolation of off-line units without interruption of services.
- All required auxiliaries for the boiler systems shall be provided with expansion tanks, water treatment and air separation, as required.

MECHANICAL VENTILATION SYSTEM

Two options are being considered for exhausting restrooms:

- The first option consists of exhausting the air via a main shaft and roof mounted exhaust fan. This fan will be continuously running as it also serves to draw ventilation air into the units by creating a negative pressure zone. However, as this option is required to operate 24/7 to eliminate the need for smoke dampers the fans consume a substantial amount of energy as they are running even when bathrooms are not in use. However, maintenance is simpler as access is not required to the individual rooms and there are a smaller number of units.
- The second option is to provide individual exhaust fans in each bathroom. Connecting directly to outside. These fans are linked to the lights with a run on timer to remove moisture from the bathroom after use. These units operate only when the bathroom is in use and hence reduce the amount of energy used by up to 90%. An exhaust point must be designed into the façade at a sufficient distance from operable windows to prevent reintroduction of the air back into the room.

The corridors are too long to be naturally ventilated by code. The strategy will be to exhaust from the corridors into five main shafts along their length; thereby drawing ventilation air in from the façade openings and ensuring proper ventilation along the entire length of the corridor.

All fans shall bear the AMCA seal and performance shall be based on tests made in accordance with AMCA Standard 210.

HYDRONIC PIPING SYSTEMS

All piping shall be chemically cleaned and flushed before start up. Consideration will be given to a two pipe changeover system for the housing units utilizing the same pipe for both heating hot water and chilled water. This requires a distinct changeover season between heating and cooling. For areas potentially requiring cooling outside of the determined cooling season such as densely occupied spaces and/or high heat load spaces a separate loop would be required from the central plant. It is anticipated that the majority of these rooms will be located on the ground floor or in the basement.

All piping in chilled water and heating hot water system shall be insulated in accordance with current energy code and regulations, such as ASHARE 90.1 and Title 24 whichever is more stringent.

All insulation exposed to view shall have metal cladding of 0.16 aluminum embossed.

Piping shall be tested with a hydrostatic pressure of not less than 100 psig, but not less than 1.5 times greater than operation pressure. Pressure shall be maintained for at least one hour.

Chilled water and heating hot water piping shall be sized according to the following guidelines:

- Friction loss of 1.0 to 3.0 feet WG/100 feet
- Minimum pipe size of 3/4 inch, except for gage or control piping.
- Maximum velocity of 6 fps for 2½" pipe size and larger.
- Maximum velocity of 4 fps for 2 pipe size and smaller.
- Maximum pressure drop of 4 ft/100 ft for any pipe size.
- Minimum velocity of 2 fps (except for terminal reheat run-outs).

DUCTWORK SYSTEM DESIGN REQUIREMENTS

Duct systems will be designed to obtain lowest cost-beneficial pressure loss by limiting certain duct velocities, avoiding dynamic loss components where possible and utilization of low dynamic loss components. High-loss fittings, such as mitered elbows, abrupt transitions, and takeoffs and internal obstructions will be avoided. The distribution system pressure losses will be determined by total pressure.

It is an objective to design the pressure distribution duct (between the AC unit and terminal units or air valves) for pressure drops to 1.0 inches WG or less. Long duct runs will be designed with special consideration of pressure loss since the maximum loss for any run will be imposed upon the entire fan system.

Horizontal duct distribution will be routed to maximize long, straight runs without multiple penetrations through fire and/or smoke partitions. Multiple horizontal mains will be of comparable length and configuration to equalize pressure losses. The overall objective is to route ducts to avoid or minimize architecturally and/or structurally induced dynamic losses.

Sheet metal gages will be minimum 22 gage and in accordance with CMC, not SMACNA. Construction of ductwork, except for gage thickness, will be in accordance with SMACNA for the appropriate duct pressure classification. Variations in duct size, and additional duct fittings will be provided, as required to clear obstructions and maintain clearances.

Drive slip or equivalent flat seams for ducts exposed in the conditioned space or where necessary due to space limitations, will be provided. Longitudinal seams will use Pittsburgh lock. Button punch snap lock will not be used on the project. On ducts over 48 inches wide, provide standard reinforcing on inside of duct. Run-outs to grilles, registers or diffusers on exposed ductwork will be the same size as the flange outer perimeter on the grille, register, or diffuser.

Return air system will be ducted in shafts and non-conditioned spaces.

Painting inside of ducts behind grilles is not allowed.

Supply air and return air ducts from fan coil unit to and from the room will be sized for friction losses of 0.1 inches WG/100 feet but not exceeding a velocity of 700 fpm.

MECHANICAL

CONTROLS

A modular direct digital control (DDC) system will be provided for the mechanical system. Stand-alone modules will control air handlers, radiance panels, pumps, etc. A common data highway will link the modular controllers. Valve and damper actuators will be electronic.

The building control system will be connected to the campus energy management control system through wiring or through a modem.

A central personal computer and printer will be provided. Full color graphics, monitoring, trending, set point, and sequence modification will be available at the building and at the campus facilities offices. The system will be capable of transferring data to and from the campus control system.

The control system will match the campus standards.

SUSTAINABLE / LEED DESIGN FEATURES

The project will consider all aspects of sustainable design. The building will balance human comfort with the energy reduction requirements outlined in this document, in a holistic, integrated design. The project will be submitted to the USGBC for LEED certification. The project LEED goal is Silver status with LEED Gold as an alternate. In addition to HVAC energy use reduction and improving indoor air quality, the MEP system designs will also target reductions in lighting energy consumption and potable water. Refer to the preliminary LEED check list for point specific project goals.

The architectural and engineering design for the Dundee Residence Halls will incorporate sustainable features wherever possible, the following items are currently being considered:

- Ice thermal energy storage system.
- Night time sky radiation heat rejection.
- Grey water recovery for cooling tower make-up water.
- Variable Primary pumping systems.
- High efficiency condensing boilers.
- High performance glazing and shading: Improves thermal efficiency of the façade while maximizing daylight transmission.
- High performance roofing: Reduces the heat gains into the space.
- High performance facades: Minimizes energy loss and gain.
- Premium efficiency motors: Minimizes drive and winding losses in the mechanical equipment.
- High efficiency equipment shall be utilized.

- Indoor Air Quality: High performance filtration and UV lights are used to minimize airborne contaminants from entering air stream. Materials will be selected to minimize off gassing of VOCs. A flush out period will also be required prior to building occupancy.
- Commissioning: Full commissioning of the building systems will be required in order to ensure correct operation and inter system working. This will minimize problems during move-in period from non-functioning systems while maximizing system efficiency.
- Access to natural light: Light wells, skylights and courtyards are distributed through the floor plan to ensure occupants have access to natural environment.
- Consider the use of operable windows for natural ventilation for all rooms. Note if natural ventilation is provided window switches will be provided to switch of the air conditioning system in that room when the windows are opened.
- Carbon Dioxide concentration control of outside air quantity.
- The building systems will be controlled using a direct digital building management control system. The BMS system will optimize the energy use in the building by ensuring that equipment is not operating when the building is unoccupied.
- In addition further investigation into recycled content and renewable resources in the materials used will be carried out during the subsequent phases.
- Localized intermittent exhaust systems in lieu of continuously operated centralized systems.

SOUND, VIBRATION AND SEISMIC CONTROL

Sound and vibration levels generated by the building's mechanical and electrical equipment shall be controlled as necessary to comply with the UC specific NC requirements by area type, taking into account in the acoustic analyses any significant noises likely to also be generated by occupant-related equipment.

M/E/P equipment location and vibration isolation requirements shall be coordinated between the mechanical designers and the structural designers.

Noise and vibration control measures shall generally involve the use of the following approaches, as appropriate to the specific conditions:

- Early identification of any high-noise equipment locations to permit maximum possible abatement by design of the building structure;
- Location of noisy equipment as far away from occupied areas as practical;
- Selection of the least noisy equipment models where feasible;
- Application of sound-absorbing treatment to mechanical spaces, and application of factory-supplied equipment enclosures for any excessively noisy equipment, if necessary and feasible;
- Requirement for integral sound attenuators in air handlers where feasible, or application of duct sound attenuators (packless stainless steel construction where required) in main HVAC ducts to the extent necessary to achieve required sound reductions;
- Routing of larger, higher velocity ducting away from occupied spaces to the extent feasible;
- Sizing branch duct runs serving occupied spaces to limit velocities to those required to meet the required noise limitations in those spaces, following campus standards and design criteria;
- Resilient mounting of all rotating/vibrating equipment, to minimize structure-borne noise, and to limit structure-borne vibration in laboratory areas where vibration-sensitive instruments are located;
- Mechanical and electrical equipment, ducting and piping will all be mounted, supported and restrained in accordance with all of the applicable code requirements for Seismic Zone 4, while maintaining the requisite sound and vibration isolation.

MECHANICAL

STUDENT RESIDENCE HALL UNITS

Three options are being considered for the provision of heating and cooling the student residence hall units.

- OPTION A: Fan coil units
- OPTION B: Passive or active chilled beams
- OPTION C: Radiant ceilings

The fan coil system should be considered the base option. The feasibility of the other options will be based on ability of the systems to deliver required heating and cooling, within budget or while providing significant energy performance gains.

OPTION A: CHILLED WATER FAN COIL SYSTEM

A chilled water fan coil system is comprised of multiple fan coil units, a piping system, a water cooled chiller, boiler and associated pumps, controls and auxiliary equipment. A dedicated fan coil unit will be provided for each living space. Ductwork is very minimal and will consist of a short main supply and return. The units will be located above the washroom ceiling with the return grille in the entrance hall and the supply in the side wall of the main living space. Each room will have its own temperature control.

Each fan coil will have a heating and cooling coil as the base option, however, should a changeover season be possible only one coil will be provided.

Chilled water fan coil units are one of the most effective means of providing air conditioning.

OPTION B: RADIANT CEILING

The radiant ceiling scheme provides radiant ceiling manifolds for each of the unit's rooms to provide heating and cooling. It is anticipated that one manifold would be provided per four rooms. Heating and cooling is provided to the radiant manifolds by the central plant.

The radiant manifolds and associated circulation pumps are located in above the ceilings throughout the unit, with panels for service access.

Multi-zone control is achieved by providing separate thermostatically controlled valves for each rooms distribution. A separate lay-in metal pan ceiling would be provided for the radiant component.

OPTION C: CHILLED BEAMS

A chilled beam is a static cooling device consisting of a plenum box supply and return registers and a finned tube. Warm air is entrained into the device is cooled and falls thus setting up a convection current in the room thereby cooling it. There are two distinct types of chilled beams passive and active. The active beam also includes a small amount of ducted conditioned air which increase capacity and aids in the entrainment of room air. The beams can also be utilized for heating.

A chilled beams scheme provides a series of active chilled beams to provide heating and cooling for each of the units rooms to provide heating and cooling. Heating and cooling is provided to the chilled beams by the central plant. The active chilled beams would also be provided with conditioned air ducted from a roof mounted air handling unit.

Multi-zone control is achieved by placing a series of chilled beams connected to a zone control valves. A series of control valves will be provided for each of the thermal control zones. Each chilled beam zone is provided with individual thermostatic control for its respective control zone. Heating and cooling piping from the main floor distribution is run overhead to the chilled beam control zones.

SYSTEM	BENEFITS		DESIGN ISSUES	
OPTION A CHILLED WATER FAN COIL	Control	Individual units for each thermal zone will provide greater control for the occupants and maintain the different thermal zones at the correct set points to achieve occupant comfort levels.	Space	The single fan coil units require a reasonable amount of space for installation, ductwork and piping connections as well as service and access requirements.
	Familiarity	The system utilizes technology readily available in the US that maintenance staff and users are familiar with.	Efficiency	Of the three systems being considered this has the lowest efficiency.
OPTION B RADIANT CEILING	Noise	The radiant ceiling is nearly silent as the only moving part associated with the system is the circulation pump. There are no issues with air noise typical of the all forced air systems.	Comfort	One of the major issues with air systems in residences is achieving a balance between achieving the space set points and maintaining occupant comfort. Drafts and cold air blowing on to occupants is problematic with air systems; this is not an issue with radiant floors.
	Ceiling Heights	The elimination of all of the forced air eliminates the supply and return ductwork.	System Performance	The performance for a radiant ceiling with gypboard is less than a traditional metal panel ceiling. Appropriate modifications to outputs would need to be made.
	Comfort	One of the major issues with air systems in residences is achieving a balance between achieving the space set points and maintaining occupant comfort. Drafts and cold air blowing on to occupants is problematic with air systems; this is not an issue with radiant ceilings.	Ceiling Coordination	Ceiling utilities, such as lighting and sprinkler lines would need to be carefully coordinated with the radiant ceiling as part of the design. The contractor would also need to undertake a higher degree of coordination.
	Efficiency	Significantly higher efficiency than the forced air systems.	Condensation Potential	It is absolutely critical that the condensation is controlled in the space. The owners must be aware of the proper operation of the radiant ceiling. Should condensation occur there is the potential for water damage and left unchecked (or undetected) possibly mold.
OPTION C CHILLED BEAMS	Noise	The low velocity of the air exiting the chilled beam makes it quieter than the all forced air system. Through proper unit selection, the system could achieve the same sound levels as the radiant schemes.	Controls	Enhanced controls are required including moisture sensors and humidity sensors.
	Ceiling Heights	The elimination of nearly all of the forced air, except for ventilation, would significantly decrease the amount of ductwork required. It is anticipated that ceilings outside the central core or spine could be between 9'-6" and 10'-0". At the perimeter the ceiling heights could be as high as 10'-6" depending on the other services required at the perimeter and the depth of the chilled beams.	Ceiling Coordination	Ceiling utilities, such as lighting and sprinkler lines would need to be carefully coordinated with the chilled beams as part of the design. The contractor would also need to undertake a higher degree of coordination.
	Comfort	One of the major issues with air systems in residences is achieving a balance between achieving the space setpoints and maintaining occupant comfort. Drafts and cold air blowing on to occupants is problematic with air systems; this is not as much of an issue with chilled beams as the volume of air is less.	Additional Piping	Piping would need to run to each of the chilled beams. While a control valve would not be required for each beam this would have additional cost and coordination implications.
	Efficiency	Significantly higher efficiency than the forced air systems. It is not quite as efficient as the radiant floors due to the increased air volumes, but is not significantly different.	Access	Accessibility to the chilled beams would need to be carefully considered in order to meet architectural as well as service requirements. It is likely this can be achieved without typically including access panels located throughout the ceiling.
			Condensation Potential	It is absolutely critical that the condensation is controlled in the space. The owners must be aware of the proper operation of the radiant ceiling. Should condensation occur there is the potential for water damage and left unchecked (or undetected) possibly mold.
			Controls	Enhanced controls are required including moisture sensors and humidity sensors.

PLUMBING

GENERAL

The plumbing systems will incorporate a solar hot water collector coupled to a gas fired hot water generator to provide domestic hot water to sinks, showers and laundry. This provides back-up for cloudy days. Grey water will be collected and reutilized for irrigation and cooling tower make-up for the air conditioning system.

CODE REQUIREMENTS

- 2007 California Plumbing Code
- 2007 California Building Code
- 2007 California Energy Code
- California Occupational Safety and Health Act (OSHA)
- American with Disability Act (ADA)
- National Uniform Seismic Installation Guidelines (NUSIG)
- 2007 California Fire Code
- NFPA 13 –Automatic Sprinkler Systems, 2007 Edition
- NFPA 14 –Standpipes Systems. 2007 Edition
- NFPA 72 –National Fire alarm Codes, (California Amended), 2007 Edition

DOMESTIC WATER

Domestic water for the entire campus is supplied from the campus fire and domestic water distribution system. Site water pressures information to be provided by the University.

The system will be designed to provide a minimum of 30 psi at the most remote outlet. Provide a pressure reducing valve station to keep the water pressure at a maximum of 80 psi. Water piping will be sized in accordance with Appendix A of CPC, based on the following criteria:

- Friction drop per 100 feet of pipe shall not exceed 4 psi.
- Pipe velocity shall not exceed 6 feet per second.
- Minimum pipe size shall be 1/2 inch, if it serves one plumbing fixtures with a max. of 2.5 gpm.
- Minimum pipe size for serving two fixtures shall not be smaller than 3/4 inch provided that combined flow is not more than 5 gpm.

Shut-off valves will be provided to isolate the following:

- At each vertical riser branch to each bathroom.
- All plumbing equipment, shower stalls and bathtub trim that do not have a supply stop or isolation valve.

The domestic hot water piping system shall be sized similarly to the cold water system. The domestic hot water system will be designed to be a circulating loop. Branch lines longer than 15 feet in length will be become part of the circulating loop.

Natural gas water heaters with a separate storage tanks, located on the building roof(s), will provide domestic hot water. The domestic hot water system will be recirculating type with in-line circulating pumps, and will deliver hot water at 120 degrees F.

Note: In addition to the base gas fired water heaters the project will provide solar hot water heating through solar collectors located on the building roof. At this stage we should assume 65% of the roof area will be available for solar collectors.

For water conservation, ultra-low flush water closets and urinals will be used. Low consumption faucets will be used for public lavatories. Shower heads and lavatory/sink faucets will be fitted with flow restrictors as mandated by Federal law.

Recommendations for water distribution and plumbing fixtures to make the system less conducive to Legionellae bacteria growth are:

- The dead legs will be completely eliminated. Provision for future connections will be carefully planned.
- Gaskets made of natural rubber will be prohibited. Only neoprene or other synthetic materials will be used.
- Only copper piping will be used for water distribution.
- The distribution piping will be design for low velocity in order to eliminate the need for shock absorbers.
- Hot water will be re-circulated continuously.

STORM DRAIN SYSTEM

The storm drain will be sized for 3"/hr rainfall rate and in accordance with Appendix D of CPC.

The system will be a combination of scuppers or overflow drains, downspouts, and interior rainwater piping, as required by architectural layouts. Storm drain piping will be connected to an underground storm drain system. Overflow piping will spill thru the building wall at grade.

SANITARY DRAIN SYSTEM

Plumbing fixtures will be drained by gravity through soil, waste and vent stacks, house drains and house sewers, to underground site sewer piping systems.

Plumbing systems below house sanitary drainage system level will be drained by gravity to a sump containing duplex sewage ejectors and pumped into gravity house drain.

Floor drains will be provided in all public toilet rooms having three or more plumbing fixtures. Mechanical equipment rooms will be provided with floor sinks with minimum 3 inch trap. Each mechanical room will have as a minimum, one general floor drain.

The system will be designed in accordance with CPC. The 3 inch pipe will be used for calculation and sizing in lieu of 2 1/2 inch pipe allowed by Code.

Floor drains and floor sinks will be furnished with automatic trap primers.

NATURAL GAS SYSTEM

Natural gas is available at the site. The campus will be provided with one main meter at incoming pipeline. The buildings will not be provided with the gas meters. However each building will be provided with a gas pressure regulator outside each of the buildings. The underground site gas piping system will be designed for medium pressure gas 5 psi at the most remote building. The natural gas inside the buildings will be designed in accordance with Chapter 12 of UPC, for low-pressure gas.

A seismic shut-off valve will be located downstream of the meter.

PLUMBING FIXTURES

In the public spaces for men's and women toilet rooms a lavatory, urinal and water closet will be provided which comply with the ADA accessibility requirements. The percentage of individual restrooms that will be required to be ADA compliant has yet to be determined. Clothes washers will be equipped with wall box and waste standpipe. All student units shall be provided with a toilet, lavatory and tub/shower. All fixtures shall be low flow type for water conservation and UC LEED requirements.

PIPING MATERIAL

Sanitary waste, vent, storm and overflow drains: service weight cast iron hub and spigot below ground and no-hub above ground pipe.

Domestic water piping, soft water and equipment condensate drain: 2 1/2 inches and larger seamless copper tubing ASTM B88, Type L with rough copper fittings, Type "K" for 2 inches and smaller.

NATURAL GAS

Low Pressure above Ground 2 Inches and Smaller: Black steel pipe, Schedule 40, Type F, Grade A, ASTM A53; with black malleable iron threaded fittings, Class 150, ASTM A197/ANSI B16.3.

Low pressure and all medium pressure above Ground 2-1/2 inches and Larger shall be black steel pipe, Schedule 40, Type F, Grade A, ASTM A53; with seamless carbon steel weld fittings, ASTM A234 grade WPB/ANSI B16.9.

DISSIMILAR PIPING JOINTS

Non-conductive fittings whenever ferrous and non-ferrous piping materials are joined together.

In all HVAC and domestic water: Threaded M.P.S. minimum 3-inches long electro-zinc plated steel casing with inert NSF/FDA listed lining. ASTM F-492 rated at 225 degrees F, 300 psi clear flow, or equal.

PLUMBING

GRAY WATER SYSTEM

The gray water system collects diluted wastewater discharged from lavatories, laundry sinks, bathtubs and showers. The wastewater is then filtered and treated until it reaches a level of quality consistent with its intended reuse. The piping network distributes it to sources not used for human consumption in a safe and distinctive manner.

A gray water system requires modifications to the standard plumbing systems throughout the building. There will be duplicate drainage piping systems. Instead of discharging all the liquid wastewater from all the plumbing fixtures to the sanitary sewer, the wastewater from lavatories and showers is routed for recovery by the gray water treatment system. The remainder will go to the sewer. There will also be duplicate water supplies: potable water will be supplied to lavatories, showers, water closets and urinals; and gray water will be delivered to irrigation and other non-potable water using fixtures.

Wastewater holding tank(s) will be buried outside the building footprint to store the untreated gray wastewater. Gray wastewater is routed to the storage tank(s) by gravity and pumped out through duplex sewage ejectors to the gray water treatment equipment located on the ground floor mechanical room. Wastewater storage tank overflows are directed to site sanitary sewer piping system.

Gray water treatment systems vary widely. The treatment system cleans the recovered water to a degree consistent with both the intended use of the conditioned water and the applicable code, or the responsible code official, whichever is the most stringent.

After the treatment process, the gray water discharges into storage tank(s) by gravity. The gray water storage tank will also be buried outside the building footprint. The gray water storage tank is sized to hold 50% of the entire gray wastewater of the project. Stored gray water is available for non-potable use only. Booster pumping systems similar to the domestic water system are provided at ground level mechanical rooms adjacent to the gray water treatment system. (See Figure 1)

Although the use of gray water is a proven cost effective alternative to the use of potable water in various systems, there is no generally accepted standard for the quality of the recycled water system. The gray water system will need to be reviewed with UCR during schematic design phase so an acceptable design standard can be agreed upon.

Since gray water poses a potential health hazard if it makes its way into the potable water supply, a great deal of care must be exercised once such a system is installed. One of the main concerns is the possibility that the gray water is inadvertently connected to the potable water system. To avoid this possibility, the water itself and the piping must be made easily distinguishable, the piping system itself must be clearly identified with labels, anti cross-connection precautions must be taken, and appropriate alarms must be installed.

Separate systems will be provided for Phase 1 and Phase 2; any excess water will be utilized elsewhere on campus.

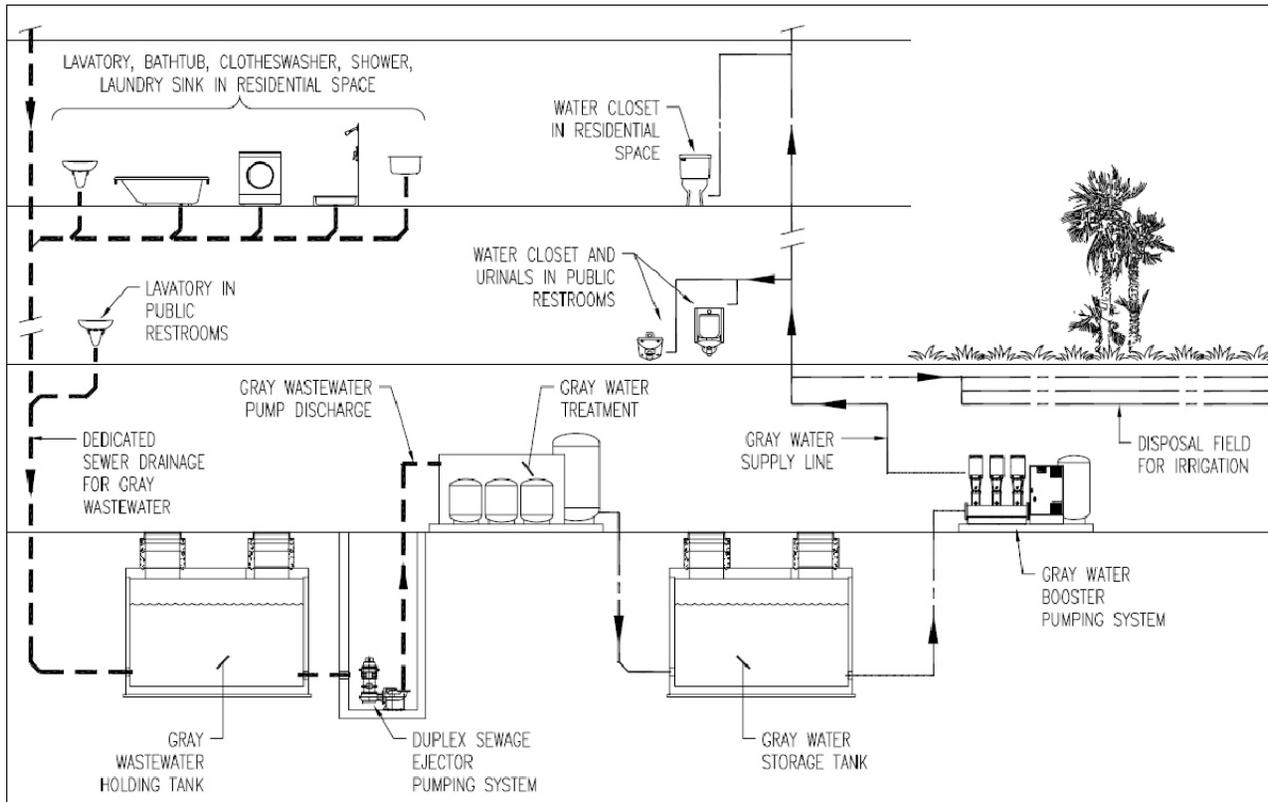


Figure 1

FIRE PROTECTION SYSTEM

CODE REQUIREMENTS

- California Building Code, Latest Edition – CBC
- NFPA 101, Life Safety Code, Latest Edition.
- NFPA 13, Installation of Sprinkler Systems, Latest Edition.
- NFPA 14, Installation of Standpipe and Hose System, Latest Edition.
- NFPA 24, Private Fire Service Mains and Their Appurtenances, Latest Edition.
- Industrial Risk Insurers, IRI.
- Owner Insurance Carrier.

AUTOMATIC SPRINKLER AND DRY STANDPIPE SYSTEMS

Automatic sprinklers will be provided throughout the building in accordance with NFPA 13-2007. System operation will be under pressure provided by Site water main. The following design density will be used:

- Light Hazard areas – 0.10 gpm per square foot density over the hydraulically most remote 1,500 square feet, with maximum sprinkler coverage of 225 square feet. All areas except as defined below will be considered Light Hazard.
- Ordinary Hazard Group I areas – 0.15 gpm per square foot density over the hydraulically most remote 1,500 square feet, with maximum sprinkler coverage of 130 square feet in the following locations:
 - Mechanical rooms
 - Transformer and switchgear rooms
 - Elevator rooms
- Ordinary Hazard Group II areas – 0.20 gpm per square foot density over the hydraulically most remote 1,500 square feet, with maximum sprinkler coverage of 130 square feet in the following areas:
 - Trash rooms
 - Other storage areas in excess of 100 square feet containing combustible storage

The above represents the minimum Code requirements and will be revised in accordance with the Owner Insurance Carrier regulations. The sprinkler system will be hydraulically calculated from street main connection to the most remote sprinkler head.

A reduced pressure type backflow preventer (RPBFP), pressure indicating valve (PIV) and fire department connection (FDC) will be provided. Each floor will have a floor control valve and flow switch. The RPBFP, PIV and FDC will be installed in front of the structure served, facing the main road.

Standpipe (with 2 1/2 inch outlets for fire department use) will be a wet pipe type with supply valve open and under water pressure at all times and cross connected to fire department inlet. All standpipes will be interconnected at the lowest level.

FIRE ALARM SYSTEM - ELECTRICAL

The fire alarm system will be a fully addressable, microprocessor control system. The system will utilize individual addressable smoke detectors, heat detectors, manual pull stations, signal modules and control modules. Annunciation devices such as horns and strobes will be installed in all common areas. Water flow detection devices will also be installed to report when the sprinkler system has been activated.

The system will report the date, time, device type, device ID, location and type of alarms that are received. Fire alarm graphic annunciator panels will be located in each building adjacent to the fire department entrance. Each panel will include remote status zone alarm indication and trouble signals.

The addressable fire alarm system will consist of the following:

- A main fire alarm control panel located at the ground floor.
- An annunciation panel located in the main lobby with easy access for the Fire Department.
- Ceiling mounted smoke and heat detectors will be provided in all the electrical and mechanical rooms, elevators machine rooms, lobbies.

- Each unit will provide with residential, hard wired, smoke detector.
- Audiovisual alarm stations will be provided along all egress routes, toilet areas and lobbies. Visual alarm devices will be installed in all common areas required to comply with ADA requirements.
- Manual Pull stations will be provided along egress routes.
- A minimum of one (1) visual alarm device will be installed in each public space. In the corridors the visual devices shall be not more than 100 ft. apart.
- The fire alarm system will be linked with elevators for return of the elevator cab to a predetermined floor and mechanical air supply system for shut down in the event of a fire alarm signal.
- The fire alarm system will also be linked to the sprinkler flow switches and valve monitors.
- The complete installation is to conform to the applicable sections of NFPA-101, NFPA-70 and NEC article 760.

ELECTRICAL

GENERAL

This section outlines the design requirements for the electrical system for the Dundee Residence Halls.

CODES AND STANDARDS

The electrical installation will comply with the following codes and standards.

- NEC - National Electrical Code
- NFPA - National Fire Protection Association
- NUSIG – National Uniform Seismic Installation Guidelines
- OSHA - Occupational Safety and Health Act
- ADA - American with Disabilities Act
- IESNA - Illumination Engineering Society of North America
- IEEE - Institute of Electrical and Electronics Engineers
- NEMA – National Electrical Manufacturer’s Association
- UL - Underwriters Laboratories, Inc
- ANSI - American National Standards Institute
- CBC - California Building Code
- CFC - California Fire Code
- CEC – California Electrical Code
- SFM - State Fire Marshal
- Local Codes

NORMAL POWER SERVICE

The main power feed to the each building will be run from the existing 12KV distribution system at the nearest point on campus to the new transformer in the Medium Voltage Substation at the electrical room in the each building. A Unit Substation 12KV-to-277/480 V, 3 phases, 4W will be equipped with the ventilated dry type transformer.

BUILDING DISTRIBUTION

The building power distribution will be at 480/277V and 208/120V via cable feeders in conduits.

The incoming service will have a Digital Metering Section for customer metering.

480V distribution will run horizontally from the main switchboard to distribution panels located in electrical rooms. From the distribution panels 480/277V vertical feeders will provide power for lighting, mechanical equipment, elevator and pumps. The Distribution Switchboard will also supply 208/120V, 3 phases, 4 wire power via dry type transformer. All distribution boards and panel boards shall be located in the electrical rooms or closets of each floor in the building.

METHOD OF DISTRIBUTION

480V, 3 phase 3 wire for all motor loads, 1/2 horsepower and larger.

277V, 1 phase for fluorescent lighting and HID fixtures, located in the public spaces, offices and outdoor.

120V, 1phase for the units lighting, receptacle outlets and motors smaller than 1/2 horsepower.

No systems will be provided for power other than 277/480V and 120/208V, AC, 3 phase 4 wire, 60 Hz.

DESIGN LOADS

Load Calculation Criteria will be as follows:

Design Loads (Overall Connected VA/sq.ft)		
Office	PC Receptacle	2.0
	Convenience Receptacle	1.0
	Lighting	3.5
Storage	Receptacle	1.0
	Lighting	0.25
Corridor	Receptacle	As required
	Lighting	0.5
Mechanical Areas and kitchen	Power	Actual Loads

EQUIPMENT SIZING CRITERIA

Branch circuit load calculations will be based on the following criteria:

Lighting	Actual installed wattage
Receptacle	180 VA per outlet
Special outlets	Actual installed wattage of equipment
Motors	100% of motor wattage

DEMAND FACTORS

Lighting	125% of total wattage
Convenience receptacles	100% of first 10 kVA plus 50% of all over 10KVA
PC receptacles	100% of wattage
Motors	125% of wattage of largest motor plus 100% of wattage of all other motors
Fixed equipment	100% of total wattage

MINIMUM BUS SIZES

277/480V Lighting Panels	100A
480V Equipment Panels	225A
120/208V Panels	100A
208V Equipment Panels	225A

BUILDING DISTRIBUTION/CIRCUITING REQUIREMENTS

Circuiting requirements will be as follows:

- Convenience outlets 180W in corridors and in finished spaces will be maximum eight (8) per circuit or as indicated.
- Lighting circuits loaded to maximum of 14 amps.
- Each outlet in toilets, maintenance, mechanical, elevator and within six feet of a sink, faucet or other wet areas will be individually GFCI type.
- 120v receptacles install in unit bedrooms shall be protected by a listed arc-fault circuit interrupter.
- Lighting will be provided as described in NEC, Table 220.12
- All Switchboards, Distribution Panels, Panel boards and Motor Control Centers will be provided with copper bus.
- Each Switchboards, Distribution Panels, Panel boards and Motor Control Centers will have 25% future spares and spaces.
- All feeders and branch wires will be copper.
- All transformers will be provided with copper winding.
- A maximum of three (3) circuits will be combined in each homerun conduit to avoid derating of the conductors.

ENERGY CONSERVATION MEASURES

This project will provide a sustainable design that utilizes architecture and engineering to enhance the sustainability of the site. To accomplish this, the project will incorporate several energy conservation measures. Lighting is one of the largest loads of the project, reducing lighting power requirements will also help to reduce HVAC cooling requirements and provide reductions in addition to the direct saving of just reducing the lighting level through daylight harvesting or switching lighting off in vacated spaces of the building. The overall goal is to reduce the base energy usage as much as possible while providing a safe and comfortable environment for the building occupants. Below are only a few of the measures being considered for the building.

- Photo-voltaic (PV) power generation will be investigated either on building roofs or as parking shade structure. Project purchased as well as roof space leasing options will be investigated. The PV ties back into the grid at the building meter, such that net energy usage is metered. This energy reduction is not recognized by Title 24, however, the LEED system provides incremental credit for the overall reduction in energy as well as credit for the total amount of renewable energy produced in 2% increments from 1% to 13% of overall building use.
- Daylight harvesting for all perimeter areas – as ambient light levels increase due to added solar lighting the electric lighting levels will be automatically reduced to maintain optimum lighting levels in the space.
- Moonlight harvesting for all exterior lighting will be used - as ambient exterior lighting levels are increased, because of the moon phase, exterior electric lighting will be decreased.
- Automatic lighting controls with vacancy sensors to turn lights off when rooms are vacant.
- Energy efficient low-mercury fluorescent lamps and electronic ballasts will be used.
- Ultra-High efficiency low-loss transformers.

EMERGENCY POWER

Two options will be considered to provide emergency power supply for the building:

- 1) Stand-by generator with 24 hour fuel skid - based tank. Emergency power obtained from the generator can be supplied to all systems required by the Codes and designated by the owner, but is not limited to, the loads listed below:
 - Exit signs, egress and path lighting.
 - Fire alarm, life safety systems.
- 2) Battery back-up of code required systems

ELECTRICAL

GROUNDING SYSTEM

A grounding system will be installed in compliance with the National Electrical Code (NEC) and applicable recommendations in the IEEE Standard 142 (green Book) and IEEE standard 1100 (emerald book).

All metal part of switchboard and panelboards will be grounded. The grounding system will be provided for each telecommunication backboard.

A central grounding point for connection of equipment grounds and system grounds to the grounding electrode system will be established in the main electrical room. Separately derived systems will be grounded per NEC and CEC requirements.

A separate green insulated wire will be run in each feeder conduit and each branch circuit conduit. In addition, special voltage distribution systems shall be provided with isolated ground bus.

TELECOMMUNICATION SYSTEM

The telephone, television and data systems will consist of junction wall mounted junction boxes and empty conduits run to the telephone room.

A main telephone room will be provided at the ground floor for incoming telephone conduits.

A telephone room will be provided at each floor.

A 4'W x 8'Hx 3/4" thick telephone termination backboard with fire resistant paint will be provided in all telephone rooms.

One duplex outlet on dedicated circuit will be provided next to the telephone boards.

SECURITY, INTRUSION ALARM, & CCTV

Door contacts, card key access and alarm in a central panel will be provided for the security system. The security alarm will be connected to the UCR campus security department by telephone. Security card key systems must be provided and installed by an approved UCR contractor in accordance with University standards for campus security.

Terminal cabinets and remote security panels with a power supply will be provided as required throughout each building.

A surveillance system will be installed consisting of visual monitoring and visual image data storage. Real-time monitoring equipment will be located in a secure monitoring site with restricted access to approved individuals only. Closed Circuit Television (CCTV) cameras will be installed in elevators, hallways, and common areas.

Code blue emergency phones will be installed where recommended by Transportation and Parking Services (TAPS).

4: SUPPORT DOCUMENTS

CODE ANALYSIS

CODE ANALYSIS

APPLICABLE STATE CODES:

- 2007 Building Standards Administrative Code, Part 1, CBSC
- 2007 California Building Code (CBC), Part 2 CBSC
(2006 IBC & California Amendments)
- 2007 California Electrical Code (CEC), Part 3, CBSC
(2005 National Electrical Code & California Amendments)
- 2007 California Mechanical Code (CMC), Part 4, CBSC
(2006) Uniform Mechanical Code & California Amendments)
- 2007 California Plumbing Code (CPC), Part 5 CBSC
(2006 Uniform Plumbing Code & California Amendments)
- 2007 California Energy Code (CPC), Part 6, CBSC
- 2007 California Historical Building Code, Part 8, CBSC
- 2007 California Fire Code, Part 9, CBSC
(2006 International Fire Code & California Amendments)
- 2007 California Referenced Standards, Part 12, CBSC
California Health & Safety Code
Title 8 C.C.R., CH. 4, SUB-CH. 6 – Elevator Safety Orders
Title 19 C.C.R., Public Safety, SFM Regulations

APPLICABLE FEDERAL CODES & STANDARDS

- Title II: Uniform Federal Accessibility Standards (UFAS)

OCCUPANCY DESCRIPTION

Phases 1 and 2 of the Dundee Residence Halls consists of a 1200 bed student residence halls project of four, four story buildings with shared common areas which include the Resident Services Office, community spaces, and a café as well as parking.

The buildings will be used for dual purposes: primarily as a R-2 dwelling for residence hall units during the school year, but also as R-1 transient lodging for conferences during the summer.

Therefore, the project will be designed to meet the applicable requirements of both CBC Chapter 11A for R-2 occupancies, and CBC Chapter 11B for R-1 occupancies, as well as ADA Title II (The Americans With Disabilities Act) and the ADAAG (Americans With Disabilities Accessibility Guidelines). In each particular instance, the most restrictive requirement applies.

The common/community areas will be a B occupancy.

CONSTRUCTION TYPE

The least restrictive allowable construction type will be IIIB.

Note: Code requirements include but are not limited to the conditions and codes listed on this page.

4: SUPPORT DOCUMENTS

SUSTAINABLE DESIGN

LEED CHECKLIST

SUSTAINABLE PRACTICES

The University of California system is committed to minimizing the University's impact on the environment and reducing the University's dependence on non-renewable energy.

This project will comply with the most recent 2007 UC Policy Guidelines for Sustainable Practices as well as the University of California at Riverside Sustainability Action Plan 2009. See the following websites:

<http://www.ucop.edu/facil/sustain/greenbldg.html>

<http://sustainability.ucr.edu>

WATER EFFICIENCY		Possible Points: 5	Yes	?	No	UCR Baseline	Client: UCR	Architect	Consultants	Contractor	Notes
Credit 1.1	Water Efficient Landscaping, Reduce by 50%	1	1				•	•	•		Landscape, Civil
Credit 1.2	Water Efficient Landscaping, No Potable Use or No Irrigation	1		1							
Credit 2	Innovative Wastewater Technologies	1		1							
Credit 3.1	Water Use Reduction, 20% Reduction	1	1			1					
Credit 3.2	Water Use Reduction, 30% Reduction	1	1				•	•	•		Mechanical, Plumbing
Total Points:			3	2		1					

*Note: Items in green can be submitted for Design Phase

SUSTAINABLE SITES		Possible Points: 14	Yes	?	No	UCR Baseline	Client: UCR	Architect	Consultants	Contractor	Notes
Prereq 1	Construction Activity Pollution Prevention		Y								
Credit 1	Site Selection	1	1			1	•	•			
Credit 2	Development Density & Community Connectivity	1	1			1	•	•			
Credit 3	Brownfield Redevelopment	1			1						
Credit 4.1	Alternative Transportation, Public Transportation Access	1	1			1	•				
Credit 4.2	Alternative Transportation, Bicycle Storage & Changing Rooms	1	1				•		•		Landscape, Mechanical, Plumbing
Credit 4.3	Alternative Transportation, Low-Emitting & Fuel-Efficient Vehicles	1	1			1	•				
Credit 4.4	Alternative Transportation, Parking Capacity	1		1		1	•				
Credit 5.1	Site Development, Protect or Restore Habitat	1			1		•				
Credit 5.2	Site Development, Maximize Open Space	1	1			1	•				
Credit 6.1	Stormwater Design, Quantity Control	1	1			1		•	•		Civil
Credit 6.2	Stormwater Design, Quality Control	1	1			1		•	•		Landscape, Civil
Credit 7.1	Heat Island Effect, Non-Roof	1	1			1	•	•	•		Landscape
Credit 7.2	Heat Island Effect, Roof	1	1			1	•	•	•		
Credit 8	Light Pollution Reduction	1	1			1			•		Electrical
Total Points:			11	1	2	11					

*Note: Items in green can be submitted for Design Phase

LEED CHECKLIST

ENERGY & ATMOSPHERE		Possible Points: 17	Yes	?	No	UCR Baseline	Client: UCR	Architect	Consultants	Contractor	Notes
Prereq 1	Fundamental Building Systems Commissioning		Y				•	•	•		Communication Agent
Prereq 2	Minimum Energy Performance		Y					•	•		Mechanical, Plumbing
Prereq 3	Fundamental Refrigerant Management		Y					•	•		Mechanical, Plumbing
Credit 1.1	Optimize Energy Performance, 14% New / 7% Existing	2	2								Mandatory
Credit 1.2	Optimize Energy Performance, 21% New / 14% Existing	2	2								
Credit 1.3	Optimize Energy Performance, 28% New / 21% Existing	2	2								
Credit 1.4	Optimize Energy Performance, 35% New / 28% Existing	2			2						
Credit 1.5	Optimize Energy Performance, 42% New / 35% Existing	2			2						
Credit 2.1	On-Site Renewable Energy, 2.5%	1		1							
Credit 2.2	On-Site Renewable Energy, 7.5%	1		1							
Credit 2.3	On-Site Renewable Energy, 12.5%	1		1							
Credit 3	Enhanced Commissioning	1		1							
Credit 4	Enhanced Refrigerant Management	1	1			1					
Credit 5	Measurement & Verification	1		1							
Credit 6	Green Power	1		1							
Total Points:			7	6	4	1					

*Note: Items in green can be submitted for Design Phase

MATERIALS & RESOURCES		Possible Points: 13	Yes	?	No	UCR Baseline	Client: UCR	Architect	Consultants	Contractor	Notes
Prereq 1	Storage & Collection of Recyclables		Y				•	•		•	
Credit 1.1	Building Reuse, Maintain 75% of Existing Walls, Floors & Roof	1			1						
Credit 1.2	Building Reuse, Maintain 95% of Existing Walls, Floors & Roof	1			1						
Credit 1.3	Building Reuse, Maintain 50% of Interior Non-Structural Elements	1			1						
Credit 2.1	Construction Waste Management, Divert 50%	1	1			1	•	•		•	
Credit 2.2	Construction Waste Management, Divert 75%	1	1							•	
Credit 3.1	Materials Reuse, 5%	1			1						
Credit 3.2	Materials Reuse, 10%	1			1						
Credit 4.1	Recycled Content, 10% (post-consumer + 1/2 pre-consumer)	1		1		1		•			
Credit 4.2	Recycled Content, 20% (post-consumer + 1/2 pre-consumer)	1			1						
Credit 5.1	Local/Regional Materials, 10% Extracted, Processed & Manufactured Regionally	1		1		1		•			
Credit 5.2	Local/Regional Materials, 20% Extracted, Processed & Manufactured Regionally	1			1						
Credit 6	Rapidly Renewable Materials	1		1							
Credit 7	Certified Wood	1	1					•			
Total Points:			3	3	7	3					

*Note: Items in green can be submitted for Design Phase

LEED CHECKLIST

INDOOR ENVIRONMENTAL QUALITY		Possible Points: 15	Yes	?	No	UCR Baseline	Client: UCR	Architect	Consultants	Contractor	Notes
Prereq 1	Minimum IAQ Performance		Y				•		•		Mechanical, Plumbing
Prereq 2	Environmental Tobacco Smoke (ETS) Control		Y					•	•		Mechanical, Plumbing
Credit 1	Outdoor Air Delivery Monitoring	1		1				•	•		Mechanical, Plumbing
Credit 2	Increase Ventilation	1		1		1		•	•		Mechanical, Plumbing
Credit 3.1	Construction IAQ Management Plan, During Construction	1	1					•			
Credit 3.2	Construction IAQ Management Plan, Before Occupancy	1	1			1		•			
Credit 4.1	Low-Emitting Materials, Adhesives & Sealants	1	1			1		•			
Credit 4.2	Low-Emitting Materials, Paints & Coatings	1	1			1		•			
Credit 4.3	Low-Emitting Materials, Carpet Systems	1	1					•			
Credit 4.4	Low-Emitting Materials, Composite Wood & Agrifiber Products	1	1					•			
Credit 5	Indoor Chemical & Pollutant Source Control	1	1			1		•	•		Mechanical, Plumbing
Credit 6.1	Controllability of Systems, Lighting	1	1			1		•	•		Mechanical, Plumbing
Credit 6.2	Controllability of Systems, Thermal Comfort	1		1		1		•	•		Mechanical, Plumbing
Credit 7.1	Thermal Comfort, Design	1	1						•		Mechanical, Plumbing
Credit 7.2	Thermal Comfort, Verification	1	1					•	•		Mechanical, Plumbing
Credit 8.1	Daylight & Views, Daylight 75% of Spaces	1	1			1		•			
Credit 8.2	Daylight & Views, Views for 90% of Spaces	1	1			1		•			
Total Points:			12	3		9					

*Note: Items in green can be submitted for Design Phase

INNOVATION & DESIGN PROCESS			Possible Points: 5			Yes	?	No	UCR Baseline	Client: UCR	Architect	Consultants	Contractor	Notes
Credit 1.1	Innovation in Design: Green Housekeeping	1	1								•			
Credit 1.2	Innovation in Design: High fly-ash concrete?	1	1								•			
Credit 1.3	Innovation in Design: Preconstruction Mockup	1	1								•			
Credit 1.4	Innovation in Design: Exemplary performance in water reduction	1		1							•			
Credit 2	LEED™ Accredited Professional	1	1					1			•			
Total Points:			4	1				1						

*Note: Items in green can be submitted for Design Phase

TOTAL PROJECT SCORE			Possible Points: 69			Yes	?	No
Total Points:			40	16	13			

Certified 26 to 32 points | Silver 33 to 38 points | Gold 39 to 51 points | Platinum 52 or more points



5: COST PLAN

Cost Plan Summary

The Cost Plan includes the basis of estimate, construction cost summary and elemental cost breakdown for the Dundee Residences Hall Phases 1 and 2 project.

vision users community connections flexibility sustainability technology operations security design layers accessibility diversity safety respect opportunity educational experiential timeless efficiency practical logical identity viability collaboration productive future native active integrated scale performance variety indoor/outdoor innovative vision users community connections flexibility sustainability technology operations security design layers accessibility diversity safety respect opportunity educational experiential timeless **efficiency** practical logical identity viability collaboration productive future native active **integrated** scale performance variety indoor/outdoor innovative vision users community connections flexibility sustainability technology operations security design layers accessibility diversity safety respect **opportunity** educational experiential timeless efficiency practical logical identity **viability** collaboration productive future native active integrated scale performance variety indoor/outdoor innovative vision users community connections flexibility sustainability technology operations security design layers accessibility diversity safety respect opportunity educational experiential timeless efficiency practical

5: COST PLAN

COST PLAN SUMMARY

COST PLAN SUMMARY

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**University of California, Riverside
Dundee Residence Halls Phase 1 & 2
Riverside, California**

DPP Cost Plan (R1)

August 24, 2009

Cumming Project No. 09-00330.00

Prepared for
EHDD Architecture

1970 BROADWAY, SUITE 630 • OAKLAND • CALIFORNIA • 94612
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COST PLAN SUMMARY

University of California, Riverside
Dundee Residence Halls Phase 1 & 2
DPP Cost Plan (R1)

09-00330.00
August 24, 2009

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COST PLAN SUMMARY

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Introduction

1. Basis Of Estimate

This statement is based on DPP Cost Estimate Package dated July 14, 2009 by EHDD Architecture, along with directions from the architects / engineers at the July 22nd meeting and subsequent e-mailed directives.

The information informations include:

	Dated
▪ Dundee Residence Halls Phase 1 & 2 Cost Estimate Package from EHDD	7/14/2009
▪ Phase 1 Dundee Café / Emporium space program from EHDD	7/28/2009
▪ Phase 2 Dundee Conference Center Kitchen space program from EHDD	7/28/2009
▪ Phase 2 Dundee Conference Center space program from EHDD	7/28/2009
▪ Canyon Crest Development Phasing / Demo Layout Plans from EHDD	8/6/2009
▪ Alternates Residence Units (92 beds) 5th Floor Diagram from EHDD	7/24/2009
▪ Project Schedule from EHDD	7/22/2009

The information listed above is considered programmatic design level for estimating purposes.

2. Items Not Included Within Estimate

The following cost items are excluded from this estimate.

- Professional fees, inspections and testing.
- Escalation beyond beginning of construction.
- Plan check fees and building permit fees.
- Furnishings, fixtures and equipment (FF&E)
- Major site and building structures demolition unless noted in body of estimate.
- Costs of hazardous material surveys, abatements, and disposals unless noted in estimate.
- Costs of offsite construction unless noted in estimate.
- Construction / change order contingency allowance.
- Blasting or excavation of rock.

Introduction

3. Notes

We recommend that the client review this statement, and that any interpretations contrary to those intended by the design documents be fully addressed. This statement is based upon a detailed measurement of quantities where possible, and reasonable allowances for items not clearly defined in the documents.

The statement reflects probable construction costs obtainable in a competitive and stable bidding market. This estimate is based upon a minimum of three competitive bids from qualified general contractors, with bids from a minimum of five (5) subcontractors per trade. This statement is a determination of fair market value for the construction of the project and is not intended to be a prediction of low bid. Experience indicates that a fewer number of bidders may result in a higher bid amount, and more bidders may result in a lower bid result.

We have recorded recently that the number of competitive bids obtained from qualified General Contractor's can have the following effect on "fair market value":

1 bidder	+10% to +15%
2 to 3 bids	+5% to +10%
4 to 6 bids	- 4% to +4%
7 to 10 bids	- 5% to - 10%
11 to 15 bids	- 11% to - 20%

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Building Scope Outline

- 1 Project Description
 - The proposed project is the construction of Dundee Residence Halls Development and consists of two four-story structures. In preparation for the two phases of construction, approximately 100 existing housing units will be demolished. The residence halls are configured in two separate wings, rectangular in shape, connected by corridor with commons spaces such as student lounges, meeting & study rooms.
- 2 Gross Floor Area
 - Phase 1 Residence Halls gross floor area is 199,045 SF.
 - Phase 2 Residence Halls gross floor area is 175,771 SF.
 - Phase 2 Glasgow Conference Center & Catering Kitchen gross floor area is 51,460 SF.
- 3 Foundations
 - Continuous spread footings or mat foundations
 - Complete removal and re-compaction of existing fill materials
- 4 Structural System
 - **Option 1: Wood Framing**
 - Floor assembly: 2 x 12 joists or 11 $\frac{7}{8}$ " TJI @ 16" o.c.
 - Floor sheathing: $\frac{3}{4}$ " plywood sheathing + 1 $\frac{1}{2}$ " lightweight concrete topping
 - Load bearing walls: 2 x 6 wood stud @ 16" o.c.
 - Open area framing: wide flange steel framing, 8 psf
 - Lateral system: plywood sheathing $\frac{1}{2}$ " and tie-down rods
 - **Option 2: Light Gauge Steel Framing**
 - Floor assembly: 10" x 1 $\frac{5}{8}$ " x 16 ga joists @ 24" o.c.
 - Floor decking: 9/16" x 22 ga metal deck + 1 $\frac{1}{2}$ " lightweight concrete topping
 - Load bearing walls: 4" x 1 $\frac{5}{8}$ " x 16 ga metal stud @ 24" o.c.
 - Open area framing: wide flange steel framing, 8 psf
 - Lateral system: gypboard w/ metal panels & 10 ga "Paco" columns, welded connections
- 5 Exterior Enclosure
 - Combination of full brick veneer / cement plaster finish (50/50) including exterior plaster soffits
 - Low- e coating glazing
 - Sunshade system
 - Exterior rigid insulation, 1 $\frac{1}{2}$ ", at all opaque walls
- 6 Roofing
 - Standing seam metal roofing system
 - Associated insulation, flashings, downpipes, etc.
- 7 Interior Construction
 - Interior metal or wood stud partitions
 - FSC certified solid core wood doors & hollow metal frames, painted
 - Interior glazing at Student lounges

Building Scope Outline

- 8 Interior Finishes
 - Student apartments / lounges - carpet flooring & painted gyp ceilings
 - Student restrooms - ceramic tile flooring including wall tiles & painted gyp ceilings
 - Residence halls - resilient flooring & painted gyp ceilings
 - Study rooms - carpet flooring & suspended acoustical panels

- 9 Equipment
 - All fixed specialties, casework, closets, restroom accessories, etc.
 - Interior directories, graphics and signage
 - Tackable bulletin boards / marker boards / display boards
 - Window blinds

- 10 Vertical Transport.
 - Hydraulic elevators, 1 passenger / 1 service - 2 total
 - Metal pan / concrete fill switch back stairwells.

- 11 Plumbing
 - Full plumbing / domestic water distribution connected to campus mains
 - Natural gas water heaters with storage tanks located on building roof
 - Solar hot water heating through solar collectors located on building roof
 - Ultra-low flush water closets
 - Low consumption faucets at public lavatories
 - Shower heads / lavatory / sink faucets fitted with flow restrictors
 - Complete storm / sanitary drain / piping system
 - Grey water system including underground storage tanks
 - Booster pumps, sewage ejector & sump pump
 - Hot water, cold water, waste, vent, condensate piping
 - Natural gas piping including seismic shut-off valves

- 12 HVAC
 - Central Plant / Mechanical room in the Basement level
 - Central chilled water and heating hot water plant
 - Water-cooled chillers, cooling towers, pumps and gas-fired boilers
 - Chilled water and heating hot water system (4-pipe)
 - Fan coil units for dedicated cooling locations in student apartments
 - Student restrooms are exhausted via main shaft & roof mounted exhaust fan
 - Modular direct digital control (DDC) system
 - Sustainable / LEED mechanical design features
 - Sound, vibration and seismic control requirements

COST PLAN SUMMARY

University of California, Riverside
Dundee Residence Halls Phase 1 & 2
DPP Cost Plan (R1)

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Building Scope Outline

- 13 Electrical
 - Main switch board and distribution panels
 - Circuit branch circuit panels & step-down transformer
 - HVAC equipment connections
 - Stand-by emergency generator: exist signs, egress, path lighting and fire alarm
 - Fully automatic addressable fire alarm system
 - Telephone / television / data system rough conduits and junction boxes
 - Security system allowance conduit and wire only

- 14 Fire Protection
 - Automatic sprinklers throughout the buildings
 - Wet standpipe with supply valves for fire department connection.

University of California, Riverside
Dundee Residence Halls Phase 1 & 2
DPP Cost Plan (R1)



Overall Construction Cost Summary & Schedule of Area

COST PLAN SUMMARY

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Dundee Residence Halls Phase 1 & 2
DPP Cost Plan (R1)

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Schedule of Areas Summary - Phase 1 & 2

Schedule of Areas Summary	PHASE 1	PHASE 2	TOTAL
Residence Halls	199,045 SF *	175,771 SF	374,816 SF
Site Development	422,500 SF	557,000 SF	979,500 SF
Surface Parking	52,500 SF	56,250 SF	108,750 SF
Glasgow Conference Center & Catering Kitchen	None	51,460 SF	51,460 SF
Aberdeen Drive Extension Site Development	44,000 SF		44,000 SF
Watkins Drive Entry Site Development	24,000 SF		24,000 SF

Notes:

* Phase 1 Residence Halls include 7,100 SF Café spaces.

Overall Construction Cost Summary - By Building

	Area	\$/SF	Total
<u>PHASE 1 RESIDENTIAL HALLS</u>			
A Phase 1 Residence Halls	191,945 SF	233.36	\$ 44,792,622
B Phase 1 Café	7,100 SF	297.94	\$ 2,115,399
C Phase 1 Site Development	422,500 SF	25.21	\$ 10,649,988
D Phase 1 Surface Parking	52,500 SF	10.51	\$ 551,557
E Phase 1 Watkins Entry Site Development	44,000 SF	12.42	\$ 546,347
F Phase 1 Aberdeen Entry Site Development	24,000 SF	15.74	\$ 377,688
Base Budget as of date of Estimate Phase 1			\$ 59,033,600
Escalation to Beginning of Construction (BOC)			\$ 1,475,840
ESTIMATED CONSTRUCTION BUDGET Phase 1			\$ 60,509,440
<u>PHASE 2 RESIDENTIAL HALLS</u>			
G Phase 2 Residence Halls	175,771 SF	211.87	\$ 37,241,292
H Phase 2 Glasgow Conference Center & Catering Kitchen	51,460 SF	339.81	\$ 17,486,525
I Phase 2 Site Development	557,000 SF	15.76	\$ 8,779,006
J Phase 2 Surface Parking	56,250 SF	10.40	\$ 584,980
Base Budget as of date of Estimate Phase 2			\$ 64,091,803
Escalation to Beginning of Construction (BOC)			Excluded \$ -
ESTIMATED CONSTRUCTION COST Phase 2			\$ 64,091,803

COST PLAN SUMMARY

University of California, Riverside
Dundee Residence Halls Phase 1 & 2
DPP Cost Plan (R1)

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Alternates

			Phase 1
1	Provide light gauge steel framing in lieu of wood framing.	ADD	\$ 69,000
2	LEED gold premium.	ADD	\$ 1,380,000
3	LEED commissioning.	ADD	\$ 200,000
4	Provide photovoltaic (PV) solar panels, 300kW system.	ADD	\$ 3,000,000
5	Provide additional student residences on 5th floor (92 Beds).	ADD	\$ 5,660,000
			Phase 2
1	Provide light gauge steel framing in lieu of wood framing.	ADD	\$ 63,000
2	LEED gold premium.	ADD	\$ 1,520,000
3	LEED commissioning.	ADD	\$ 220,000
4	Provide photovoltaic (PV) solar panels, 300kW system.	ADD	\$ 2,940,000
5	Provide additional student residences on 5th floor (92 Beds).	ADD	\$ 5,586,000
6	Provide Lot 22 Structured Parking (approx. 530 Stalls)	ADD	\$ 11,880,000

Notes:

Phase 1 prices include markups & escalation

Phase 2 prices include markups & **no escalation**

Phase 1 & 2 UC Component Cost Summary

Components	Dundee Residence Halls Phase 1				Dundee Residence Halls Phase 2			
	Construction Cost with Markups Broken Out		Construction Cost with Markups & Escalation Rolled Up		Construction Cost with Markups Broken Out		Construction Cost with Markups Rolled Up	
	Total	\$ / SF	Total	\$ / SF	Total	\$ / SF	Total	\$ / SF
	199,045 SF		199,045 SF		227,231 SF		227,231 SF	
1 Foundations	1,742,194	8.75	2,268,794	11.40	2,514,492	11.07	3,194,662	14.06
2 Vertical Structure	1,021,950	5.13	1,330,847	6.69	1,168,433	5.14	1,484,495	6.53
3 Floor & Roof Structures	3,416,201	17.16	4,448,790	22.35	3,952,984	17.40	5,022,266	22.10
4 Exterior Cladding	4,692,680	23.58	6,111,101	30.70	5,582,602	24.57	7,092,696	31.21
5 Roofing & Waterproofing	734,749	3.69	956,836	4.81	965,125	4.25	1,226,191	5.40
Shell (1-5)	11,607,774	58.32	15,116,369	75.94	14,183,636	62.42	18,020,310	79.30
6 Interior Partitions, Doors & Glazing	2,909,390	14.62	3,788,789	19.03	3,132,923	13.79	3,980,379	17.52
7 Floor, Wall & Ceiling Finishes	3,130,904	15.73	4,077,259	20.48	3,047,230	13.41	3,871,506	17.04
Interiors (6-7)	6,040,294	30.35	7,866,048	39.52	6,180,153	27.20	7,851,885	34.55
8 Function Equipment & Specialties	1,493,350	7.50	1,944,734	9.77	2,537,615	11.17	3,224,040	14.19
9 Stairs and Vertical Transportation	763,750	3.84	994,603	5.00	719,710	3.17	914,392	4.02
Equipment & Vertical Transportation (8-9)	2,257,100	11.34	2,939,337	14.77	3,257,325	14.33	4,138,431	18.21
10 Plumbing Systems	5,790,068	29.09	7,540,189	37.88	5,986,053	26.34	7,605,281	33.47
11 HVAC	4,578,045	23.00	5,961,817	29.95	5,946,758	26.17	7,555,356	33.25
12 Electric Lighting, Power & Communications	4,466,440	22.44	5,816,478	29.22	5,327,892	23.45	6,769,086	29.79
13 Fire Protection Systems	796,182	4.00	1,036,838	5.21	910,983	4.01	1,157,404	5.09
Mechanical and Electrical (10-13)	15,630,736	78.53	20,355,321	102.26	18,171,686	79.97	23,087,127	101.60
Total Building Construction (1-13) (Sub 1)	35,535,904	178.53	46,277,075	232.50	41,792,800	183.92	53,097,753	233.67
14 Site Preparation & Demolition (Sub 0)	1,224,386	6.15	1,594,472	8.01	1,196,430	5.27	1,520,064	6.69
15 Site Paving, Structures & Landscaping (Sub 4)	5,236,465	26.31	6,819,252	34.26	6,246,579	27.49	7,936,279	34.93
16 Utilities on Site (Sub 2)	4,468,102	22.45	5,818,641	29.23	1,210,316	5.33	1,537,706	6.77
Site Construction (14-16)	10,928,952	54.91	14,232,365	71.50	8,653,325	38.08	10,994,050	48.38
Total Building & Site Construction (1 - 16)	46,464,856	233.44	60,509,440	304.00	50,446,126	222.00	64,091,803	282.06
General Conditions, Bonds & Insurance 10%	4,646,486	23.34			5,044,613	22.20		
General Contractor's Fee 5%	2,555,567	12.84			2,774,537	12.21		
Design Contingency 10%	5,366,691	26.96			5,826,528	25.64		
PLANNED CONSTRUCTION COST	59,033,600	296.58			64,091,803	282.06		
Allowance for Rising Cost BOC	1,475,840	7.41			-	-		
TOTAL CONSTRUCTION COST	60,509,440	304.00			64,091,803	282.06		

COST PLAN SUMMARY

University of California, Riverside
 Dundee Residence Halls Phase 1 & 2
 DPP Cost Plan (R1)

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Phase 1 Component Cost Summary

Element	Residence Halls 191,945 SF		Café 7,100 SF		Site Development 422,500 SF		Surface Parking 52,500 SF		Watkins Drive 44,000 SF		Aberdeen Dive 24,000 SF		TOTAL 199,045 SF	
	Total	\$ / SF	Total	\$ / SF	Total	\$ / SF	Total	\$ / SF	Total	\$ / SF	Total	\$ / SF	Total	\$ / SF
1 Foundations	1,641,244	8.55	100,950	14.22	-	-	-	-	-	-	-	-	1,742,194	8.75
2 Vertical Structure	973,188	5.07	48,762	6.87	-	-	-	-	-	-	-	-	1,021,950	5.13
3 Floor & Roof Structures	3,267,825	17.02	148,376	20.90	-	-	-	-	-	-	-	-	3,416,201	17.16
4 Exterior Cladding	4,434,180	23.10	258,500	36.41	-	-	-	-	-	-	-	-	4,692,680	23.58
5 Roofing & Waterproofing	709,899	3.70	24,850	3.50	-	-	-	-	-	-	-	-	734,749	3.69
A) Shell (1-5)	11,026,336	57.45	581,438	81.89	-	-	-	-	-	-	-	-	11,607,774	58.32
6 Interior Partitions, Doors & Glazing	2,878,390	15.00	31,000	4.37	-	-	-	-	-	-	-	-	2,909,390	14.62
7 Floor, Wall & Ceiling Finishes	2,958,374	15.41	172,530	24.30	-	-	-	-	-	-	-	-	3,130,904	15.73
B) Interiors (6-7)	5,836,764	30.41	203,530	28.67	-	-	-	-	-	-	-	-	6,040,294	30.35
8 Function Equipment & Specialties	1,185,920	6.18	307,430	43.30	-	-	-	-	-	-	-	-	1,493,350	7.50
9 Stairs and Vertical Transportation	763,750	3.98	-	-	-	-	-	-	-	-	-	-	763,750	3.84
C) Equip & Vert Transportation (8-9)	1,949,670	10.16	307,430	43.30	-	-	-	-	-	-	-	-	2,257,100	11.34
10 Plumbing Systems	5,566,418	29.00	223,650	31.50	-	-	-	-	-	-	-	-	5,790,068	29.09
11 HVAC	4,414,745	23.00	163,300	23.00	-	-	-	-	-	-	-	-	4,578,045	23.00
12 Electric Lighting, Power / Communications	4,309,175	22.45	157,265	22.15	-	-	-	-	-	-	-	-	4,466,440	22.44
13 Fire Protection Systems	767,782	4.00	28,400	4.00	-	-	-	-	-	-	-	-	796,182	4.00
D) Mechanical & Electrical (10-13)	15,058,121	78.45	572,615	80.65	-	-	-	-	-	-	-	-	15,630,736	78.53
14 Site Preparation & Demolition	-	-	-	-	1,067,546	2.53	55,390	1.06	59,725	1.36	41,725	1.74	1,224,386	6.15
15 Site Paving, Structures & Landscaping	1,385,010	7.22	-	-	2,883,169	6.82	342,436	6.52	370,300	8.42	255,550	10.65	5,236,465	26.31
16 Utilities on Site	-	-	-	-	4,431,802	10.49	36,300	0.69	-	-	-	-	4,468,102	22.45
E) Site Construction (14-16)	1,385,010	7.22	-	-	8,382,517	19.84	434,126	8.27	430,025	9.77	297,275	12.39	10,928,952	54.91
Building & Site Construction (1 - 16)	35,255,901	183.68	1,665,013	234.51	8,382,517	19.84	434,126	8.27	430,025	9.77	297,275	12.39	46,464,856	233.44
Gen'l Cond, Bonds & Insurance 10%	3,525,590	18.37	166,501	23.45	838,252	1.98	43,413	0.83	43,003	0.98	29,728	1.24	4,646,486	23.34
General Contractor's Fee 5%	1,939,075	10.10	91,576	12.90	461,038	1.09	23,877	0.45	23,651	0.54	16,350	0.68	2,555,567	12.84
Design Contingency 10%	4,072,057	21.21	192,309	27.09	968,181	2.29	50,142	0.96	49,668	1.13	34,335	1.43	5,366,691	26.96
PLANNED CONSTRUCTION COST	44,792,622	233.36	2,115,399	297.94	10,649,988	25.21	551,557	10.51	546,347	12.42	377,688	15.74	59,033,600	296.58
Allowance for Rising Cost BOC 2.5%	1,119,816	5.83	52,885	7.45	266,250	0.63	13,789	0.26	13,659	0.31	9,442	0.39	1,475,840	7.41
TOTAL CONSTRUCTION COST	45,912,438	239.20	2,168,284	305.39	10,916,237	25.84	565,346	10.77	560,005	12.73	387,130	16.13	60,509,440	304.00

Phase 2 Component Cost Summary

Element	Residence Halls 175,771 SF		Glasgow Conf Center 51,460 SF		Site Development 557,000 SF		Surface Parking 56,250 SF		TOTAL 227,231 SF	
	Total	\$ / SF	Total	\$ / SF	Total	\$ / SF	Total	\$ / SF	Total	\$ / SF
1 Foundations	1,057,469	6.02	1,457,023	28.31	-	-	-	-	2,514,492	11.07
2 Vertical Structure	809,963	4.61	358,470	6.97	-	-	-	-	1,168,433	5.14
3 Floor & Roof Structures	2,111,588	12.01	1,841,396	35.78	-	-	-	-	3,952,984	17.40
4 Exterior Cladding	3,785,990	21.54	1,796,612	34.91	-	-	-	-	5,582,602	24.57
5 Roofing & Waterproofing	563,737	3.21	401,388	7.80	-	-	-	-	965,125	4.25
A) Shell (1-5)	8,328,747	47.38	5,854,889	113.78	-	-	-	-	14,183,636	62.42
6 Interior Partitions, Doors & Glazing	2,201,497	12.52	931,426	18.10	-	-	-	-	3,132,923	13.79
7 Floor, Wall & Ceiling Finishes	1,935,694	11.01	1,111,536	21.60	-	-	-	-	3,047,230	13.41
B) Interiors (6-7)	4,137,191	23.54	2,042,962	39.70	-	-	-	-	6,180,153	27.20
8 Function Equipment & Specialties	1,071,979	6.10	1,465,636	28.48	-	-	-	-	2,537,615	11.17
9 Stairs and Vertical Transportation	719,710	4.09	-	-	-	-	-	-	719,710	3.17
C) Equip & Vertical Transportation (8-9)	1,791,689	10.19	1,465,636	28.48	-	-	-	-	3,257,325	14.33
10 Plumbing Systems	5,097,365	29.00	888,688	17.27	-	-	-	-	5,986,053	26.34
11 HVAC	4,042,738	23.00	1,904,020	37.00	-	-	-	-	5,946,758	26.17
12 Electric Lighting, Power & Communications	3,928,487	22.35	1,399,405	27.19	-	-	-	-	5,327,892	23.45
13 Fire Protection Systems	703,085	4.00	207,898	4.04	-	-	-	-	910,983	4.01
D) Mechanical & Electrical (10-13)	13,771,674	78.35	4,400,011	85.50	-	-	-	-	18,171,686	79.97
14 Site Preparation & Demolition	-	-	-	-	1,136,852	2.04	59,578	1.06	1,196,430	5.27
15 Site Paving, Structures & Landscaping	1,283,010	7.30	-	-	4,616,415	8.29	347,155	6.17	6,246,579	27.49
16 Utilities on Site	-	-	-	-	1,156,616	2.08	53,700	0.95	1,210,316	5.33
E) Site Construction (14-16)	1,283,010	7.30	-	-	6,909,883	12.41	460,433	8.19	8,653,325	38.08
Building & Site Construction (1 - 16)	29,312,312	166.76	13,763,498	267.46	6,909,883	12.41	460,433	8.19	50,446,126	222.00
Gen'l Cond, Bonds & Insurance 10%	2,931,231	16.68	1,376,350	26.75	690,988	1.24	46,043	0.82	5,044,613	22.20
General Contractor's Fee 5%	1,612,177	9.17	756,992	14.71	380,044	0.68	25,324	0.45	2,774,537	12.21
Design Contingency 10%	3,385,572	19.26	1,589,684	30.89	798,091	1.43	53,180	0.95	5,826,528	25.64
PLANNED CONSTRUCTION COST	37,241,292	211.87	17,486,525	339.81	8,779,006	15.76	584,980	10.40	64,091,803	282.06
Allowance for Rising Cost BOC (Excluded)	-	-	-	-	-	-	-	-	-	-
TOTAL CONSTRUCTION COST	37,241,292	211.87	17,486,525	339.81	8,779,006	15.76	584,980	10.40	64,091,803	282.06

COST PLAN SUMMARY

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University of California, Riverside
Dundee Residence Halls Phase 1 & 2
DPP Cost Plan (R1)



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Phase 1 Residence Halls Schedule of Areas

	Quantity	SF / Unit	SF	SF
Residential Living Units				93,422
4-Person Unit (2 Doubles)	144 EA	569	81,936	
1-Person Unit	26 EA	329	8,554	
2 Bedroom Staff Apartment	2 EA	1,034	2,068	
1 Bedroom Staff Apartment	2 EA	432	864	
Residential Hall Program				10,040
Student Lounge	13 EA	550	7,150	
Study Room	13 EA	150	1,950	
Trash & Recycle Chute	6 EA	90	540	
Janitor's Closet	8 EA	50	400	
Resident Services Office				4,562
Lobby/Reception/Waiting	1 EA	500	500	
Resident Director Office	2 EA	120	240	
Head Resident Office	1 EA	100	100	
RSO Manager Office	1 EA	160	160	
Staff Offices	5 EA	120	600	
Staff Workroom & Graphic Area	1 EA	462	462	
Staff Restroom	1 EA	60	-	
Staff Workstations	4 EA	80	320	
Staff Break Room	1 EA	180	180	
Conference Room	1 EA	350	350	
Storage	1 EA	300	300	
Package Storage	1 EA	400	400	
Mail Room/Mail Boxes	1 EA	950	950	
Community Spaces				8,460
Large Meeting Rooms	3 EA	630	1,890	
Medium Meeting / Study Room	1 EA	400	400	
Small Meeting / Study Room	1 EA	200	200	
Living Room	1 EA	1,200	1,200	
Computer Lab	1 EA	800	800	
Assembly	1 EA	800	800	
Fitness Room	1 EA	1,000	1,000	
Gaming Lounge	1 EA	800	800	
Laundry	1 EA	930	930	
Community Kitchen	1 EA	200	200	
Faculty-in-Residence Office	2 EA	120	240	

Phase 1 Residence Halls Schedule of Areas

	Quantity	SF / Unit	SF	SF
Café Spaces				4,970
Serving	1 EA	2,150	2,150	
Back of House / Production & Support	1 EA	1,320	1,320	
Indoor Seating	1 EA	1,500	1,500	
Outdoor Seating (See Site Developemnt)	1 EA	1,100	-	
Maintenance Spaces				720
Maintenance Shop	1 EA	600	600	
Staff Break Room	1 EA	120	120	
Support Spaces				2,860
Public Restrooms	4 EA	120	-	
Trash & Recycle Room	2 EA	500	1,000	
Housekeeping Services	8 EA	100	800	
Telecommunications Closet	8 EA	125	1,000	
Security Office	1 EA	60	60	
Corridors / Stairways / Circulation				64,411
Interior Corridors / Circulation (efficiency ratio of 66%)			64,411	
Central Plant Spaces				9,600
Total Gross Floor Area - Phase 1				199,045

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Phase 1 Residence Halls Control Quantities

<u>Gross Floor Area</u>	<u>SW Building</u>	<u>SE Building</u>	<u>Total</u>
Basement	10,489 SF		10,487 SF
Level 1	23,571 SF	23,569 SF	47,140 SF
Level 2	23,571 SF	23,569 SF	47,140 SF
Level 3	23,571 SF	23,569 SF	47,140 SF
Level 4	23,571 SF	23,569 SF	47,140 SF
	104,773 SF	94,275 SF	199,045 SF

<u>Control Quantities</u>	<u>Quantity</u>	<u>Unit</u>	<u>Ratio</u>
Number of Stories	4	EA	0.02
Gross Area	199,045	SF	1.000
Assignable Floor Area	125,000	SF	0.628
Enclosed Area	199,000	SF	1.000
Footprint Area	49,500	SF	0.249
Volume	2,636,800	CF	13.247
Building Perimeter	2,200	LF	0.011
Gross Wall Area	116,600	SF	0.586
Retaining Wall Area	7,300	SF	0.037
Finished Wall Area	109,300	SF	0.549
Windows or Glazing Area	24,800	SF	0.125
Roof Area	53,700	SF	0.270
Finished Area	179,100	SF	0.900
Elevators	4	EA	0.201
Plumbing Fixtures	953	EA	4.788
Total Site Area	419,900	SF	2.110
Finished Site Area	370,400	SF	1.861

Phase 1 Residence Halls Construction Cost Summary

Element	Gross Area: 191,945 SF	Total	Cost / SF
1 Foundations		\$ 1,641,244	8.55
2 Vertical Structure		\$ 973,188	5.07
3 Floor & Roof Structures		\$ 3,267,825	17.02
4 Exterior Cladding		\$ 4,434,180	23.10
5 Roofing and Waterproofing		\$ 709,899	3.70
A) Shell (1-5)		\$ 11,026,336	57.45
6 Interior Partitions, Doors and Glazing		\$ 2,878,390	15.00
7 Floor, Wall and Ceiling Finishes		\$ 2,958,374	15.41
B) Interiors (6-7)		\$ 5,836,764	30.41
8 Function Equipment and Specialties		\$ 1,185,920	6.18
9 Stairs and Vertical Transportation		\$ 763,750	3.98
C) Equipment and Vertical Transportation (8-9)		\$ 1,949,670	10.16
10 Plumbing Systems		\$ 5,566,418	29.00
11 HVAC		\$ 4,414,745	23.00
12 Electrical Lighting, Power and Communications		\$ 4,309,175	22.45
13 Fire Protection Systems		\$ 767,782	4.00
D) Mechanical and Electrical (10-13)		\$ 15,058,121	78.45
14 Site Preparation and Demolition		\$ -	-
15 Site Paving, Structures & Landscaping		\$ 1,385,010	7.22
16 Utilities on Site		\$ -	-
E) Site Construction (14-16)		\$ 1,385,010	7.22
Building & Site Construction (1 - 16)		\$ 35,255,901	183.68
Gen'l Cond, Bonds & Insurance	10.0%	\$ 3,525,590	18.37
General Contractor's Fee	5.0%	\$ 1,939,075	10.10
Design Contingency	10.0%	\$ 4,072,057	21.21
TOTAL ESTIMATED CONSTRUCTION COST		\$ 44,792,622	233.36
Escalation to Beginning of Construction BOC	2.5%	\$ 1,119,816	
TOTAL ESTIMATED CONSTRUCTION COST		\$ 45,912,438	239.20

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Phase 1 Residence Halls Detail Elements

Element	Quantity	Unit	Unit Cost	Total
<u>1 Foundations</u>				
Foundations				
Mat foundation, 13" thick	53,600	sf	23.00 \$	1,232,800
Thickened edge	950	lf	85.00 \$	80,750
Elevator pits	4	ea	8,500.00 \$	34,000
Retaining wall within building footprints				
Retaining wall footings	390	lf	75.00 \$	29,250
Retaining walls	4,250	sf	42.00 \$	178,500
Waterproofing retaining walls	4,440	sf	3.50 \$	15,540
Foundation drainage	430	lf	18.50 \$	7,955
Sub-Grade Prep				
Remove / recompact fill materials	5,204	cy	12.00 \$	62,449
Total - 1 Foundations			\$	1,641,244

2 Vertical Structure

CMU columns, 16" x 16"	610	lf	85.00 \$	51,850
Wood posts and shear panels	191,945	sf	4.80 \$	921,338
Total - 2 Vertical Structure			\$	973,188

3 Floor & Roof Structures

Upper Floors - Residential Halls				
11 $\frac{1}{8}$ " TJI @ 16" OC	153,234	sf	6.50 \$	996,021
3/4" T & G Plywood sheathing	153,234	sf	3.50 \$	536,319
1 $\frac{1}{2}$ " lightweight concrete topping	153,234	sf	2.30 \$	352,438
Steel framing - ground floor open areas				
Structural steel framing	172	tn	3,100.00 \$	533,588
Plates, connections, etc	17	tn	3,100.00 \$	53,359
Roof Construction				
11 $\frac{1}{8}$ " TJI @ 16" OC	49,500	sf	6.50 \$	321,750
3/4" T & G Plywood sheathing	49,500	sf	3.50 \$	173,250

Phase 1 Residence Halls Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Colonnade	3,460	sf	85.00 \$	294,100
Concrete Housekeeping Pads, allow	1,000	sf	7.00 \$	7,000
Total - 3 Floor & Roof Structures				\$ 3,267,825

4 Exterior Cladding

Exterior walls				
Wood studs, 2"x6"	95,000	sf	4.00 \$	380,000
Exterior sheathing, 5/8"	95,000	sf	2.50 \$	237,500
Full brick veneer cladding	47,500	sf	19.00 \$	902,500
Cement plaster, 7/8"	47,500	sf	8.50 \$	403,750
Gypsum board, 5/8"	95,000	sf	1.80 \$	171,000
Paint cement plaster	95,000	sf	1.20 \$	114,000
Paint gypsum board	95,000	sf	0.60 \$	57,000
Exterior rigid insulation 1½"	95,000	sf	1.30 \$	123,500
Courtyard Screen wall	1,100	sf	16.50 \$	18,150
Exterior Windows & louvers				
Operable windows at apartments	13,800	sf	40.00 \$	552,000
Aluminum framed windows	11,000	sf	32.00 \$	352,000
Storefront at lobby	830	sf	38.00 \$	31,540
Insect / security screens, ground floor	3,500	sf	20.00 \$	70,000
Aluminum louvers, allow	551	sf	35.00 \$	19,285
Entry Doors				
HM frames, hm doors, finish hardware, painted	60	ea	1,050.00 \$	63,000
Exterior glass doors, double	4	ea	5,000.00 \$	20,000
Panic hardware	55	ea	550.00 \$	30,250
Exterior Gates, single, with card access	5	ea	3,500.00 \$	17,500
Wood soffits, clear finish	3,811	sf	9.50 \$	36,205
Bridge / corridor connectors	8,000	sf	65.00 \$	520,000
Sunshade, aluminum	2,100	lf	150.00 \$	315,000
Total - 4 Exterior Cladding				\$ 4,434,180

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Phase 1 Residence Halls Detail Elements

Element	Quantity	Unit	Unit Cost	Total
<u>5 Roofing and Waterproofing</u>				
Roofing				
Standing seam metal roofing	53,600	sf	4.80 \$	257,280
Crickets & cants	53,600	sf	0.50 \$	26,800
Insulation				
Rigid roof insulation	49,500	sf	1.30 \$	64,350
Batt insulation - upper floors	153,234	sf	0.60 \$	91,940
Sheetmetal gutters, flashings, trims, etc	191,945	sf	1.30 \$	249,529
Roof ladders, curbs, etc	1	ls	20,000.00 \$	20,000
Total - 5 Roofing and Waterproofing			\$	709,899

6 Interior Partitions, Doors and Glazing

Party Wall				
Wood studs, 3" x 4", staggered	44,900	sf	4.00 \$	179,600
Sound insulation	44,900	sf	0.60 \$	26,940
Gypsum board, 5/8"	179,600	sf	1.80 \$	323,280
Interior Partitions				
Wood studs, 2" x 6"	145,400	sf	2.20 \$	319,880
Sound insulation	145,400	sf	0.60 \$	87,240
Gypsum board, 5/8" including resilient clips	363,625	sf	2.00 \$	727,250
Interior Doors				
Solid core wood doors, hollow metal frames, painted	860	ea	1,050.00 \$	903,000
Unit entry card readers	200	ea	450.00 \$	90,000
Louvered pocket doors	144	ea	375.00 \$	54,000
30" x 30" access panels	220	ea	275.00 \$	60,500
Folding partitions	1,940	sf	55.00 \$	106,700
Total - 6 Interior Partitions, Doors and Glazing			\$	2,878,390

Phase 1 Residence Halls Detail Elements

Element	Quantity	Unit	Unit Cost	Total
<u>7 Floor, Wall and Ceiling Finishes</u>				
Floors				
Seal concrete	15,000	sf	0.80 \$	12,000
Resilient tile	43,600	sf	4.60 \$	200,560
Carpet	114,170	sf	3.30 \$	376,761
Ceramic tile	14,500	sf	12.00 \$	174,000
Marble thresholds	410	sf	85.00 \$	34,850
Bases				
Resilient	47,900	lf	2.40 \$	114,960
Ceramic tile	7,600	lf	12.00 \$	91,200
Walls				
Paint gypboard	413,900	sf	0.60 \$	248,340
Ceramic tile	13,500	sf	12.00 \$	162,000
Ceiling				
Acoustic tile ceilings	42,000	sf	3.00 \$	126,000
Gypsumboard ceiling, framing	142,730	sf	9.00 \$	1,284,570
Soffit drop	2,950	lf	16.10 \$	47,495
Paint gypsumboard ceilings	142,730	sf	0.60 \$	85,638
Total - 7 Floor, Wall and Ceiling Finishes			\$	2,958,374

8 Function Equipment and Specialties

Kitchen Appliances				
Dishwasher	4	ea	650.00 \$	2,600
Disposer	4	ea	250.00 \$	1,000
Stove, 4 burner	4	ea	850.00 \$	3,400
Microwave/hood combo	4	ea	650.00 \$	2,600
Refrigerator, incl. kitchens at floors	23	ea	950.00 \$	21,850
Washer/dryer combo	4	ea	1,250.00 \$	5,000
Casework & Millwork				
Base cabinet with plastic laminate countertop	552	lf	170.00 \$	93,840
Vanity with plastic laminate countertop, open shelving base	1,480	lf	130.00 \$	192,400
Upper cabinet	150	lf	100.00 \$	15,000

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Phase 1 Residence Halls Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Closet shelving, apartments	3,440	ea	120.00 \$	412,800
Reception desk	30	lf	350.00 \$	10,500
Millwork & trim	191,945	sf	0.50 \$	95,973
Miscellaneous Specialties & Accessories				
Toilet accessories	1	ls	160,000.00 \$	160,000
Corner guards and wall protection	1	ls	14,250.00 \$	14,250
Signage	191,945	sf	0.50 \$	95,973
Telephone enclosures, allowance	1	ea	1,150.00 \$	1,150
Miscellaneous specialties	191,945	sf	0.30 \$	57,584
Total - 8 Function Equipment and Specialties			\$	1,185,920

9 Stairs and Vertical Transportation

Metal pan stairs, concrete fill, railing, paint 4'0" wide, tread and riser, floor-to-floor	18	flt	13,500.00 \$	243,000
Elevators, hydraulic				
Passenger, 4-stop	3	ea	124,000.00 \$	372,000
Passenger, 5-stop	1	ea	145,000.00 \$	145,000
Elevator pit ladder	3	ea	1,250.00 \$	3,750
Total - 9 Stairs and Vertical Transportation			\$	763,750

10 Plumbing Systems

Plumbing allowance	191,945	sf	23.00 \$	4,414,745
Premium for grey water system	191,945	sf	4.00 \$	767,782
Premium for solar water heating	191,945	sf	2.00 \$	383,891
Total - 10 Plumbing Systems			\$	5,566,418

Phase 1 Residence Halls Detail Elements

Element	Quantity	Unit	Unit Cost	Total
<u>11 HVAC</u>				
HVAC allowance, 4-pipe fancoils (excludes Central Plant)	191,945	sf	23.00 \$	4,414,745
Total - 11 HVAC			\$	4,414,745
<u>12 Electrical Lighting, Power and Communications</u>				
Lighting & Power				
Service & Distribution	191,945	sf	5.00 \$	959,727
Convenience Power	191,945	sf	3.50 \$	671,809
HVAC Equipment connection	191,945	sf	1.50 \$	287,918
Lighting and Lighting Control	191,945	sf	8.00 \$	1,535,564
Emergency transfer switches	191,945	sf	0.30 \$	57,584
Special Low Voltage Systems				
Fire Alarm System	191,945	sf	2.30 \$	441,475
Telephone/Data system (boxes and conduit)	191,945	sf	1.00 \$	191,945
CATV System (boxes and conduit)	191,945	sf	0.50 \$	95,973
Security/CCTV System	191,945	sf	0.25 \$	47,986
Apartment door bells	191,945	sf	0.10 \$	19,195
Total - 12 Electrical Lighting, Power and Communications			\$	4,309,175
<u>13 Fire Protection Systems</u>				
Fire Sprinklers, NFPA 13	191,945	sf	4.00 \$	767,782
Total - 13 Fire Protection Systems			\$	767,782
<u>15 Site Paving, Structures & Landscaping</u>				
Phase I Courtyards / Gardens				
Hardscape				
Concrete paving, standard	17,000	sf	7.50 \$	127,500
Enhanced concrete plaza	2,000	sf	10.50 \$	21,000

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Phase 1 Residence Halls Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Decomposed granite paving	3,000	sf	2.50 \$	7,500
Retaining walls	200	lf	200.00 \$	40,000
Landscaping, Planting & Maintenance				
Topsoil, fertilizer & fine grading	93,000	sf	0.50 \$	46,500
Shrubs and groundcover	88,000	sf	5.50 \$	484,000
Turf	5,000	sf	0.90 \$	4,500
Canopy trees, 15 gallon	48	ea	145.00 \$	6,960
Canopy trees, 24" box	60	ea	550.00 \$	33,000
Specimen trees, 32" box	3	ea	1,150.00 \$	3,450
Landscape maintenance - 90 days	1	ls	25,000.00 \$	25,000
Irrigation System				
Planting and lawn area irrigation	93,000	sf	1.75 \$	162,750
Landscape drainage	93,000	sf	1.25 \$	116,250
Site Lighting				
Pedestrian lighting	20	ea	2,500.00 \$	50,000
Seat Walls / Site Furnishings				
Concrete seat walls, 18" x 18"	400	lf	250.00 \$	100,000
Benches & tables	12	ea	550.00 \$	6,600
Retaining walls / ramps / etc	300	lf	200.00 \$	60,000
Bike racks	1	ls	15,000.00 \$	15,000
Trash receptacles	1	ls	10,000.00 \$	10,000
Recycling receptacles	1	ls	10,000.00 \$	10,000
Miscellaneous site furnishings, allowance	1	ls	10,000.00 \$	10,000
Site Specialties				
Bollards	1	ls	5,000.00 \$	5,000
Traffic and wayfinding signage	1	ls	15,000.00 \$	15,000
Miscellaneous site specialties	1	ls	25,000.00 \$	25,000
Total - 15 Site Paving, Structures & Landscaping			\$	1,385,010

University of California, Riverside
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Phase 1 Café Construction Cost Summary

Element	Gross Area:	7,100 SF	Total	Cost / SF
1 Foundations			\$ 100,950	14.22
2 Vertical Structure			\$ 48,762	6.87
3 Floor & Roof Structures			\$ 148,376	20.90
4 Exterior Cladding			\$ 258,500	36.41
5 Roofing and Waterproofing			\$ 24,850	3.50
A) Shell (1-5)			\$ 581,438	81.89
6 Interior Partitions, Doors and Glazing			\$ 31,000	4.37
7 Floor, Wall and Ceiling Finishes			\$ 172,530	24.30
B) Interiors (6-7)			\$ 203,530	28.67
8 Function Equipment and Specialties			\$ 307,430	43.30
9 Stairs and Vertical Transportation			\$ -	-
C) Equipment and Vertical Transportation (8-9)			\$ 307,430	43.30
10 Plumbing Systems			\$ 223,650	31.50
11 HVAC			\$ 163,300	23.00
12 Electrical Lighting, Power and Communications			\$ 157,265	22.15
13 Fire Protection Systems			\$ 28,400	4.00
D) Mechanical and Electrical (10-13)			\$ 572,615	80.65
14 Site Preparation and Demolition			\$ -	-
15 Site Paving, Structures & Landscaping			\$ -	-
16 Utilities on Site			\$ -	-
E) Site Construction (14-16)			\$ -	-
Building & Site Construction (1 - 16)			\$ 1,665,013	234.51
Gen'l Cond, Bonds & Insurance	10.0%		\$ 166,501	23.45
General Contractor's Fee	5.0%		\$ 91,576	12.90
Design Contingency	10.0%		\$ 192,309	27.09
TOTAL ESTIMATED CONSTRUCTION COST			\$ 2,115,399	297.94
Escalation to Beginning of Construction BOC	2.5%		\$ 52,885	
TOTAL ESTIMATED CONSTRUCTION COST			\$ 2,168,284	305.39

Phase 1 Café Detail Elements

Element	Quantity	Unit	Unit Cost	Total
<u>1 Foundations</u>				
Foundations				
Concrete wall footings	150	lf	68.00 \$	10,200
Reinforced concrete walls				
Concrete walls	1,500	lf	42.00 \$	63,000
Waterproofing	1,500	lf	18.50 \$	27,750
Total - 1 Foundations			\$	100,950
<u>2 Vertical Structure</u>				
Columns, beams & braced frames	14	tn	3,180.00 \$	44,520
Fireproofing structural steel	14	tn	303.00 \$	4,242
Total - 2 Vertical Structure			\$	48,762
<u>3 Floor & Roof Structures</u>				
Structural steel framing	43	tn	3,180.00 \$	135,468
Fireproofing structural steel	43	tn	303.00 \$	12,908
Total - 3 Floor & Roof Structures			\$	148,376
<u>4 Exterior Cladding</u>				
Exterior wall framing and sheathing	5,200	sf	6.50 \$	33,800
Brick veneer cladding / cement plaster finish	5,200	sf	19.00 \$	98,800
Insulation and gypsum board, painted	5,200	sf	4.50 \$	23,400
Exterior Windows & louvers	1,300	sf	75.00 \$	97,500
Exterior glass entry doors, double	1	ea	5,000.00 \$	5,000
Total - 4 Exterior Cladding			\$	258,500

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Phase 1 Café Detail Elements

Element	Quantity	Unit	Unit Cost	Total
<u>5 Roofing and Waterproofing</u>				
Insulation	7,100	sf	1.50 \$	10,650
Flashings & trims	7,100	sf	2.00 \$	14,200
Total - 5 Roofing and Waterproofing			\$	24,850
<u>6 Interior Partitions, Doors and Glazing</u>				
Wood studs framing, 3" x 4", staggered	2,500	sf	4.00 \$	10,000
Sound insulation	2,500	sf	0.60 \$	1,500
Gypsum board, 5/8"	5,000	sf	1.80 \$	9,000
Interior Doors	10	ea	1,050.00 \$	10,500
Total - 6 Interior Partitions, Doors and Glazing			\$	31,000
<u>7 Floor, Wall and Ceiling Finishes</u>				
Ceramic tile flooring & bases	7,100	sf	14.00 \$	99,400
Ceramic tile / gypboard, painted	7,100	sf	7.30 \$	51,830
Acoustic tile ceilings	7,100	sf	3.00 \$	21,300
Total - 7 Floor, Wall and Ceiling Finishes			\$	172,530
<u>8 Function Equipment and Specialties</u>				
Kitchen equipment				
Serving platforms	7,100	sf	10.00 \$	71,000
Production kitchen	7,100	sf	15.00 \$	106,500
Warewashing	7,100	sf	5.00 \$	35,500
Support	7,100	sf	1.00 \$	7,100

Phase 1 Café Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Casework & Millwork				
Base cabinet with countertop	7,100	lf	10.00 \$	71,000
Millwork & trim	7,100	sf	0.50 \$	3,550
Miscellaneous Specialties & Accessories				
Toilet accessories	7,100	sf	0.80 \$	5,680
Corner guards and wall protection	7,100	sf	0.20 \$	1,420
Signage	7,100	sf	0.50 \$	3,550
Miscellaneous specialties	7,100	sf	0.30 \$	2,130
Total - 8 Function Equipment and Specialties			\$	307,430

10 Plumbing Systems

Plumbing allowance	7,100	sf	23.00 \$	163,300
Premium for grey water system	7,100	sf	4.00 \$	28,400
Premium for solar water heating	7,100	sf	4.50 \$	31,950
Total - 10 Plumbing Systems			\$	223,650

11 HVAC

HVAC allowance, 4-pipe fancoils (excludes Central Plant)	7,100	sf	23.00 \$	163,300
Total - 11 HVAC			\$	163,300

12 Electrical Lighting, Power and Communications

Lighting & Power				
Service & Distribution	7,100	sf	5.00 \$	35,500
Convenience Power	7,100	sf	3.50 \$	24,850
HVAC Equipment connection	7,100	sf	1.50 \$	10,650
Lighting and Lighting Control	7,100	sf	8.00 \$	56,800

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Phase 1 Café Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Special Low Voltage Systems				
Fire Alarm System	7,100	sf	2.30 \$	16,330
Telephone/Data system (boxes and conduit)	7,100	sf	1.00 \$	7,100
CATV System (boxes and conduit)	7,100	sf	0.50 \$	3,550
Security/CCTV System	7,100	sf	0.25 \$	1,775
Apartment door bells	7,100	sf	0.10 \$	710
Total - 12 Electrical Lighting, Power and Communications			\$	157,265

13 Fire Protection Systems

Fire Sprinklers, NFPA 13	7,100	sf	4.00 \$	28,400
Total - 13 Fire Protection Systems			\$	28,400

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Phase 1 Site Development Construction Cost Summary

Element	Site Area: 422,500 SF	Total	Cost / SF
1 Foundations		\$ -	-
2 Vertical Structure		\$ -	-
3 Floor & Roof Structures		\$ -	-
4 Exterior Cladding		\$ -	-
5 Roofing and Waterproofing		\$ -	-
A) Shell (1-5)		\$ -	-
6 Interior Partitions, Doors and Glazing		\$ -	-
7 Floor, Wall and Ceiling Finishes		\$ -	-
B) Interiors (6-7)		\$ -	-
8 Function Equipment and Specialties		\$ -	-
9 Stairs and Vertical Transportation		\$ -	-
C) Equipment and Vertical Transportation (8-9)		\$ -	-
10 Plumbing Systems		\$ -	-
11 HVAC		\$ -	-
12 Electrical Lighting, Power and Communications		\$ -	-
13 Fire Protection Systems		\$ -	-
D) Mechanical and Electrical (10-13)		\$ -	-
14 Site Preparation and Demolition		\$ 1,067,546	2.53
15 Site Paving, Structures & Landscaping		\$ 2,883,169	6.82
16 Utilities on Site		\$ 4,431,802	10.49
E) Site Construction (14-16)		\$ 8,382,517	19.84
Building & Site Construction (1 - 16)		\$ 8,382,517	19.84
Gen'l Cond, Bonds & Insurance	10.0%	\$ 838,252	1.98
General Contractor's Fee	5.0%	\$ 461,038	1.09
Design Contingency	10.0%	\$ 968,181	2.29
TOTAL ESTIMATED CONSTRUCTION COST		\$ 10,649,988	25.21
Escalation to Beginning of Construction BOC	2.5%	\$ 266,250	
TOTAL ESTIMATED CONSTRUCTION COST		\$ 10,916,237	25.84

Phase 1 Site Development Detail Elements

Element	Quantity	Unit	Unit Cost	Total
<i>14 Site Preparation and Demolition</i>				
Demolition				
Hazmat abatement, allow	53	ea	3,500.00 \$	185,500
Demo existing housing units	53	ea	7,500.00 \$	397,500
Site Demolition				
Clear site	422,500	sf	0.40 \$	169,000
Grading and clearing				
Overexcavate and recompact under structures	29,799	cy	3.50 \$	104,296
Rough grade	422,500	sf	0.30 \$	126,750
Fine grade	422,500	sf	0.10 \$	42,250
Erosion control, allowance	422,500	sf	0.10 \$	42,250
Total - 14 Site Preparation and Demolition			\$	1,067,546

15 Site Paving, Structures and Landscaping

Hardscape				
Concrete paving	65,713	sf	7.50 \$	492,848
Curb and gutter, concrete	6,064	lf	18.00 \$	109,152
Asphalt paving	103,215	sf	2.80 \$	289,002
Asphalt paving, repairs	1	ls	9,000.00 \$	9,000
Striping, miscellaneous road markings	103,215	sf	0.10 \$	10,322
Accessible concrete curb cut ramps	7	ea	850.00 \$	5,950
Retaining walls				
Retaining wall footings	1,124	lf	65.00 \$	73,060
Retaining walls	7,764	sf	42.00 \$	326,088
Waterproofing retaining walls	8,152	sf	3.50 \$	28,533
Foundation drainage	1,250	lf	18.50 \$	23,125

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Phase 1 Site Development Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Other site improvements				
Trash enclosures	2	ea	23,000.00 \$	46,000
CMU screen wall at corporate yard	748	lf	160.00 \$	119,680
Wood Trellis at circle drive	4,120	sf	40.00 \$	164,800
Wood Trellis at circle courtyard	909	sf	40.00 \$	36,360
Site signage, allow	1	ls	20,000.00 \$	20,000
Site furnishings	1	ls	100,000.00 \$	100,000
Outdoor seating area - Café	1	ls	40,000.00 \$	40,000
Bicycle enclosures & storage	5	ea	65,000.00 \$	325,000
Landscaping				
Shrubs / Ground cover	4,000	sf	12.00 \$	48,000
Turf including soil prep	150,000	sf	0.90 \$	135,000
90 days maintenance	3	mo	5,000.00 \$	15,000
Irrigation				
Planting and lawn area irrigation	150,000	sf	1.50 \$	225,000
Electrical Site Lighting	422,500	sf	0.50 \$	211,250
Emergency blue light security system	2	ea	15,000.00 \$	30,000
Total - 15 Site Paving, Structures and Landscaping				\$ 2,883,169

16 Utilities on Site

Electrical Site Utilities				
Electrical Site Utilities	1	ls	258,100.00 \$	258,100
Telephone Data Site Utilities	1	ls	129,000.00 \$	129,000
Site substation transformers and 500 kva generator, prorated cost across all site phases	1	ls	588,600.00 \$	588,600
Central Plant - Phase 1				
Turbocore chillers 400T & ice storage	1	ls	2,000,000 \$	2,000,000
Site HVAC Distribution				
1-1/2" HHW pipe, steel in pvc, preinsulated, db	400	lf	40.00 \$	16,000
3" HHW pipe, steel in pvc, preinsulated, db	850	lf	62.00 \$	52,700
4" HHW pipe, steel in pvc, preinsulated, db	850	lf	86.20 \$	73,270
2" CHW pipe, steel in pvc, preinsulated, db	400	lf	47.00 \$	18,800
Trench excavate, backfill, compact	370	cy	56.30 \$	20,852

Phase 1 Site Development Detail Elements

Element	Quantity	Unit	Unit Cost	Total
6" CHW pipe, steel in pvc, preinsulated, db	800	lf	113.60 \$	90,880
Trench excavate, backfill, compact	119	cy	56.30 \$	6,673
Wet utilities				
Domestic Water & Fire Service				
Point of connection	2	ea	5,425.00 \$	10,850
8" PVC	400	lf	93.00 \$	37,200
6" PVC	750	lf	69.80 \$	52,350
4" PVC	350	lf	54.30 \$	19,005
Double detector check	5	ea	12,400.00 \$	62,000
Post Indicator valve	5	ea	2,325.00 \$	11,625
Fire hydrant, allow	3	ea	6,975.00 \$	20,925
Fire department connection	3	ea	2,325.00 \$	6,975
Gas service	1,257	lf	46.50 \$	58,451
Gas meter	6	ea	3,875.00 \$	23,250
Gas service, demolition	865	lf	23.30 \$	20,155
Storm drain				
Point of connection	4	ea	3,875.00 \$	15,500
Catch basin	10	ea	3,410.00 \$	34,100
Manhole	6	ea	6,975.00 \$	41,850
SDR 35, 12"	4,249	lf	100.80 \$	428,299
Sanitary Sewer				
Sewer, demolition	2,463	lf	23.30 \$	57,388
Point of connection	1	ea	3,875.00 \$	3,875
Sewer manhole	9	ea	6,975.00 \$	62,775
4" - 6" laterals, allow	400	lf	54.30 \$	21,720
8" mains	2,100	lf	80.60 \$	169,260
10,000 gal grease interceptor	1	ea	19,375.00 \$	19,375
Total - 16 Utilities on Site			\$	4,431,802

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Phase 1 Surface Parking Construction Cost Summary

Element	Site Area: 52,500 SF 150 Parking Spaces	Total	Cost / SF
1 Foundations		\$ -	-
2 Vertical Structure		\$ -	-
3 Floor & Roof Structures		\$ -	-
4 Exterior Cladding		\$ -	-
5 Roofing and Waterproofing		\$ -	-
A) Shell (1-5)		\$ -	-
6 Interior Partitions, Doors and Glazing		\$ -	-
7 Floor, Wall and Ceiling Finishes		\$ -	-
B) Interiors (6-7)		\$ -	-
8 Function Equipment and Specialties		\$ -	-
9 Stairs and Vertical Transportation		\$ -	-
C) Equipment and Vertical Transportation (8-9)		\$ -	-
10 Plumbing Systems		\$ -	-
11 HVAC		\$ -	-
12 Electrical Lighting, Power and Communications		\$ -	-
13 Fire Protection Systems		\$ -	-
D) Mechanical and Electrical (10-13)		\$ -	-
14 Site Preparation and Demolition		\$ 55,390	1.06
15 Site Paving, Structures & Landscaping		\$ 342,436	6.52
16 Utilities on Site		\$ 36,300	0.69
E) Site Construction (14-16)		\$ 434,126	8.27
Building & Site Construction (1 - 16)		\$ 434,126	8.27
General Conditions, Bonds & Insurance	10.0%	\$ 43,413	0.83
General Contractor's Fee	5.0%	\$ 23,877	0.45
Design Contingency	10.0%	\$ 50,142	0.96
TOTAL ESTIMATED CONSTRUCTION COST		\$ 551,557	10.51
Escalation to Beginning of Construction BOC	2.5%	\$ 13,789	
TOTAL ESTIMATED CONSTRUCTION COST		\$ 565,346	10.77

Phase 1 Surface Parking Detail Elements

Element	Quantity	Unit	Unit Cost	Total
<u>14 Site Preparation and Demolition</u>				
Site clearing & grubbing	52,500	sf	0.40 \$	21,000
Grading and clearing				
Overexcavate and recompact under structures	2,326	cy	3.50 \$	8,140
Rough grade	52,500	sf	0.30 \$	15,750
Fine grade	52,500	sf	0.10 \$	5,250
Erosion control, allowance	52,500	sf	0.10 \$	5,250
Total - 14 Site Preparation and Demolition			\$	55,390

15 Site Paving, Structures and Landscaping

Hardscape				
Concrete paving	3,615	sf	6.50 \$	23,498
Curb and gutter, concrete	2,966	lf	18.00 \$	53,388
Asphalt paving	54,603	sf	2.80 \$	152,888
Asphalt paving - CDC	8,555	sf	2.80 \$	23,954
Striping, standard stall	214	ea	18.00 \$	3,852
Striping, miscellaneous road markings	54,603	sf	0.10 \$	5,460
Stencil ADA parking symbols	7	ea	85.00 \$	595
Accessible concrete curb cut ramps	3	ea	850.00 \$	2,550
Landscaping				
Screening trees, allow	12	ea	1,500.00 \$	18,000
Turf including soil prep	5,000	sf	0.70 \$	3,500
90 days maintenance	3	mo	2,000.00 \$	6,000
Planting and lawn area irrigation	5,000	sf	0.90 \$	4,500
Parking Equipment: Arm gate & card reader	3	ea	6,000.00 \$	18,000
Electrical Site Lighting	52,500	sf	0.50 \$	26,250
Total - 15 Site Paving, Structures and Landscaping			\$	342,436

16 Utilities on Site

Storm drain - Catch basin	4	ea	2,200.00 \$	8,800
Storm drain - SDR 35, 8"	550	lf	50.00 \$	27,500
Total - 16 Utilities on Site			\$	36,300

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Phase 1 Watkins Entry Site Development Construction Cost Summary

Element	Site Area:	44,000 SF	Total	Cost / SF
1 Foundations			\$ -	-
2 Vertical Structure			\$ -	-
3 Floor & Roof Structures			\$ -	-
4 Exterior Cladding			\$ -	-
5 Roofing and Waterproofing			\$ -	-
A) Shell (1-5)			\$ -	-
6 Interior Partitions, Doors and Glazing			\$ -	-
7 Floor, Wall and Ceiling Finishes			\$ -	-
B) Interiors (6-7)			\$ -	-
8 Function Equipment and Specialties			\$ -	-
9 Stairs and Vertical Transportation			\$ -	-
C) Equipment and Vertical Transportation (8-9)			\$ -	-
10 Plumbing Systems			\$ -	-
11 HVAC			\$ -	-
12 Electrical Lighting, Power and Communications			\$ -	-
13 Fire Protection Systems			\$ -	-
D) Mechanical and Electrical (10-13)			\$ -	-
14 Site Preparation and Demolition			\$ 59,725	1.36
15 Site Paving, Structures & Landscaping			\$ 370,300	8.42
16 Utilities on Site			\$ -	-
E) Site Construction (14-16)			\$ 430,025	9.77
Building & Site Construction (1 - 16)			\$ 430,025	9.77
Gen'l Cond, Bonds & Insurance	10.0%		\$ 43,003	0.98
General Contractor's Fee	5.0%		\$ 23,651	0.54
Design Contingency	10.0%		\$ 49,668	1.13
TOTAL ESTIMATED CONSTRUCTION COST			\$ 546,347	12.42
Escalation to Beginning of Construction BOC	2.5%		\$ 13,659	
TOTAL ESTIMATED CONSTRUCTION COST			\$ 560,005	12.73

Phase 1 Watkins Entry Site Development Detail Elements

Element	Quantity	Unit	Unit Cost	Total
<i>14 Site Preparation and Demolition</i>				
Site Demolition				
Clear site	44,000	sf	0.40 \$	17,600
Grading and clearing				
Overexcavate and recompact site	5,750	cy	3.50 \$	20,125
Rough grade	44,000	sf	0.30 \$	13,200
Fine grade	44,000	sf	0.10 \$	4,400
Erosion control, allowance	44,000	sf	0.10 \$	4,400
Total - 14 Site Preparation and Demolition			\$	59,725

15 Site Paving, Structures and Landscaping

Watkins Entry Area				
Concrete paving, standard	4,500	sf	7.50 \$	33,750
Enhanced concrete plaza	4,000	sf	10.50 \$	42,000
Concrete seat walls, 18" x 18"	300	lf	250.00 \$	75,000
Topsoil, fertilizer & fine grading	25,000	sf	0.50 \$	12,500
Shrubs and groundcover	25,000	sf	5.50 \$	137,500
Canopy trees, 24" box	32	ea	550.00 \$	17,600
Specimen trees, 32" box	3	ea	1,150.00 \$	3,450
Landscape maintenance - 90 days	1	ls	11,000.00 \$	11,000
Pedestrian lighting	5	ea	1,500.00 \$	7,500
Street lighting	8	ea	2,500.00 \$	20,000
Signage	2	ea	5,000.00 \$	10,000
Total - 15 Site Paving, Structures and Landscaping			\$	370,300

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Phase 1 Aberdeen Entry Site Development Construction Cost Summary

	Site Area:	24,000 SF	Total	Cost / SF
1 Foundations			\$ -	-
2 Vertical Structure			\$ -	-
3 Floor & Roof Structures			\$ -	-
4 Exterior Cladding			\$ -	-
5 Roofing and Waterproofing			\$ -	-
A) Shell (1-5)			\$ -	-
6 Interior Partitions, Doors and Glazing			\$ -	-
7 Floor, Wall and Ceiling Finishes			\$ -	-
B) Interiors (6-7)			\$ -	-
8 Function Equipment and Specialties			\$ -	-
9 Stairs and Vertical Transportation			\$ -	-
C) Equipment and Vertical Transportation (8-9)			\$ -	-
10 Plumbing Systems			\$ -	-
11 HVAC			\$ -	-
12 Electrical Lighting, Power and Communications			\$ -	-
13 Fire Protection Systems			\$ -	-
D) Mechanical and Electrical (10-13)			\$ -	-
14 Site Preparation and Demolition			\$ 41,725	1.74
15 Site Paving, Structures & Landscaping			\$ 255,550	10.65
16 Utilities on Site			\$ -	-
E) Site Construction (14-16)			\$ 297,275	12.39
Building & Site Construction (1 - 16)			\$ 297,275	12.39
General Conditions, Bonds & Insurance	10.0%		\$ 29,728	1.24
General Contractor's Fee	5.0%		\$ 16,350	0.68
Design Contingency	10.0%		\$ 34,335	1.43
TOTAL ESTIMATED CONSTRUCTION COST			\$ 377,688	15.74
Escalation to Beginning of Construction BOC	2.5%		\$ 9,442	
TOTAL ESTIMATED CONSTRUCTION COST			\$ 387,130	16.13

Phase 1 Aberdeen Entry Site Development Detail Elements

Element	Quantity	Unit	Unit Cost	Total
<i>14 Site Preparation and Demolition</i>				
Site Demolition				
Clear site	24,000	sf	0.40 \$	9,600
Grading and clearing				
Overexcavate and recompact site	5,750	cy	3.50 \$	20,125
Rough grade	24,000	sf	0.30 \$	7,200
Fine grade	24,000	sf	0.10 \$	2,400
Erosion control, allowance	24,000	sf	0.10 \$	2,400
Total - 14 Site Preparation and Demolition			\$	41,725

15 Site Paving, Structures and Landscaping

Aberdeen Entry Area				
Concrete paving, standard	4,800	sf	7.50 \$	36,000
Enhanced concrete plaza	3,000	sf	10.50 \$	31,500
Concrete seat walls, 18" x 18"	200	lf	250.00 \$	50,000
Topsoil, fertilizer & fine grading	8,500	sf	0.50 \$	4,250
Shrubs and groundcover	8,500	sf	5.50 \$	46,750
Canopy trees, 24" box	16	ea	550.00 \$	8,800
Specimen trees, 32" box	5	ea	1,150.00 \$	5,750
Bare trunk palm, 12' high	10	ea	3,500.00 \$	35,000
Landscape maintenance - 90 days	1	ls	5,000.00 \$	5,000
Pedestrian lighting	3	ea	1,500.00 \$	4,500
Street lighting	6	ea	2,500.00 \$	15,000
Signage	1	ea	5,000.00 \$	5,000
Bike shelter	1	ea	8,000.00 \$	8,000
Total - 15 Site Paving, Structures and Landscaping			\$	255,550

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COST PLAN SUMMARY

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Phase 2 Residence Halls Schedule of Areas

	Quantity	SF / Unit	SF	SF
Residential Living Units				100,339
4-Person Unit (2 Doubles)	155 EA	569	88,195	
1-Person Unit	28 EA	329	9,212	
2 Bedrooms Staff Apartment	2 EA	1,034	2,068	
1 Bedroom Staff Apartment	2 EA	432	864	
Residential Hall Program				10,740
Student Lounge	14 EA	550	7,700	
Study Room	14 EA	150	2,100	
Trash & Recycle Chute	6 EA	90	540	
Janitor's Closet	8 EA	50	400	
Community Spaces				2,130
Living Room	1 EA	1,200	1,200	
Laundry	1 EA	930	930	
Support Spaces				2,800
Trash & Recycle Room	2 EA	500	1,000	
House Keeping Services	8 EA	100	800	
Telecommunications Closet	8 EA	125	1,000	
Corridors / Stairways / Circulation				59,762
Interior Corridors / Circulation (efficiency ratio of 66%)			59,762	
Total Gross Floor Area - Phase 2				175,771

Phase 2 Residence Halls Control Quantities

<u>Gross Floor Area</u>	SW Building	SE Building	Total
Level 1	21,972 SF	21,970 SF	43,943 SF
Level 2	21,972 SF	21,970 SF	43,943 SF
Level 3	21,972 SF	21,970 SF	43,943 SF
Level 4	21,972 SF	21,970 SF	43,943 SF
	87,890 SF	87,882 SF	175,771 SF

<u>Control Quantities</u>	<u>Quantity</u>	<u>Unit</u>	<u>Ratio</u>
Number of Stories	4	EA	0.023
Gross Area	175,771	SF	1.000
Assignable Floor Area	116,009	SF	0.660
Enclosed Area	175,771	SF	1.000
Footprint Area	48,300	SF	0.275
Volume	2,329,000	CF	13.250
Building Perimeter	2,200	LF	0.013
Gross Wall Area	116,600	SF	0.663
Retaining Wall Area	7,300	SF	0.042
Finished Wall Area	109,300	SF	0.622
Windows or Glazing Area	24,800	SF	0.141
Roof Area	50,100	SF	0.285
Finished Area	158,200	SF	0.900
Elevators	4	EA	0.228
Plumbing Fixtures	951	EA	5.410
Total Site Area	477,300	SF	2.715
Finished Site Area	429,000	SF	2.441

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Phase 2 Residence Halls Construction Cost Summary

Element	Gross Area:	175,771 SF	Total	Cost / SF
1 Foundations			\$ 1,057,469	6.02
2 Vertical Structure			\$ 809,963	4.61
3 Floor & Roof Structures			\$ 2,111,588	12.01
4 Exterior Cladding			\$ 3,785,990	21.54
5 Roofing and Waterproofing			\$ 563,737	3.21
A) Shell (1-5)			\$ 8,328,747	47.38
6 Interior Partitions, Doors and Glazing			\$ 2,201,497	12.52
7 Floor, Wall and Ceiling Finishes			\$ 1,935,694	11.01
B) Interiors (6-7)			\$ 4,137,191	23.54
8 Function Equipment and Specialties			\$ 1,071,979	6.10
9 Stairs and Vertical Transportation			\$ 719,710	4.09
C) Equipment and Vertical Transportation (8-9)			\$ 1,791,689	10.19
10 Plumbing Systems			\$ 5,097,365	29.00
11 HVAC			\$ 4,042,738	23.00
12 Electrical Lighting, Power and Communications			\$ 3,928,487	22.35
13 Fire Protection Systems			\$ 703,085	4.00
D) Mechanical and Electrical (10-13)			\$ 13,771,674	78.35
14 Site Preparation and Demolition			\$ -	-
15 Site Paving, Structures & Landscaping			\$ 1,283,010	7.30
16 Utilities on Site			\$ -	-
E) Site Construction (14-16)			\$ 1,283,010	7.30
Building & Site Construction (1 - 16)			\$ 29,312,312	166.76
Gen'l Cond, Bonds & Insurance	10.0%		\$ 2,931,231	16.68
General Contractor's Fee	5.0%		\$ 1,612,177	9.17
Design Contingency	10.0%		\$ 3,385,572	19.26
TOTAL ESTIMATED CONSTRUCTION COST			\$ 37,241,292	211.87
Escalation to Beginning of Construction BOC			\$ -	
TOTAL ESTIMATED CONSTRUCTION COST			\$ 37,241,292	211.87

Phase 2 Residence Halls Detail Elements

Element	Quantity	Unit	Unit Cost	Total
<u>1 Foundations</u>				
Foundations				
Mat foundation, 13" thick	42,600	sf	21.50 \$	915,900
Thickened edge	825	lf	79.50 \$	65,588
Elevator pits	4	ea	7,950.00 \$	31,800
Sub-Grade Prep				
Remove / recompact fill materials	3,945	cy	11.20 \$	44,181
Total - 1 Foundations			\$	1,057,469

2 Vertical Structure

CMU columns, 16" x 16"	460	lf	79.50 \$	36,570
Wood posts and shear panels	175,771	sf	4.40 \$	773,393
Total - 2 Vertical Structure			\$	809,963

3 Floor & Roof Structures

Upper Floors				
11 $\frac{1}{8}$ " TJI @ 16" OC	116,154	sf	6.10 \$	708,539
3/4" T & G Plywood sheathing	116,154	sf	3.30 \$	383,308
1 $\frac{1}{2}$ " lightweight concrete topping	116,154	sf	2.10 \$	243,923
Steel framing - ground floor open areas				
Structural steel framing	103	tn	3,300.00 \$	341,253
Plates, connections, etc	10	tn	3,300.00 \$	34,125
Roof Construction				
11 $\frac{1}{8}$ " TJI @ 16" OC	42,600	sf	6.10 \$	259,860
3/4" T & G Plywood sheathing	42,600	sf	3.30 \$	140,580
Total - 3 Floor & Roof Structures			\$	2,111,588

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Phase 2 Residence Halls Detail Elements

Element	Quantity	Unit	Unit Cost	Total
<i>4 Exterior Cladding</i>				
Exterior walls				
Wood studs, 2"x6"	86,600	sf	3.70 \$	320,420
Exterior sheathing, 5/8"	86,600	sf	2.30 \$	199,180
Full brick veneer cladding	43,300	sf	20.60 \$	891,980
Cement plaster, 7/8"	43,300	sf	8.00 \$	346,400
Gypsum board, 5/8"	86,600	sf	1.60 \$	138,560
Paint cement plaster	86,600	sf	1.10 \$	95,260
Paint gypsum board	86,600	sf	0.50 \$	43,300
Exterior rigid insulation 1½"	86,600	sf	1.20 \$	103,920
Courtyard screen walls	925	sf	15.40 \$	14,245
Exterior Windows & louvers				
Operable windows at apartments	11,800	sf	37.40 \$	441,320
Aluminum framed windows	11,000	sf	29.90 \$	328,900
Storefront at lobby	670	sf	35.60 \$	23,852
Insect / security screens, ground floor	2,800	sf	18.70 \$	52,360
Aluminum louvers, allow	440	sf	32.70 \$	14,388
Entry Doors				
HM frames, hm doors, finish hardware, painted	60	ea	1,030.00 \$	61,800
Exterior glass doors, double	4	ea	4,680.00 \$	18,720
Panic hardware	55	ea	510.00 \$	28,050
Exterior Gates, single, with card access	5	ea	3,270.00 \$	16,350
Wood soffits, clear finish	3,050	sf	8.90 \$	27,145
Bridge / corridor connectors	6,500	sf	60.80 \$	395,200
Sunshade, aluminum	1,600	lf	140.40 \$	224,640
Total - 4 Exterior Cladding			\$	3,785,990

5 Roofing and Waterproofing

Roofing				
Standing seam metal roofing	42,600	sf	4.50 \$	191,700
Crickets & cants	42,600	sf	0.50 \$	21,300

Phase 2 Residence Halls Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Insulation				
Rigid roof insulation	42,600	sf	1.20 \$	51,120
Batt insulation - upper floors	116,154	sf	0.60 \$	69,692
Sheetmetal gutters, flashings, trims, etc	175,771	sf	1.20 \$	210,925
Roof ladders, curbs, etc	1	ls	19,000.00 \$	19,000
Total - 5 Roofing and Waterproofing			\$	563,737

6 Interior Partitions, Doors and Glazing

Party Wall				
Wood studs, 3" x 4", staggered	38,170	sf	3.70 \$	141,229
Sound insulation	38,170	sf	0.60 \$	22,902
Gypsum board, 5/8" including resilient clips	145,000	sf	1.60 \$	232,000
Interior Partitions				
Wood studs, 2" x 6"	116,400	sf	2.10 \$	244,440
Sound insulation	116,400	sf	0.60 \$	69,840
Gypsum board, 5/8" including resilient clips	290,900	sf	1.80 \$	523,620
Interior Doors				
Solid core wood doors, hollow metal frames, painted	690	ea	980.00 \$	676,200
Unit entry card readers	200	ea	421.10 \$	84,220
Louvered pocket doors	144	ea	350.90 \$	50,530
30" x 30" access panels	220	ea	257.30 \$	56,606
Folding partitions	1,940	sf	51.50 \$	99,910
Total - 6 Interior Partitions, Doors and Glazing			\$	2,201,497

7 Floor, Wall & Ceiling Finishes

Floors				
Seal concrete	15,000	sf	0.70 \$	10,500
Resilient tile	43,600	sf	4.30 \$	187,480
Carpet	68,971	sf	3.10 \$	213,811
Ceramic tile	14,500	sf	11.20 \$	162,400
Marble thresholds	410	sf	79.50 \$	32,595
Resilient bases	38,320	lf	2.20 \$	84,304

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Phase 2 Residence Halls Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Ceramic tile bases	7,600	lf	11.20 \$	85,120
Paint gypboard walls	331,120	sf	0.50 \$	165,560
Ceramic wall tile	13,500	sf	11.20 \$	151,200
Ceiling				
Acoustic tile ceilings	42,000	sf	2.80 \$	117,600
Gypsumboard ceiling, framing	97,531	sf	6.10 \$	594,941
Soffit drop	2,950	lf	15.10 \$	44,545
Paint gypsumboard ceilings	142,730	sf	0.60 \$	85,638
Total - 7 Floor, Wall & Ceiling Finishes				\$ 1,935,694

8 Function Equipment & Specialties

Kitchen Appliances				
Dishwasher	4	ea	610.00 \$	2,440
Disposer	4	ea	230.00 \$	920
Stove, 4 burner	4	ea	800.00 \$	3,200
Refrigerator, incl. kitchens at floors	23	ea	890.00 \$	20,470
Washer/dryer combo	4	ea	1,170.00 \$	4,680
Microwave/hood combo				FF & E
Microwave at common area kitchens				FF & E
Casework & Millwork				
Base cabinet with p-lam countertop	450	lf	150.00 \$	67,500
Vanity cabinet with p-lam countertop, open shelving base	1,480	lf	120.00 \$	177,600
Upper cabinet	150	lf	90.00 \$	13,500
Closet shelving, apartments	3,440	ea	120.00 \$	412,800
Reception desk	30	lf	330.00 \$	9,900
Millwork & trim	175,771	sf	0.35 \$	61,520
Miscellaneous Specialties & Accessories				
Toilet accessories	1	ls	160,000.00 \$	160,000
Corner guards and wall protection	1	ls	13,330.00 \$	13,330

Phase 2 Residence Halls Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Signage	175,771	sf	0.40 \$	70,308
Telephone enclosures, allowance	1	ea	1,080.00 \$	1,080
Miscellaneous specialties	175,771	sf	0.30 \$	52,731
Total - 8 Function Equipment & Specialties				\$ 1,071,979

9 Stairs and Vertical Transportation

Metal pan stairs, concrete fill, railing, paint 4'0" wide, tread and riser, floor-to-floor	18	ea	12,900.00 \$	232,200
Elevators, hydraulic				
Passenger, 4-stop	3	ea	116,000.00 \$	348,000
Passenger, 5-stop	1	ea	136,000.00 \$	136,000
Elevator pit ladder	3	ea	1,170.00 \$	3,510
Total - 9 Stairs and Vertical Transportation				\$ 719,710

10 Plumbing Systems

Plumbing allowance	175,771	sf	23.00 \$	4,042,738
Premium for grey water system	175,771	sf	4.00 \$	703,085
Premium for solar water heating	175,771	sf	2.00 \$	351,542
Total - 10 Plumbing Systems				\$ 5,097,365

11 HVAC

HVAC allowance, 4-pipe fancoils (excludes central plant)	175,771	sf	23.00 \$	4,042,738
Total - 11 HVAC				\$ 4,042,738

12 Electrical Lighting, Power & Communications

Lighting & Power				
Service & Distribution	175,771	sf	5.00 \$	878,856
Convenience Power	175,771	sf	3.50 \$	615,199

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Phase 2 Residence Halls Detail Elements

Element	Quantity	Unit	Unit Cost	Total
HVAC Equipment connection	175,771	sf	1.50 \$	263,657
Lighting and Lighting Control	175,771	sf	8.00 \$	1,406,170
Emergency transfer switches	175,771	sf	0.30 \$	52,731
Special Low Voltage Systems				
Fire Alarm System	175,771	sf	2.30 \$	404,274
Telephone/Data system (boxes and conduit)	175,771	sf	1.00 \$	175,771
CATV System (boxes and conduit)	175,771	sf	0.50 \$	87,886
Security/CCTV System	175,771	sf	0.25 \$	43,943
Total - 12 Electrical Lighting, Power & Communications				\$ 3,928,487

13 Fire Protection Systems

Fire Sprinklers, NFPA 13	175,771	sf	4.00 \$	703,085
Total - 13 Fire Protection Systems				\$ 703,085

15 Site Paving, Structures & Landscaping

Phase 2 Courtyards / Gardens

Hardscape

Concrete paving, standard	17,000	sf	7.50 \$	127,500
Enhanced concrete plaza	2,000	sf	10.50 \$	21,000
Decomposed granite paving	3,000	sf	2.50 \$	7,500

Landscaping, Planting & Maintenance

Topsoil, fertilizer & fine grading	93,000	sf	0.50 \$	46,500
Shrubs and groundcover	88,000	sf	5.50 \$	484,000
Turf	5,000	sf	0.50 \$	2,500
Canopy trees, 15 gallon	48	ea	145.00 \$	6,960
Canopy trees, 24" box	60	ea	550.00 \$	33,000
Specimen trees, 32" box	3	ea	1,150.00 \$	3,450
Landscape maintenance - 90 days	1	ls	25,000.00 \$	25,000

Irrigation System

Planting and lawn area irrigation	93,000	sf	1.75 \$	162,750
Landscape drainage	93,000	sf	1.25 \$	116,250

Site Lighting

Phase 2 Residence Halls Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Pedestrian lighting	20	ea	2,500.00 \$	50,000
Seat Walls / Site Furnishings				
Concrete seat walls, 18" x 18"	400	lf	250.00 \$	100,000
Benches & tables	12	ea	550.00 \$	6,600
Bike racks	1	ls	15,000.00 \$	15,000
Trash receptacles	1	ls	10,000.00 \$	10,000
Recycling receptacles	1	ls	10,000.00 \$	10,000
Miscellaneous site furnishings, allowance	1	ls	10,000.00 \$	10,000
Site Specialties				
Bollards	1	ls	5,000.00 \$	5,000
Traffic and wayfinding signage	1	ls	15,000.00 \$	15,000
Miscellaneous site specialties	1	ls	25,000.00 \$	25,000
Total - 15 Site Paving, Structures & Landscaping			\$	1,283,010

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Phase 2 Glasgow Conference Center & Catering Kitchen

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Phase 2 Glasgow Conference Center & Catering Kitchen

Catering Kitchen	1,400 SF
4-Person Sales Office / Waiting Area / Conference Room	720
4-Person Production Office / Conference Room	480
Conference Room	120
Receiving/Storekeeper's Office	80
Storage	2,190 SF
Equipment Storage	360
Props Storage	180
Linen Storage	120
China, Glass, Silver Storage	300
Paper Storage	450
Dry Food Storage	350
Refrigerated/Frozen Storage	350
Liquor Storage	80
Production	900 SF
Cold Food Production	400
Hot Food Production	300
Catering Staging	200
Sanitation	1,260 SF
Warewashing	800
Potwashing	240
Chemical Storage	100
Cart Washing	120
Support	970 SF
Custodial Equipment Room	150
Janitor's Closet	120
Staff Restrooms/Lockers	350
Receiving Area	200
Employee Break Room	150
Loading Dock	416 SF
Landfill Dumpster	32
Cardboard Compactor	160
Recycling Dumpster	64
Composting Dumpster	128
Waste Oil	32

Phase 2 Glasgow Conference Center & Catering Kitchen

	Quantity	SF / Unit	
Conference Services			1,710 SF
Administrative Assistant	1 EA	120	120
Service Desk - Mail & Equipment	1 EA	150	150
Conference Manager	1 EA	120	120
Sales Manager	1 EA	120	120
Conference Coordinator	2 EA	120	240
Financial Analyst	1 EA	120	120
Waiting / Reception	1 EA	120	120
Student Staff (20) Work Area	1 EA	720	720
Meeting / Academic Programs			19,150 SF
Multi-Purpose (Sub-dividable)	1 EA	7,500	7,500
Pre-Function Area	1 EA	3,750	3,750
Catering Pantry	1 EA	1,500	1,500
AV Equipment Room	1 EA	200	200
Table and Chair Storage	1 EA	750	750
Seminar / Board Room	1 EA	500	500
Meeting Room (250 seats)	1 EA	1,500	1,500
Meeting Room (200 seats)	1 EA	1,200	1,200
Meeting Room (150 seats)	1 EA	900	900
Meeting Room (100 seats)	1 EA	600	600
Meeting Room (75 seats)	1 EA	450	450
Meeting Room (50 seats)	1 EA	300	300
Support Spaces			2,880 SF
Mechanical / Electrical Space	1 EA	1,800	1,800
Public Restrooms	4 EA	150	600
Housekeeping / Custodial Storage	1 EA	120	120
Trash / Recycle Room	1 EA	120	120
Telecommunication Closet	2 EA	120	240
Corridors / Circulation			20,584 SF
Interior Corridors / Circulation (efficiency ratio of 60%)			20,584
Total Gross Floor Area			51,460 SF

Source: 2008 Strategic Plans for Student Housing Update

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Phase 2 Glasgow Conference Center & Catering Kitchen Construction Cost Summary

Element	Gross Area: 51,460 GSF	Total	Cost / SF
1 Foundations		\$ 1,457,023	28.31
2 Vertical Structure		\$ 358,470	6.97
3 Floor & Roof Structures		\$ 1,841,396	35.78
4 Exterior Cladding		\$ 1,796,612	34.91
5 Roofing and Waterproofing		\$ 401,388	7.80
A) Shell (1-5)		\$ 5,854,889	113.78
6 Interior Partitions, Doors and Glazing		\$ 931,426	18.10
7 Floor, Wall and Ceiling Finishes		\$ 1,111,536	21.60
B) Interiors (6-7)		\$ 2,042,962	39.70
8 Function Equipment and Specialties		\$ 1,465,636	28.48
9 Stairs and Vertical Transportation		\$ -	-
C) Equipment and Vertical Transportation (8-9)		\$ 1,465,636	28.48
10 Plumbing Systems		\$ 888,688	17.27
11 HVAC		\$ 1,904,020	37.00
12 Electrical Lighting, Power and Communications		\$ 1,399,405	27.19
13 Fire Protection Systems		\$ 207,898	4.04
D) Mechanical and Electrical (10-13)		\$ 4,400,011	85.50
14 Site Preparation and Demolition		\$ -	-
15 Site Paving, Structures & Landscaping		\$ -	-
16 Utilities on Site		\$ -	-
E) Site Construction (14-16)		\$ -	-
Building & Site Construction (1 - 16)		\$ 13,763,498	267.46
Gen'l Cond, Bonds & Insurance	10.0%	\$ 1,376,350	26.75
General Contractor's Fee	5.0%	\$ 756,992	14.71
Design Contingency	10.0%	\$ 1,589,684	30.89
TOTAL ESTIMATED CONSTRUCTION COST		\$ 17,486,525	339.81
Escalation to Beginning of Construction BOC		\$ -	
TOTAL ESTIMATED CONSTRUCTION COST		\$ 17,486,525	339.81

Phase 2 Glasgow Conference Center & Catering Kitchen Detail Elements

Element	Quantity	Unit	Unit Cost	Total
<u>1 Foundations</u>				
Standard foundations				
Mat slab	51,460	sf	24.20 \$	1,245,332
Reinforced Concrete Walls				
Concrete wall footings	222	lf	65.70 \$	14,585
Concrete walls	4,067	sf	42.40 \$	172,441
Waterproofing	4,067	sf	4.80 \$	19,522
Foundation drain system	275	lf	18.70 \$	5,143
Total - 1 Foundations			\$	1,457,023

2 Vertical Structure

Structural Steel				
Columns, beams, braced frames, (4# per sf)	103	tn	3,180.00 \$	327,286
Fireproofing				
Structural steel	103	tn	303.00 \$	31,185
Total - 2 Vertical Structure			\$	358,470

3 Floor & Roof Structures

Upper floors & roof				
Upper floors structural steel beams & girders (12# / sf)	309	tn	3,180.00 \$	981,857
Metal deck at upper floors, concrete fill	51,460	sf	8.90 \$	457,994
Fireproofing	309	tn	252.50 \$	77,962
Roof screens	1	ls	75,800.00 \$	75,800
Loading dock concrete	785	sf	75.80 \$	59,503
Misc metal fabrications	51,460	sf	3.00 \$	154,380
Seismic expansion joints	1	ls	25,300.00 \$	25,300
Concrete Housekeeping Pads	1,000	sf	8.60 \$	8,600
Total - 3 Floor & Roof Structures			\$	1,841,396

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Element	Quantity	Unit	Unit Cost	Total
<u>4 Exterior Cladding</u>				
Exterior Skin, glass, doors	14,297	sf	65.70 \$	939,300
Exterior Skin, brick	21,445	sf	22.20 \$	476,083
Exterior Skin, cement plaster	21,445	sf	8.60 \$	184,429
Exterior canopies	1	ls	177,000.00 \$	177,000
Dock doors, roll-up	3	ea	6,600.00 \$	19,800
Total - 4 Exterior Cladding				\$ 1,796,612
<u>5 Roofing and Waterproofing</u>				
Single ply roofing system				
Flat roofing, insulation, roof accessories	25,730	sf	10.60 \$	272,738
Sheet metal allowance	51,460	sf	2.50 \$	128,650
Total - 5 Roofing and Waterproofing				\$ 401,388
<u>6 Interior Partitions, Doors and Glazing</u>				
Partitions, shafts, column enclosures and insulation	51,460	sf	15.20 \$	782,192
Interior Doors, Frames and Finished Hardware	51,460	sf	2.00 \$	102,920
Special doors	51,460	sf	0.60 \$	30,876
Sidelites and other interior glazing	51,460	sf	0.30 \$	15,438
Total - 6 Interior Partitions, Doors and Glazing				\$ 931,426
<u>7 Floor, Wall and Ceiling Finishes</u>				
Floors				
Carpet, terrazzo, ceramic / resilient tile, concrete sealer	51,460	sf	7.30 \$	375,658
Bases				
Resilient, tile and wood	51,460	sf	0.60 \$	30,876
Wall finishes, paint, tile, wall covering	51,460	sf	3.50 \$	180,110
Ceiling				

Phase 2 Glasgow Conference Center & Catering Kitchen Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Ceilings, gypboard, acoustical, soffits & bulkheads	51,460	sf	6.20 \$	319,052
Special ceilings, soffits, allow	51,460	sf	4.00 \$	205,840
Total - 7 Floor, Wall and Ceiling Finishes				\$ 1,111,536

8 Function Equipment and Specialties

Toilet & misc. specialties	51,460	sf	1.00 \$	51,460
Lockers	1,000	ea	65.70 \$	65,700
Signage package	51,460	sf	0.40 \$	20,584
Graphics and menu-signage, allow	1	ls	75,800.00 \$	75,800
Casework				
Casework and shelving, allowance	51,460	sf	0.50 \$	25,730
Built-in seating, allow	51,460	sf	1.50 \$	77,190
Millwork & trim	51,460	sf	1.00 \$	51,460
Kitchen equipment				
Serving platforms	1	ls	451,000.00 \$	451,000
Production kitchen	1	ls	274,000.00 \$	274,000
Warewashing	1	ls	131,000.00 \$	131,000
Support	1	ls	7,100.00 \$	7,100
Accordion folding partition	888	sf	65.70 \$	58,342
Projection screens	2	ea	8,585.00 \$	17,170
Dock levelers, bumpers, etc	3	ea	12,600.00 \$	37,800
Trash compactor, allow	1	ls	75,800.00 \$	75,800
Bailer, allow	1	ls	45,500.00 \$	45,500
Total - 8 Function Equipment and Specialties				\$ 1,465,636

10 Plumbing Systems

Plumbing allowance, general	44,324	sf	12.00 \$	531,888
Plumbing allowance, kitchen	7,136	sf	50.00 \$	356,800
Total - 10 Plumbing Systems				\$ 888,688

COST PLAN SUMMARY

University of California, Riverside
 Dundee Residence Halls Phase 1 & 2
 DPP Cost Plan

09-00330.00
 August 24, 2009

Phase 2 Glasgow Conference Center & Catering Kitchen Detail Elements

Element	Quantity	Unit	Unit Cost	Total
<u>11 HVAC</u>				
HVAC allowance	51,460	sf	37.00 \$	1,904,020
Total - 11 HVAC			\$	1,904,020
<u>12 Electrical Lighting, Power & Communications</u>				
Lighting & Power				
Service & Distribution	51,460	sf	5.00 \$	257,300
Central plant equipment panels, mcc ect	189	ton	350.00 \$	66,150
Chiller redundancy, 60% switchboard ect	114	ton	350.00 \$	39,900
Convenience Power	51,460	sf	5.00 \$	257,300
HVAC Equipment connection	51,460	sf	2.50 \$	128,650
Central plant equipment connection	189	ton	150.00 \$	28,350
Chiller redundancy, 60% connection	114	ton	150.00 \$	17,100
Lighting and Lighting Control	51,460	sf	7.00 \$	360,220
Special Low Voltage Systems				
Fire Alarm System	51,460	sf	2.30 \$	118,358
Telephone/Data system (boxes and conduit)	51,460	sf	0.50 \$	25,730
PA System	51,460	sf	0.60 \$	30,876
CATV System (boxes and conduit)	51,460	sf	0.25 \$	12,865
Security/CCTV System	51,460	sf	0.80 \$	41,168
Core drilling, firestopping	51,460	sf	0.30 \$	15,438
Total - 12 Electrical Lighting, Power & Communications			\$	1,399,405
<u>13 Fire Protection Systems</u>				
Fire Sprinklers	51,460	sf	4.04 \$	207,898
Total - 13 Fire Protection Systems			\$	207,898

University of California, Riverside
Dundee Residence Halls Phase 1 & 2
DPP Cost Plan (R1)



Prepared by Cumming

COST PLAN SUMMARY

University of California, Riverside
 Dundee Residence Halls Phase 1 & 2
 DPP Cost Plan (R1)

09-00330.00
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Phase 2 Site Development Construction Cost Summary

Element	Site Area: 557,000 SF	Total	Cost / SF
1 Foundations		\$ -	-
2 Vertical Structure		\$ -	-
3 Floor & Roof Structures		\$ -	-
4 Exterior Cladding		\$ -	-
5 Roofing and Waterproofing		\$ -	-
A) Shell (1-5)		\$ -	-
6 Interior Partitions, Doors and Glazing		\$ -	-
7 Floor, Wall and Ceiling Finishes		\$ -	-
B) Interiors (6-7)		\$ -	-
8 Function Equipment and Specialties		\$ -	-
9 Stairs and Vertical Transportation		\$ -	-
C) Equipment and Vertical Transportation (8-9)		\$ -	-
10 Plumbing Systems		\$ -	-
11 HVAC		\$ -	-
12 Electrical Lighting, Power and Communications		\$ -	-
13 Fire Protection Systems		\$ -	-
D) Mechanical and Electrical (10-13)		\$ -	-
14 Site Preparation and Demolition		\$ 1,136,852	2.04
15 Site Paving, Structures & Landscaping		\$ 4,616,415	8.29
16 Utilities on Site		\$ 1,156,616	2.08
E) Site Construction (14-16)		\$ 6,909,883	12.41
Building & Site Construction (1 - 16)		\$ 6,909,883	12.41
Gen'l Cond, Bonds & Insurance	10.0%	\$ 690,988	1.24
General Contractor's Fee	5.0%	\$ 380,044	0.68
Design Contingency	10.0%	\$ 798,091	1.43
TOTAL ESTIMATED CONSTRUCTION COST		\$ 8,779,006	15.76
Escalation to Beginning of Construction BOC		\$ -	-
TOTAL ESTIMATED CONSTRUCTION COST		\$ 8,779,006	15.76

Phase 2 Site Development Detail Elements

Element	Quantity	Unit	Unit Cost	Total
<u>14 Site Preparation and Demolition</u>				
Demolition				
Hazmat abatement, allow	47	ea	3,500.00 \$	164,500
Demo existing housing units	47	ea	7,500.00 \$	352,500
Site Demolition				
Clear site	557,000	sf	0.40 \$	222,800
Grading and clearing				
Overexcavate and recompact under structures	33,872	cy	3.50 \$	118,552
Rough grade	557,000	sf	0.30 \$	167,100
Fine grade	557,000	sf	0.10 \$	55,700
Erosion control, allowance	557,000	sf	0.10 \$	55,700
Total - 14 Site Preparation and Demolition				\$ 1,136,852

15 Site Paving, Structures and Landscaping

Hardscape				
Concrete paving	75,570	sf	7.50 \$	566,775
Curb and gutter, concrete	6,974	lf	18.00 \$	125,525
Asphalt paving	118,697	sf	2.80 \$	332,352
Asphalt paving, repairs	1	ls	10,000.00 \$	10,000
Striping, miscellaneous road markings	118,697	sf	0.10 \$	11,870
Accessible concrete curb cut ramps	4	ea	850.00 \$	3,400
Stairs on grade	115	lf	35.00 \$	4,025
Retaining walls				
Retaining wall footings	1,517	lf	75.00 \$	113,805
Retaining walls	10,481	sf	42.00 \$	440,219
Waterproofing retaining walls	11,005	sf	3.50 \$	38,518
Foundation drainage	1,688	lf	18.50 \$	31,219
Other site improvements				
Trash enclosures	3	ea	23,000.00 \$	69,000
CMU screen wall	860	lf	160.00 \$	137,600
Wood Trellis	5,790	sf	40.00 \$	231,600
Site signage, allow	1	ls	25,000.00 \$	25,000

COST PLAN SUMMARY

University of California, Riverside
 Dundee Residence Halls Phase 1 & 2
 DPP Cost Plan (R1)

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Phase 2 Site Development Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Site furnishings	1	ls	115,000.00 \$	115,000
Pool	1,375	sf	120.00 \$	165,000
Cabana	1	ls	20,000.00 \$	20,000
Landscaping				
Canopy trees, 15 gallon	65	ea	145.00 \$	9,396
Canopy trees, 24" box	81	ea	550.00 \$	44,550
Specimen trees, 32" box	10	ea	1,150.00 \$	11,500
Screening trees, allow	60	ea	1,500.00 \$	90,000
Lush groundcover, allow	5,000	sf	25.00 \$	125,000
Turf including soil prep	355,759	sf	0.80 \$	284,607
90 days maintenance	3	mo	5,500.00 \$	16,500
Irrigation				
Planting and lawn area irrigation	360,759	sf	1.80 \$	649,367
Landscape drainage	360,759	sf	1.30 \$	468,987
Electrical Site Lighting	557,000	sf	0.80 \$	445,600
Emergency blue light security system	2	ea	15,000.00 \$	30,000
Total - 15 Site Paving, Structures and Landscaping				\$ 4,616,415

16 Utilities on Site

Electrical Site Utilities				
Electrical Site Utilities	1	ls	131,208.00 \$	131,208
Telephone Data Site Utilities	1	ls	65,604.00 \$	65,604
Site substation transformers and 500 kva generator, prorated cost across all site phases	1	ls	323,400.00 \$	323,400
Wet utilities				
Domestic Water & fire service				
Point of connection	3	ea	5,600.00 \$	16,800
6" PVC	650	lf	72.00 \$	46,800
8" PVC	1,200	lf	78.00 \$	93,600
Double detector check	3	ea	12,800.00 \$	38,400
Post Indicator valve	6	ea	2,400.00 \$	14,400
Fire hydrant, allow	6	ea	7,200.00 \$	43,200
Fire department connection	6	ea	2,400.00 \$	14,400

Phase 2 Site Development Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Gas service, allow	156	lf	48.00 \$	7,488
Gas meter	3	ea	4,000.00 \$	12,000
Storm drain				
Point of connection	2	ea	4,000.00 \$	8,000
Catch basin	26	ea	3,520.00 \$	91,520
SDR 35, 12"	1,500	lf	104.00 \$	156,000
8" PVC	770	lf	78.00 \$	60,060
Sanitary Sewer				
Sewer, demolition	139	lf	24.00 \$	3,336
4" - 6" laterals, allow	400	lf	56.00 \$	22,400
Point of connection	2	ea	4,000.00 \$	8,000
Total - 16 Utilities on Site				\$ 1,156,616

COST PLAN SUMMARY

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University of California, Riverside
Dundee Residence Halls Phase 1 & 2
DPP Cost Plan (R1)



Prepared by Cumming

COST PLAN SUMMARY

University of California, Riverside
 Dundee Residence Halls Phase 1 & 2
 DPP Cost Plan (R1)

09-00330.00
 August 24, 2009

Phase 2 Surface Parking Construction Cost Summary

Element	Site Area: 56,250 SF 150 Parking Spaces	Total	Cost / SF
1 Foundations		\$ -	-
2 Vertical Structure		\$ -	-
3 Floor & Roof Structures		\$ -	-
4 Exterior Cladding		\$ -	-
5 Roofing and Waterproofing		\$ -	-
A) Shell (1-5)		\$ -	-
6 Interior Partitions, Doors and Glazing		\$ -	-
7 Floor, Wall and Ceiling Finishes		\$ -	-
B) Interiors (6-7)		\$ -	-
8 Function Equipment and Specialties		\$ -	-
9 Stairs and Vertical Transportation		\$ -	-
C) Equipment and Vertical Transportation (8-9)		\$ -	-
10 Plumbing Systems		\$ -	-
11 HVAC		\$ -	-
12 Electrical Lighting, Power and Communications		\$ -	-
13 Fire Protection Systems		\$ -	-
D) Mechanical and Electrical (10-13)		\$ -	-
14 Site Preparation and Demolition		\$ 59,578	1.06
15 Site Paving, Structures & Landscaping		\$ 347,155	6.17
16 Utilities on Site		\$ 53,700	0.95
E) Site Construction (14-16)		\$ 460,433	8.19
Building & Site Construction (1 - 16)		\$ 460,433	8.19
General Conditions, Bonds & Insurance	10.0%	\$ 46,043	0.82
General Contractor's Fee	5.0%	\$ 25,324	0.45
Design Contingency	10.0%	\$ 53,180	0.95
TOTAL ESTIMATED CONSTRUCTION COST		\$ 584,980	10.40
Escalation to Beginning of Construction BOC		\$ -	-
TOTAL ESTIMATED CONSTRUCTION COST		\$ 584,980	10.40

Phase 2 Surface Parking Detail Elements

Element	Quantity	Unit	Unit Cost	Total
<u>14 Site Preparation and Demolition</u>				
Site clearing & grubbing	56,250	sf	0.40 \$	22,500
Grading and clearing				
Overexcavate and recompact under structures	2,558	cy	3.50 \$	8,953
Site grading	56,250	sf	0.40 \$	22,500
Erosion control, allowance	56,250	sf	0.10 \$	5,625
Total - 14 Site Preparation and Demolition			\$	59,578
<u>15 Site Paving, Structures and Landscaping</u>				
Hardscape				
Concrete paving	3,975	sf	6.50 \$	25,838
Curb and gutter, concrete	3,263	lf	18.00 \$	58,727
Accessible ramp paving	378	sf	24.10 \$	9,110
Asphalt paving	56,250	sf	2.80 \$	157,500
Striping, standard stall	150	ea	18.00 \$	2,700
Striping, miscellaneous road markings	56,250	sf	0.10 \$	5,625
Stencil ADA parking symbols	3	ea	85.00 \$	255
Landscaping				
Screening trees, allow	12	ea	1,500.00 \$	18,000
Lush groundcover, allow	500	sf	25.00 \$	12,500
Turf including soil prep	2,000	sf	0.70 \$	1,400
90 days maintenance	3	mo	5,500.00 \$	16,500
Planting and lawn area irrigation	2,500	sf	1.80 \$	4,500
Parking equipment - Arm gate & card reader	2	ea	6,000.00 \$	12,000
Electrical Site Lighting	56,250	sf	0.40 \$	22,500
Total - 15 Site Paving, Structures and Landscaping			\$	347,155
<u>16 Utilities on Site</u>				
Storm drain - Catch basin & Point of connection	5	ea	6,740.00 \$	33,700
Storm drain - SDR 35, 8"	200	lf	100.00 \$	20,000
Total - 16 Utilities on Site			\$	53,700



6: CANYON CREST PRECINCT PLAN UPDATE

2009 Canyon Crest Precinct Plan Description
Canyon Crest Precinct Plan Evolution

The proposed Canyon Crest Precinct Plan Update reflects the layout of the precinct plan resultant of the work done in the course of developing the 2009 Dundee Residence Halls DPP and the accompanying workshops. Previous UCR strategic plans for the precinct were used as a foundation for the DPP and workshop process and are included for reference.

vision users community connections flexibility sustainability technology operations security design layers accessibility diversity safety respect opportunity educational experiential timeless efficiency practical logical identity viability collaboration productive **future** native active integrated scale performance variety indoor/outdoor innovative vision users community **connections** flexibility sustainability technology operations security design layers accessibility diversity safety respect opportunity educational experiential timeless efficiency practical logical identity viability collaboration productive future native active integrated scale performance variety **indoor/outdoor** innovative vision users community connections flexibility sustainability technology operations security **design** layers accessibility diversity safety respect opportunity educational experiential timeless efficiency practical logical **identity** viability collaboration productive future native active integrated **scale** performance variety indoor/outdoor innovative vision users **community** connections flexibility sustainability technology operations security design layers accessibility diversity safety respect opportunity educational **experiential** timeless efficiency practical

6: CANYON CREST PRECINCT PLAN UPDATE

2009 CANYON CREST PRECINCT PLAN DESCRIPTION

2009 CANYON CREST PRECINCT PLAN

PRECINCT PLAN:

The proposed program described in the 2009 Dundee Residence Hall DPP carries forward all the program elements previously identified in the Canyon Crest Precinct portion of the 2008 Strategic Plan for Student Housing.

The proposed 2009 Canyon Crest Precinct plan includes: approximately 3000 residence hall beds, 336 group housing beds, 900 surface parking spaces, 250 parking structure spaces, a 450 seat dining commons, a conference facility, café programs (formerly termed convenience store or retail deli), recreation fields and a pool. The dining and conference facilities are proposed as a combined structure for efficient use of space and ease of operations.

PROS:

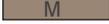
- The building complexes achieve their identity and organization through a series of clustered courtyards of different scales and characteristics.
- The primary dining/conference facility and associated primary open civic space form the focal point of the site as well as providing a visual and physical link to and from Aberdeen Drive.
- The recreation fields are adjacent to the recreation center complex.
- Group housing brings activity and campus presence to Blaine Street, while providing the users with opportunities for independent identities.

In support of the 2008 SPSH principles of planning to form strong visual and physical links between the Canyon Crest Precinct and the main campus, reorganization of the site plan layout was studied and resulted in the following proposals:

- The precinct plan is organized around two main north-south axis which extend from Linden Street through to Blaine Street:
 - 1) Aberdeen Mall with origins at the intersection of Linden Street and Aberdeen Drive
 - 2) Recreation Mall Extension at the intersection of Linden Street and the Recreation Mall
- All housing is grouped to the east of the Recreation Mall Extension around a primary civic open space. The Aberdeen Mall intersects the primary open space. The underlying intent is to promote activity and interaction as well as support a cohesive housing community on the scale of both the individual community and the greater Canyon Crest Precinct.
- The recreation fields are to the west of the Recreation Mall and maintain a link to the recreation complex to the south. Two of the fields are moved north, farther from the Student Recreation Center than in prior plans, but closer to the recreation fields at the corner of Canyon Crest Drive and Blaine Street.
- Surface parking is located adjacent to the Dundee, Lennox and Edinburgh communities, but is consolidated to minimize vehicular intrusion into the pedestrian housing zone and to land bank areas for future development. Vehicular through-traffic in the Canyon Crest Precinct is only from the Watkins Drive entrance to Linden Street.

The proposed 2009 Dundee Residence Halls DPP and the associated update to the Canyon Crest Precinct Plan does not change the total acres or use of the land as proportioned in the 2005 LRDP. However, it does propose to re-define the location of part of the residence hall and recreation field land use at the southeast corner of the site, which would necessitate an amendment to the 2005 LRDP.

LEGEND:

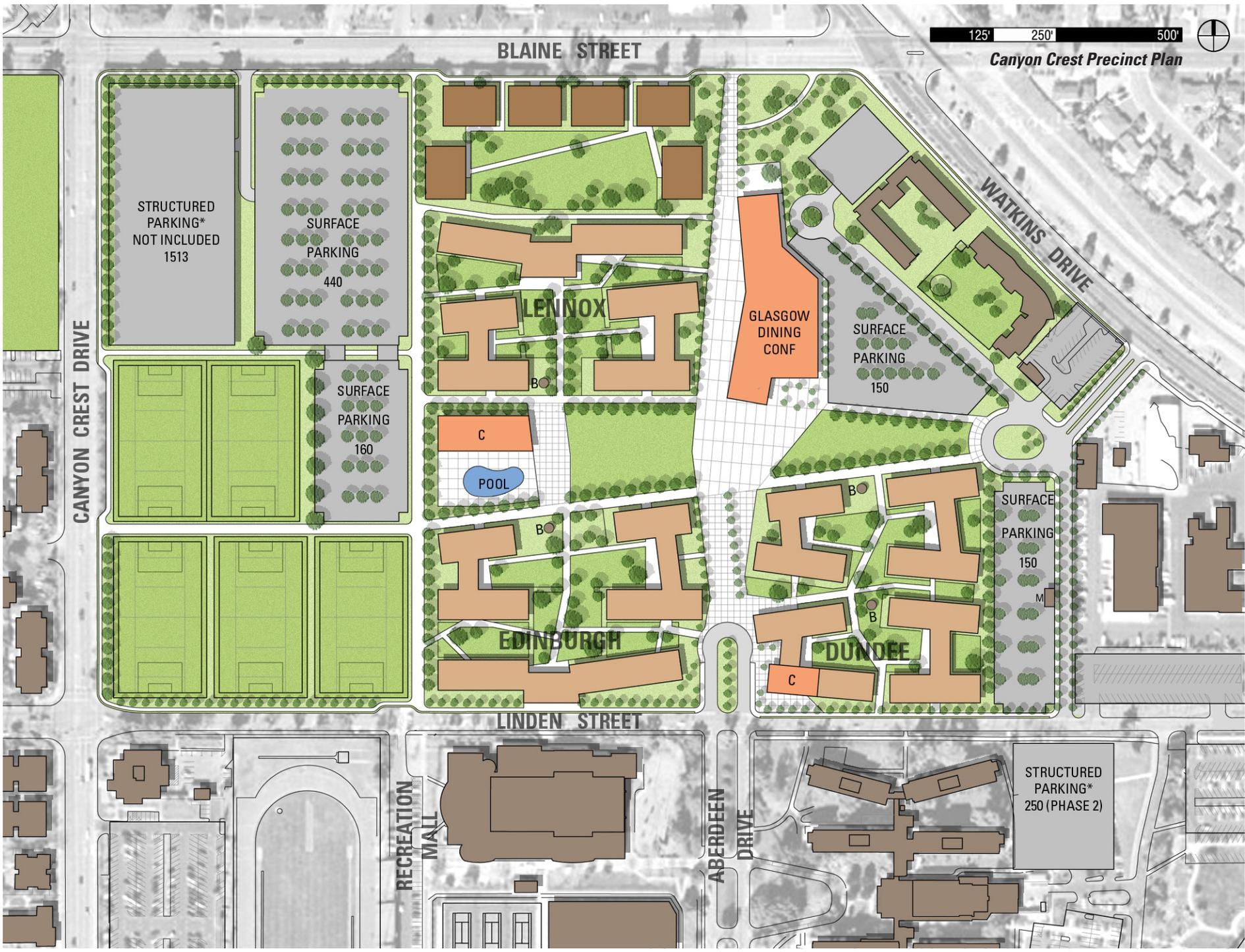
	HOUSING
	DINING / COMMUNITY FACILITIES
	CAFE
	BIKE PARKING
	GROUP HOUSING
	OTHER BUILDINGS
	MECHANICAL SPACE
	RECREATION FIELD
	COURTYARD / OPEN SPACE
	RECREATION POOL
	PARKING*

* Structured Parking at northwest corner: 1513 spaces total as described in the 2005 LRDP

* Lot 22 Structured Parking by Aberdeen-Inverness Residence Halls: 500 spaces total as described in SPSH 2008, 250 spaces will be available for Dundee Residence Halls Phase 2



Canyon Crest Precinct Plan



BLAINE STREET

CANYON CREST DRIVE

WATKINS DRIVE

LINDEN STREET

RECREATION MALL

ABERDEEN DRIVE

STRUCTURED PARKING*
NOT INCLUDED
1513

SURFACE
PARKING
440

SURFACE
PARKING
160

GLASGOW
DINING
CONF

SURFACE
PARKING
150

SURFACE
PARKING
150

STRUCTURED
PARKING*
250 (PHASE 2)

LENNOX

C

POOL

EDINBURGH

DUNDEE

B

B

B

B

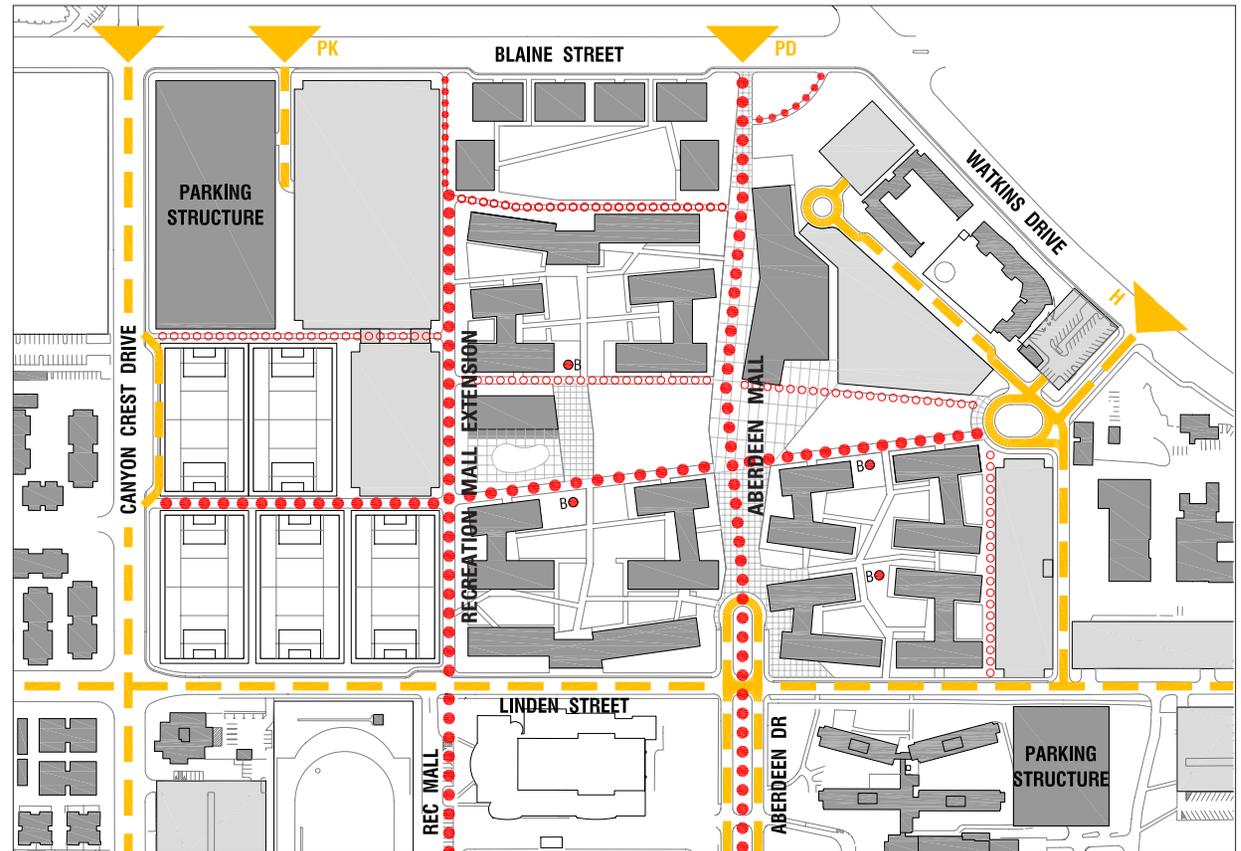
C

M

SITE CIRCULATION

In order to reinforce strong visual and physical links between the Canyon Crest Precinct and the main campus the site is organized around three primary circulation axis: the north/south Aberdeen Mall to Blaine St.; the north/south Recreation Mall Extension to Blaine St.; and the east/west pedestrian walkway from the Watkins Drive entry through to Canyon Crest Drive.

Secondary pedestrian circulation routes connect all Canyon Crest communities and support programs including the café, pool, and parking.



Site Circulation



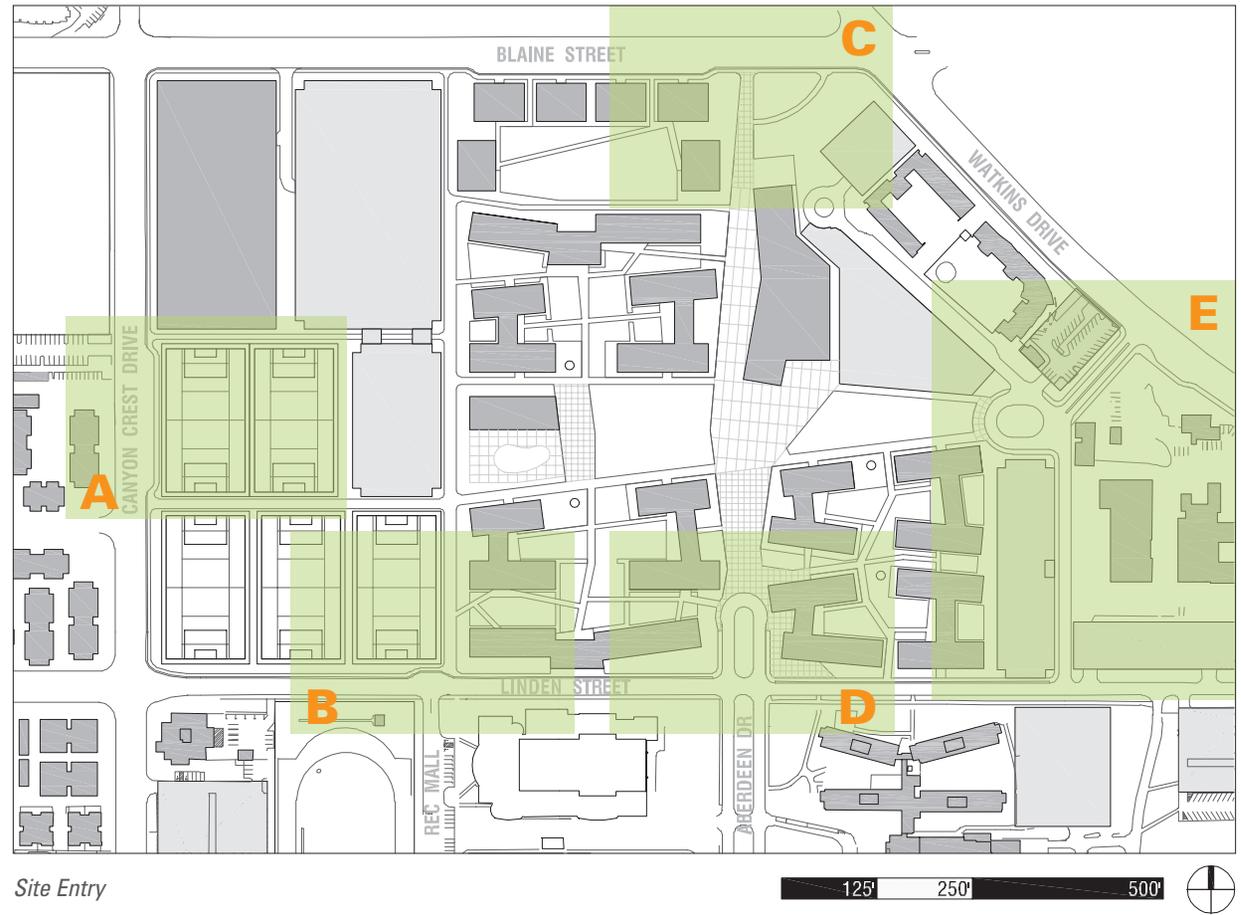
LEGEND:

- MAJOR PEDESTRIAN / BIKE CIRC.
- ○ ○ ○ ○ MINOR PEDESTRIAN / BIKE CIRC.
- B BIKE PARKING
- ■ ■ ■ ■ VEHICULAR CIRCULATION
- ▼ CAMPUS ENTRY
- ▼H HOUSING ENTRY
- ▼PD PEDESTRIAN / BIKE ENTRY
- ▼PK PARKING ENTRY
- SURFACE PARKING

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SITE ENTRANCES

Pedestrian entrances and/or vehicular drop-offs ring the Canyon Crest Precinct on all four streets that border the site. Through vehicular traffic is minimized and pedestrian traffic and connections within the community and to the core campus are maximized.





A: VEHICULAR DROP-OFF AT CANYON CREST DR. RECREATION FIELDS

The vehicular drop-off at the recreation fields along Canyon Crest Dr. provides access to the recreation fields directly to the east as well as access to the café and residence halls beyond.

B: RECREATION MALL EXTENSION VEHICULAR DROP-OFF AT LINDEN STREET

The vehicular drop off at the intersection of the Recreation Mall Extension and Linden Street provides access to the recreation fields located in the Canyon Crest Precinct as well as the adjacent residence halls to the east or the recreation facilities directly to the south.



C: ABERDEEN MALL TERMINATION AT BLAINE ST.

The termination of the Aberdeen Mall at Blaine Street forms a gateway for pedestrian traffic travelling to and from points north of campus southward towards the campus core.

D: ABERDEEN DRIVE EXTENSION AT LINDEN ST.

The Aberdeen Drive Extension at Linden St. will accommodate vehicular access to service the Residential Services Office (RSO) program as well as the café. A bus pullout will be integrated to accommodate the campus shuttle. Only pedestrian access will continue on the Aberdeen Mall north to Blaine St. The landscape context of Aberdeen Dr. south of Linden St. will be carried to the north with citrus and palm trees.



E: VEHICULAR ENTRY AT WATKINS DRIVE

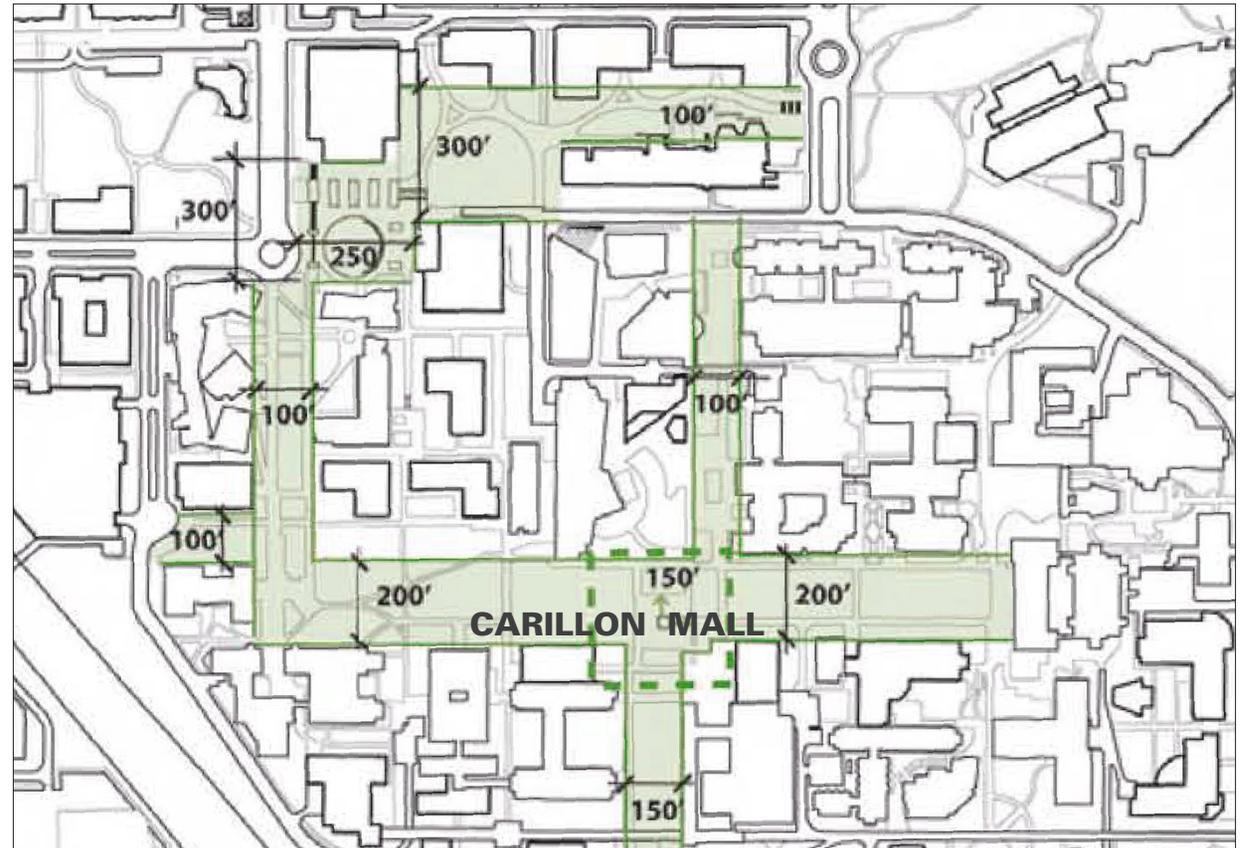
The Watkins Drive entrance is a major vehicular student housing campus entrance accommodating 5000-6000 students as well as conference attendees; the entrance will also serve as a connection to the Child Development Center parking lots; a bus pullout will be integrated to accommodate the campus shuttle.

OPEN SPACE CONTEXT ACADEMIC

UCR will maintain the large-scale vision for the campus open space by guiding the incremental growth of buildings and open space in a cohesive manner and using UCR's limited land base efficiently. *

To this effect, the accompanying regulating plan outlines the dimensions of significant open spaces on campus. The dimensions were established to achieve an open space scale appropriate to respective surrounding uses and character. The regulating plan provides build-to-lines to define face of exterior facade for future buildings in order to reinforce the shared campus open space system, maintain a cohesive well-scaled public realm and protect view corridors.

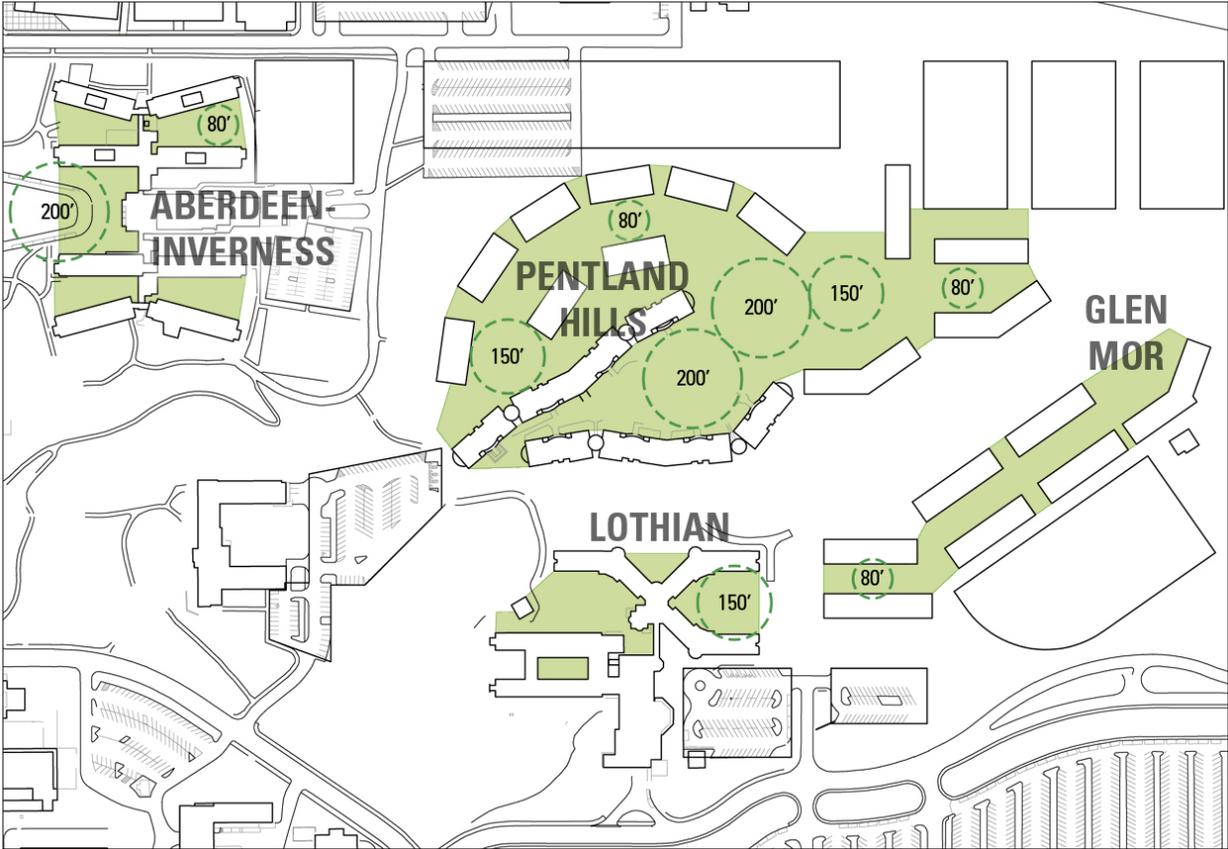
* Source: 2008 CAMPS, page 16



UCR Academic Open Space Regulating Plan
Source: 2008 CAMPS

OPEN SPACE CONTEXT RESIDENTIAL

The scale of the open spaces at the UCR residential neighborhoods adjacent to the Canyon Crest Precinct: Aberdeen-Inverness, Pentland Hills, Lothian and Glen Mor, are shown in the adjacent diagram.



UCR Residential Open Space Diagram



LANDSCAPE CONCEPT

DYNAMIC “CONTEMPORARY” COURTYARD CHARACTER

The Canyon Crest Precinct achieves its identity and organization through a series of outdoor courtyards and malls accommodating residence halls, food service, a conference facility, administrative and community spaces, and recreation fields. The varied sizes of the open spaces allow for both spontaneous and programmed uses.

The smaller commons and the primary civic space, respectively, provide focal points for each housing community as well as the overall Canyon Crest Precinct. The central open space is directly intersected by the axis of the Aberdeen Mall, a primary campus entry and view corridor. The residential courtyards are configured to provide secure exterior spaces with both social and environmental benefits. The intimate courtyards provide a heightened sense of community, a unique neighborhood identity, and a pleasant functional relationship between interior and exterior spaces. Further, the courtyards are scaled to be “self shading”, and to encourage air movement within and between them.

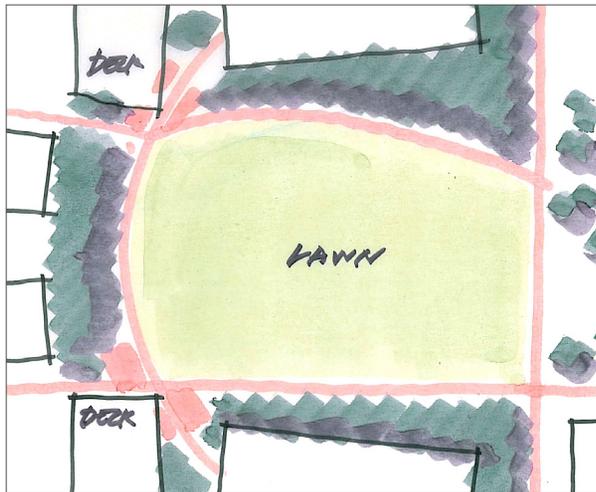
The courtyards will provide a significant degree of identity for the residents within the neighborhood, through size, scale and variety in the landscape material. The physical characteristics of the outdoor areas will be reinforced by the massing and the design of the exterior envelope of the surrounding buildings.



Canyon Crest Open Space Diagram

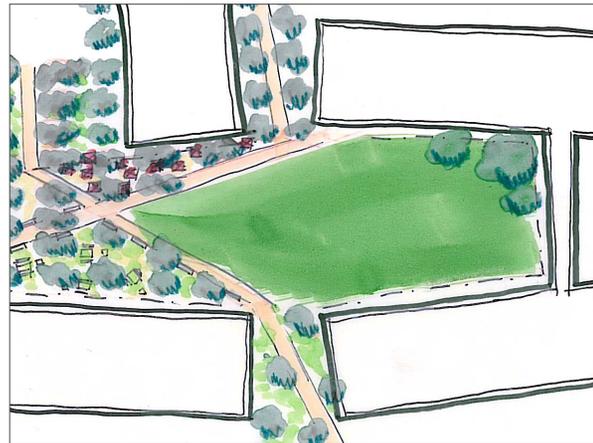
CONNECTIONS THROUGH OPEN SPACE

- The Canyon Crest Precinct is organized around a hierarchy of extra large, large and medium sized courtyards
- Communities are situated around a major central open space that serves as a collector of activity and social intersection
- Communities are connected through linked courtyards
- Each community has its own distinct central courtyard. The ultimate geometry of the buildings and their associated open spaces will be studied with respect to creating neighborhoods with diverse architectural character within the parameters of the UC Riverside Campus Guidelines.
- Open space is similar in size to other existing residential open spaces on campus



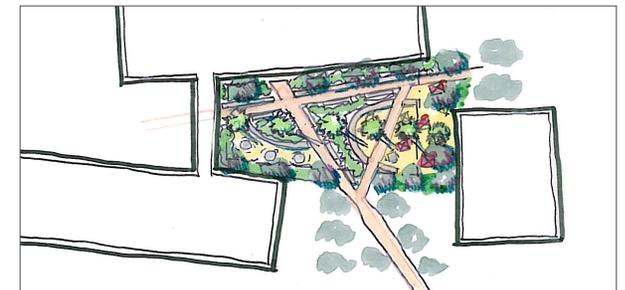
A: X-LARGE OPEN SPACE
(+/- 200' DIAMETER)

- Large open space/lawn for campus wide events (concerts, events, celebrations, orientations)
- Elliptical shapes, asymmetrical diagonal connections
- Ring of trees along perimeter
- Plazas and terraces open onto space
- Direct site and path lines
- Large masses of plant material



B: LARGE COURTYARD
(+/- 150' DIAMETER)

- Residence Hall Wide
- Large open lawn (outdoor movie night on projection screen, frisbee, sunbathing, etc.)
- Intersection paths that follow site lines and form use areas
- Mounds of grading that create interesting spaces
- Shade trees and drought tolerant shrubs and ground cover around perimeter
- Grids of picnic and BBQ areas



C: MEDIUM COURTYARD
(+/- 80' DIAMETER)

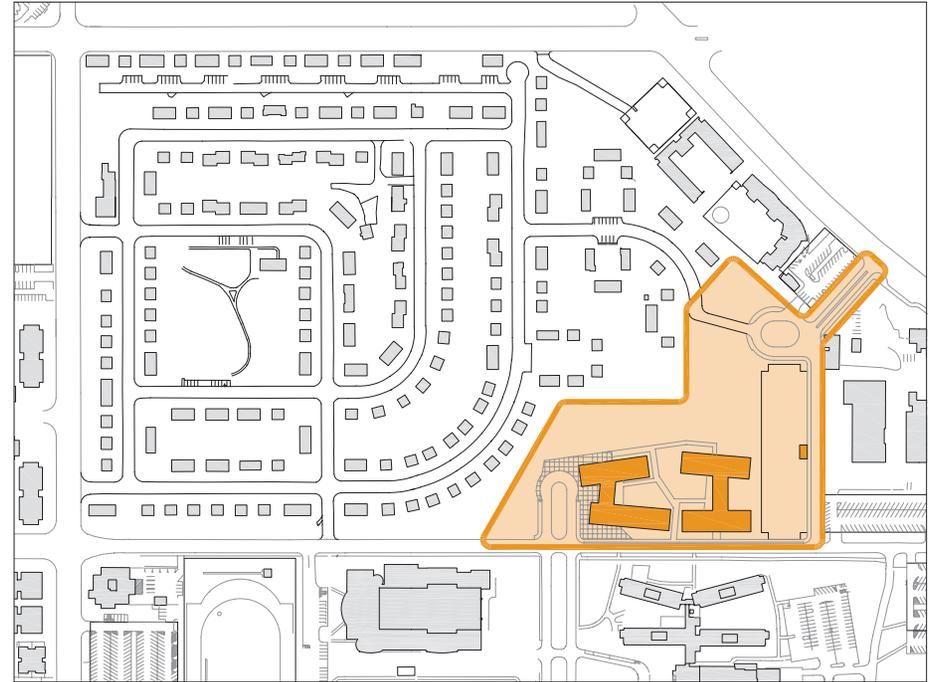
- Small areas of table and chairs and seat walls
- Geometric organization of small/intimate and individual spaces
- Diagonal lines of shade trees and plant material, sunny/shaded areas
- Geometric paving patterns and contemporary materials

PHASING & DEMOLITION

PHASE 1



Phase 1 Demolition
Demolition: +/- 53 units



Phase 1 Construction
Buildings: Dundee Residence Halls Phase 1

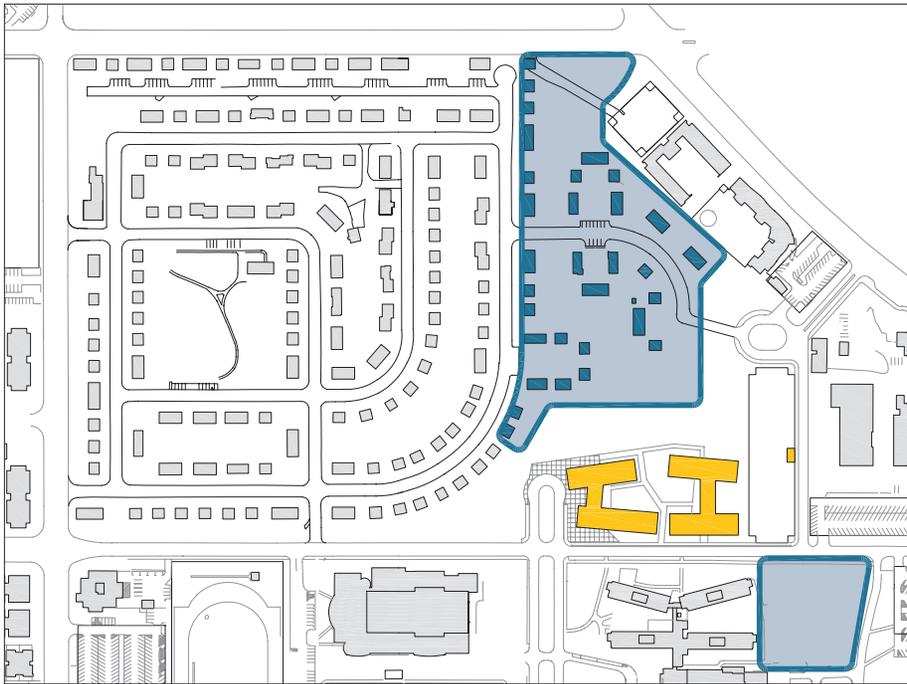


DEMOLITION STRATEGY

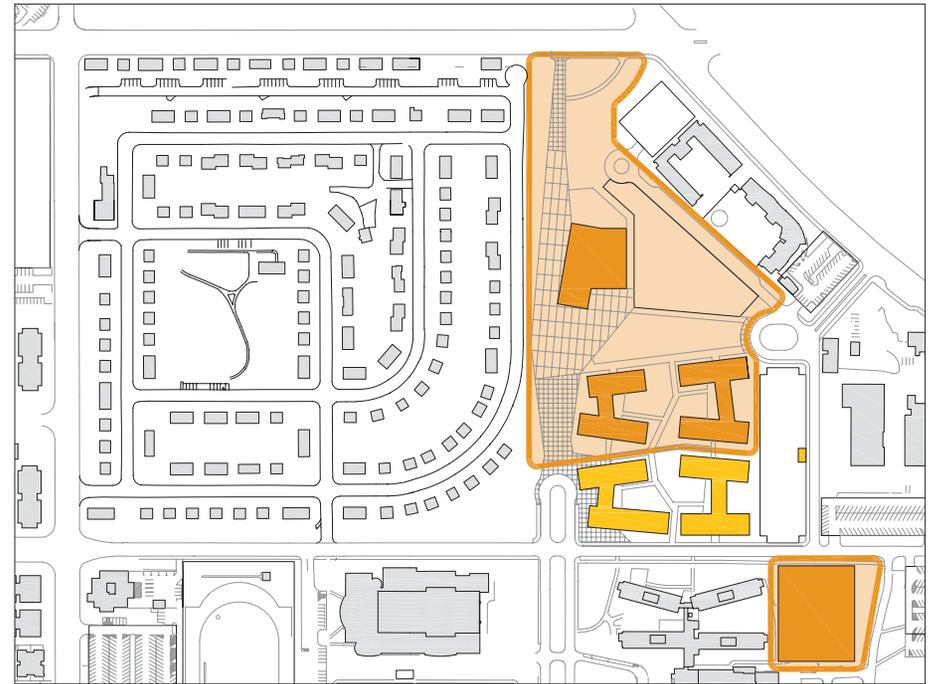
The goal of the demolition strategy in all phases is to maintain a consistent sense of community fabric for the residents of the existing single-story family housing while providing enough clear space around each building site for practical and efficient construction methods. Demolition and construction during Phases 1 and 2 should also be planned in a way that reduces the impact on the operation and needs of the existing Child Development Center.

In addition, the extent of demolition for each phase should take into consideration appropriate distances between the different typologies of the family housing and the new residence halls and supporting facilities which will be necessary as each phase is completed.

PHASE 2



Phase 2 Demolition
Demolition: +/- 47 units



Phase 2 Construction
Buildings: Dundee Residence Halls Phase 2,
Glasgow Conference Center /
Catering Kitchen
Lot 22 Structured Parking

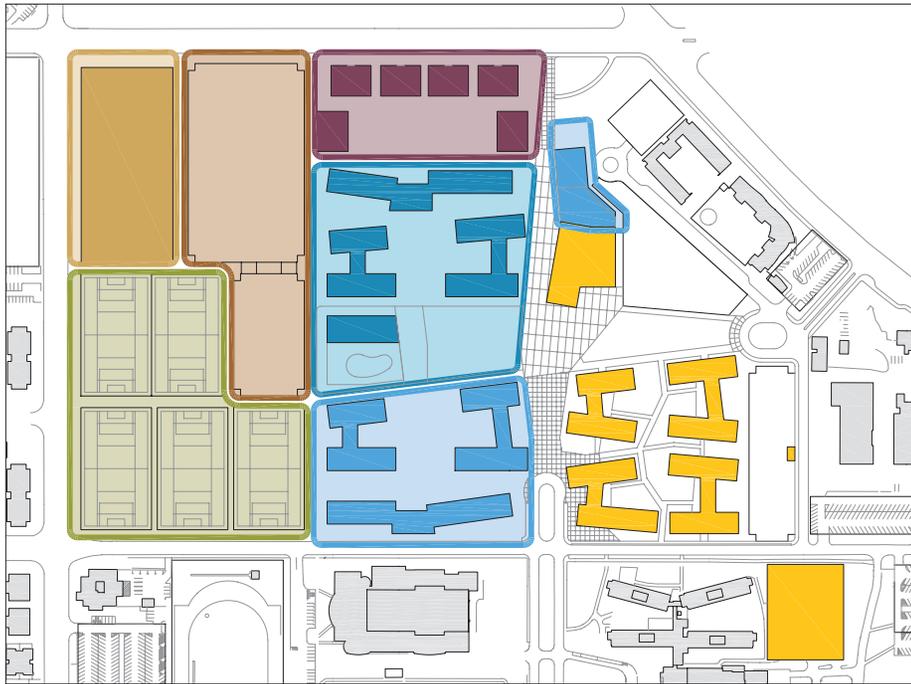
250' 500' 1000' 

LEGEND:

-  EXISTING BUILDING
-  CANYON CREST DEVELOPMENT
-  EXISTING BUILDING TO BE DEMOLISHED
-  ZONE OF DEMOLITION
-  NEW BUILDING
-  ZONE OF CONSTRUCTION

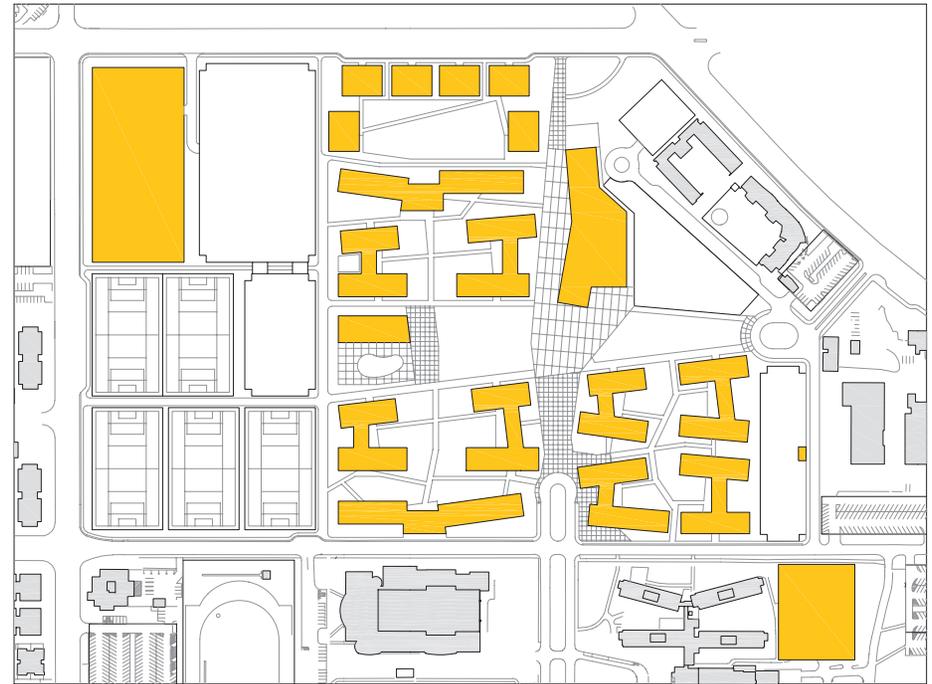
PHASING & DEMOLITION

FUTURE PHASES



Future Phases

- EDINBURGH RESIDENCE HALLS, GLASGOW DINING EXPANSION
- LENNOX RESIDENCE HALLS, POOL SIDE CAFÉ
- GROUP HOUSING
- RECREATION FIELDS
- SURFACE PARKING
- STRUCTURED PARKING



Final Build-out



LEGEND:

- EXISTING BUILDING
- CANYON CREST DEVELOPMENT

6: CANYON CREST PRECINCT PLAN UPDATE

CANYON CREST PRECINCT PLAN EVOLUTION

UCR STRATEGIC PLAN FOR HOUSING 2003 (SPH 2003)

The 2003 Canyon Crest Precinct Plan includes 3000 residence hall beds/803 parking spaces and 800 student apartment beds/400 parking spaces as well as a dining facility and recreation fields*

PROS:

- The residence halls and apartment buildings achieve their identity and organization through a series of clustered courtyards.
- The dining facility and primary civic open space is geographically centered in the development, providing a focal point for the neighborhood as well as providing a physical and visual link to and from Aberdeen Drive.
- The recreation fields are adjacent to the recreation center complex.
- The student apartments bring activity and campus presence to Blaine Street.

CONS:

- Within the Canyon Crest Precinct, the student apartment communities and the residence hall communities are separated from each other by parking lots and a vehicular road which allows through-traffic from Blaine St. and Watkins Dr. to cut through the site.
- The residence hall communities are linked by an east – west pedestrian path which strings the communities through the site in an “L” shape, limiting the potential for a common open space to connect the three planned communities: Dundee, Lennox and Edinburgh



Source: SPH 2003

- The majority of Canyon Crest Precinct housing is set back from Linden Street, reducing physical proximity between the Canyon Crest Precinct and the campus housing and academic core to the south.

* source: UCR March 2003 SPH pg. 27

2005 LONG RANGE DEVELOPMENT PLAN (2005 LRDP)

LAND USE PLAN: Remove existing family housing units on the East Campus at the Canyon Crest Precinct and provide replacement and additional units of family housing on the West Campus; at the Canyon Crest Precinct site establish land use zones for H: Family; Apartment Housing and Related Support; RH: Residence Hall and Related Support; athletic and recreation fields, and parking.

The UCR 2005 LRDP establishes zones for residence hall and family housing communities as well as related support program, recreation fields, and parking to address UCR anticipated enrollment expansion numbers.

The LRDP is a policy document which establishes campus land use and provides a framework to guide physical development of the campus. The associated LRDP/EIR evaluates program level impacts and potential mitigations to satisfy CEQA requirements for physical development. As such, land use designations are identified to optimize flexibility for future development. Changes to land use are considered within a formal amendment process to minimize incompatible uses or undesirable development patterns.



Source: 2005 LRDP

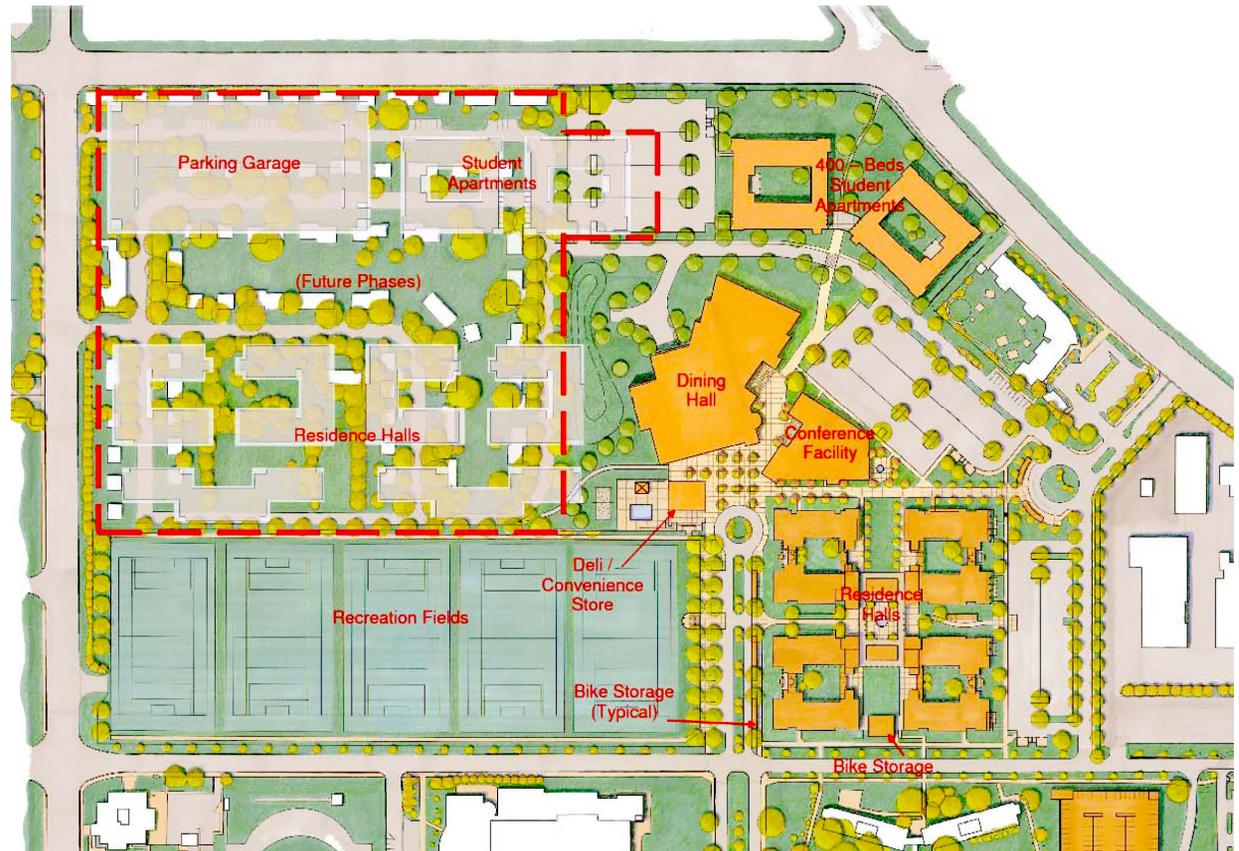
UCR CANYON CREST DPP 2005

The evolution of the 2005 UCR Canyon Crest DPP Precinct Plan from the 2003 SPH Canyon Crest Precinct Plan includes the addition of conference facilities and the re-design of surface parking lots and vehicular circulation at the north-west corner of the site.

The 2005 UCR Canyon Crest DPP Precinct Plan proposes three Phases for development of one portion of the Canyon Crest site. Phase 1 includes the construction of 750 residence hall beds/188 parking spaces and the dining facility. Phase 2 includes 500 residence hall beds/125 parking spaces and a campus C-Store and pool. Phase 3 includes the construction of 416 apartment beds/208 parking spaces and an expansion of the dining facilities as well as 5 intramural recreation fields. The remainder of the Canyon Crest site is reserved for "future phases" of residence halls, student apartments and a parking garage.

The 2005 UCR Canyon Crest DPP Precinct Plan adheres to the land use guidelines as set out by the 2005 UCR LRDP.

The 2005 UCR Canyon Crest DPP Precinct Plan and the 2003 SPH Canyon Crest Precinct Plan share the same Pros and Cons.

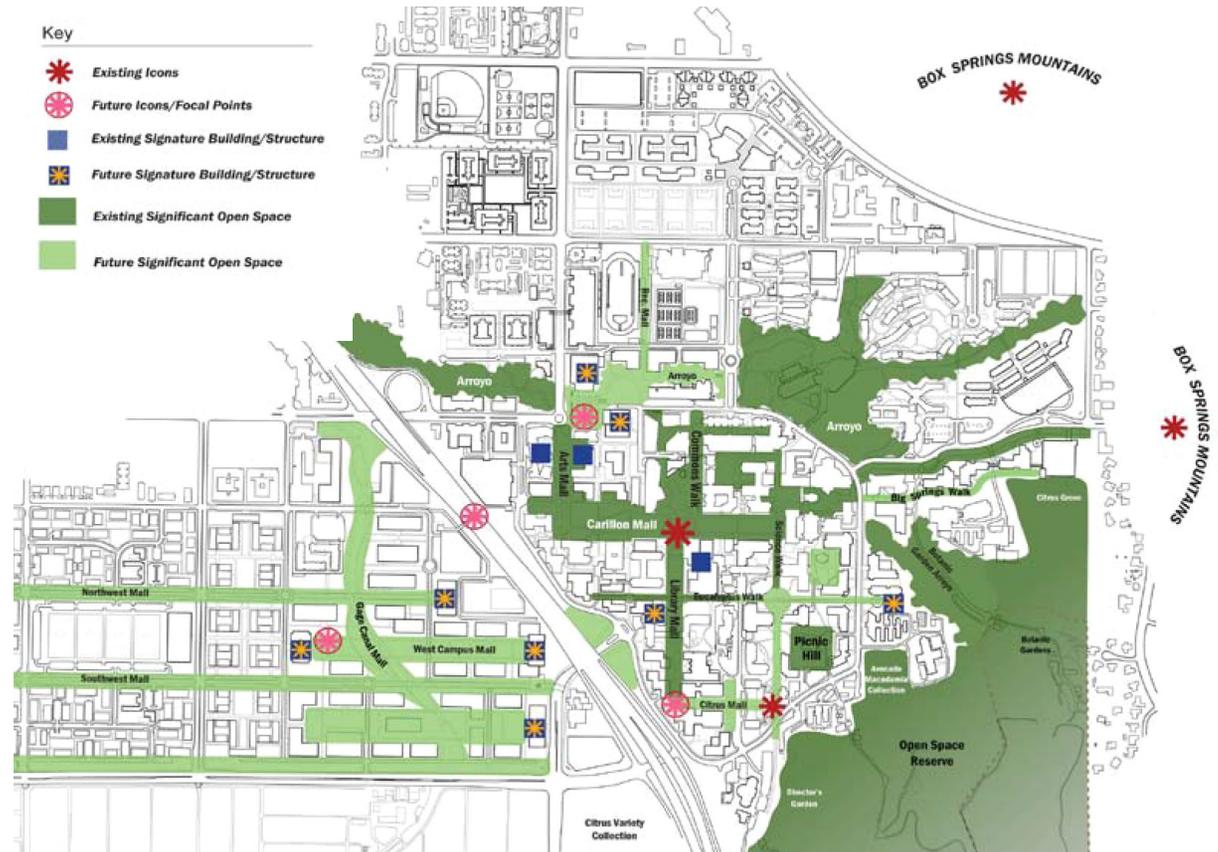


Source: UCR Canyon Crest DPP 2005

2007 CAMPUS DESIGN GUIDELINES

A guiding principle for UCR's development is to create a campus that is responsive to the intrinsic character of the region. The Design Guidelines include the following goals:

- Provide visual connections to the surrounding landscape.
- The siting and layout of a building should consider the climate of the region as well as the microclimate of the building site
- Respect the legacy of the clear, modernist design that established the original campus buildings and utilize the buildings to support the campus open space system.
- Strengthen the relationship between buildings and landscape in new construction.



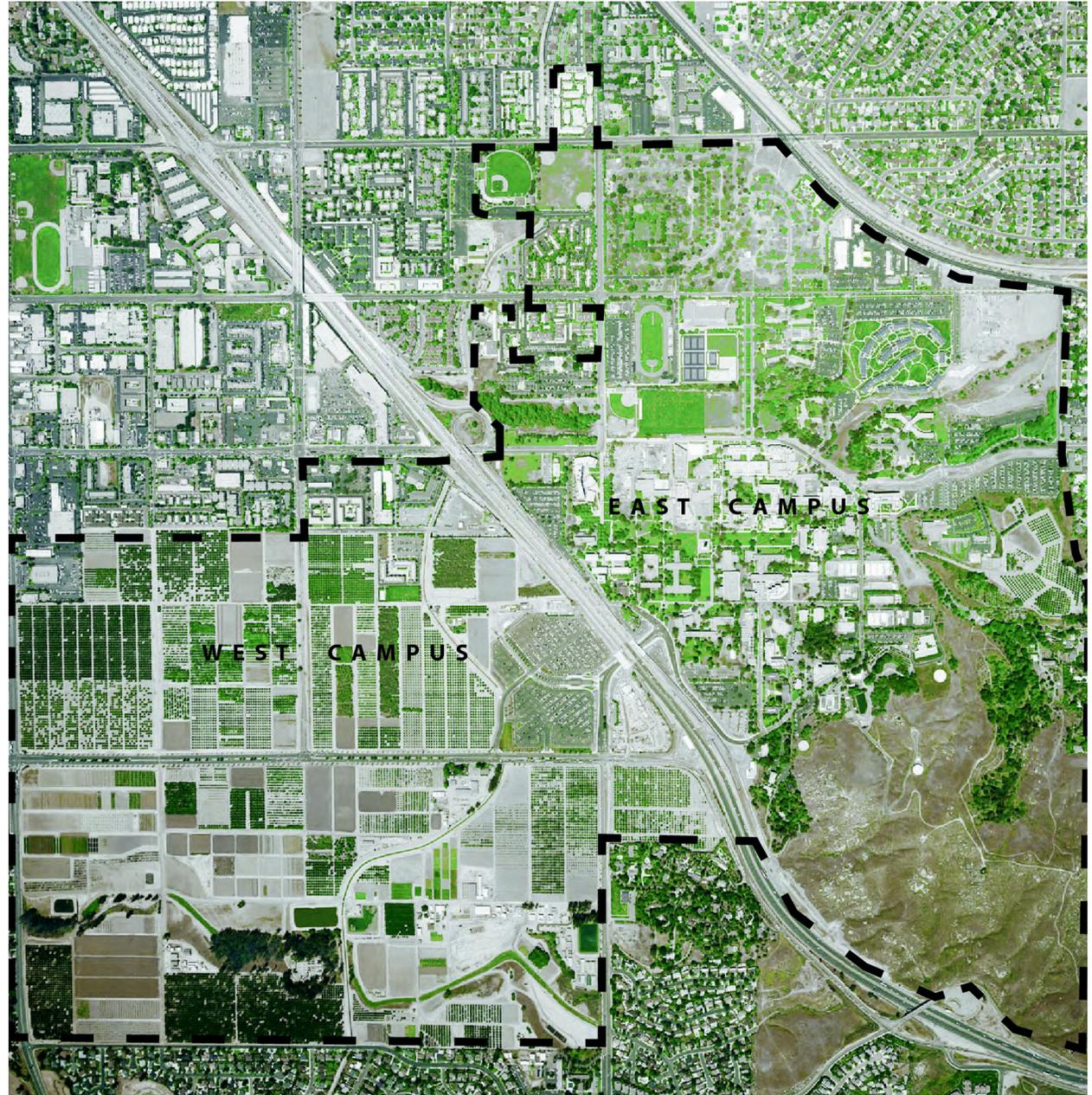
Source: 2007 Campus Design Guidelines

2008 CAMPUS AGGREGATE MASTER PLANNING STUDY (2008 CAMPS)

The Campus Aggregate Master Planning Study (CAMPS) is an all-encompassing examination of a series of detailed area plans within the context of the 2005 LRDP. CAMPS weaves together various planning documents, creating coherence between the numerous University districts - for example the West Campus, East Campus and Academic Core. The document reconciles discrepancies between existing plans and studies and presents a new, cohesive campus plan which facilitates the LRDP.

The CAMPS study included focus on East and West campus:

- Land Use
- Buildings
- Circulation
- Open Space



Source: 2008 CAMPS

2008 STRATEGIC PLAN FOR STUDENT HOUSING UPDATE (2008 SPSH)

The evolution of the 2008 UCR Strategic Plan for Student Housing from the 2005 UCR Canyon Crest DPP for the Canyon Crest Precinct includes a new child development center at the northeast corner of the site and the replacement of student apartment buildings with student group housing.

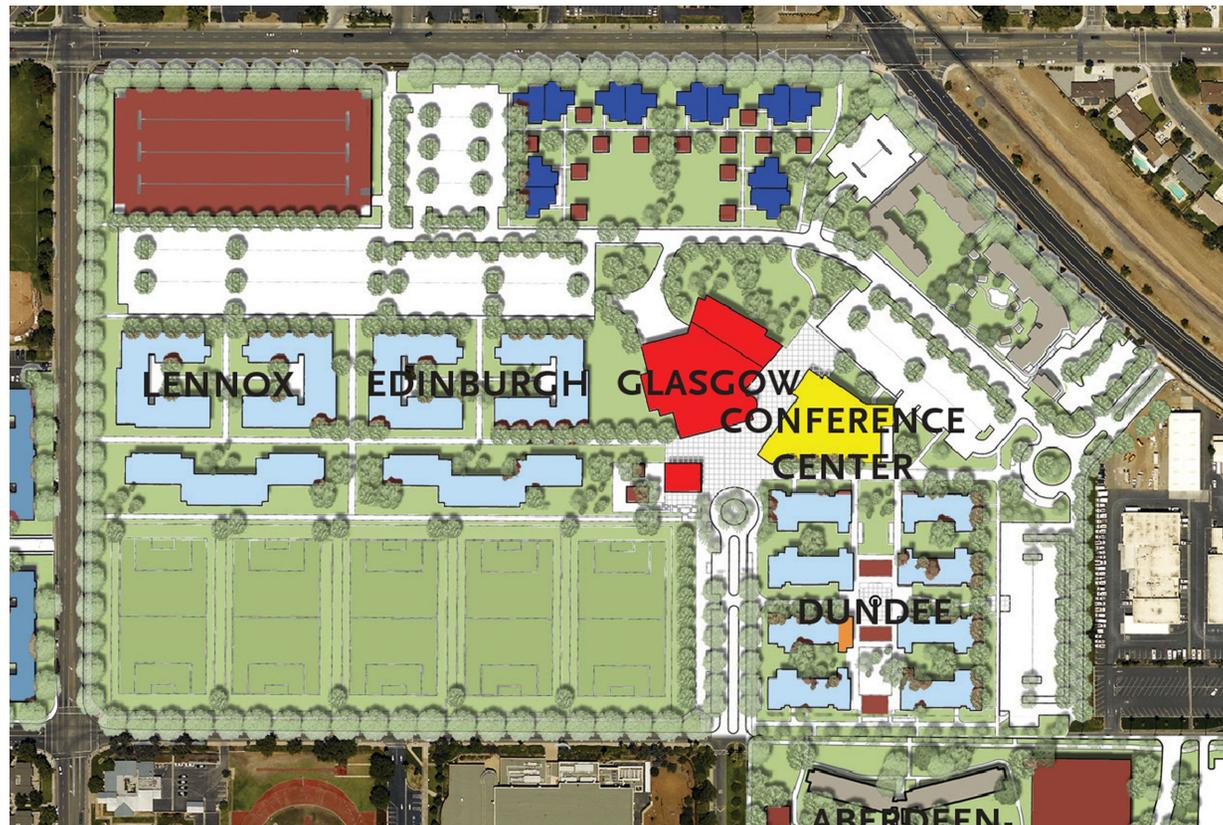
The 2008 SPSH Canyon Crest Precinct Plan includes 3000 residence hall beds/803 parking spaces, 336 group housing beds/208 parking spaces, a dining commons of 941 seats, a convenience store, a conference facility, recreational fields and a pool.*

The 2008 UCR SPSH proposes 5 Phases for development of the entire Canyon Crest Precinct: Phase 1 includes the construction of the first half of the Dundee Residence Halls consisting of 600 residence hall beds. Phase 2 includes the construction of the remainder of the Dundee Residence Halls as well as the dining and conference facilities, group housing and the recreation fields and related parking. Phase 3 includes the construction of the first portion of the Edinburgh Residence Halls Community. Phase 4 includes the construction of the first portion of the Lennox Residence Hall Community. Phase 5 includes the construction of the remainder of the Lennox and Edinburgh communities.

The 2008 UCR SPSH Canyon Crest Precinct Plan adheres to the land use guidelines as set out by the 2005 UCR LRDP.

The 2008 UCR SPSH Canyon Crest Precinct Plan shares the same Pros and Cons as the 2003 UCR SPH and the 2005 UCR Canyon Crest DPP.

* source: UCR 2008 Strategic Plan for Student Housing, pg. 57



Source: 2008 SPSH Update

The 2008 SPSH document reiterates **Principals of Planning** which underscore desired elements for the Canyon Crest Precinct:

COMMUNITY AND IDENTITY - Each neighborhood shall provide a unique sense of identity and a strong sense of community for the residents. The social environment is further enhanced through strong physical connections, defined sense of arrival, and social nodes that provide opportunities for chance encounters and resident interaction. Circulation space shall facilitate informal gatherings, chance encounters, and contact between neighbors.

EDGES AND CENTERS - Each neighborhood shall have a structure with a defined center and discernible edges. The center shall be a focal point of the community, defined by civic spaces and community buildings, such as dining commons, student services, and plazas. These spaces and buildings shall occupy important sites, and they shall be oriented and designed to generate and terminate important view corridors.

CONNECTIONS AND DESTINATIONS - Each neighborhood shall have a circulation system that creates a hierarchy of public and residential paths and connections. The physical placement of pedestrian paths shall intercept public spaces to intentionally capture activities and increase the critical mass of on-campus community. The neighborhoods shall be organized around the pedestrian campus experience and shall promote walking and bicycle riding. Residence hall communities and dining areas shall populate and invigorate existing campus connections and paths. Lastly, neighborhoods shall have strong campus connections.



7: APPENDIX

Meeting Minutes

Alternative Studies Workshop 1

Alternative Studies Workshop 2

Alternative Studies Workshop 3

Project Area Summary Footnote Sources

The Appendix includes the approved meeting minutes from Workshops 1-4 as well as alternative studies for the Canyon Crest Precinct Plan as developed during the 2009 Dundee Residence Halls DPP Workshop process. Lastly, where relevant, the sources referenced in the footnotes of the Project Area Summary in Chapter 2 are included.

vision users community connections flexibility sustainability technology operations security design layers accessibility diversity safety respect opportunity educational experiential timeless efficiency practical logical identity viability collaboration productive future native active integrated scale performance variety indoor/outdoor innovative vision users community connections flexibility sustainability technology operations security design layers accessibility diversity safety respect opportunity educational experiential timeless efficiency practical logical identity viability collaboration productive future native **active** integrated scale performance variety indoor/outdoor innovative vision **users** community connections flexibility sustainability technology operations security design layers accessibility diversity safety respect opportunity **educational** experiential timeless efficiency practical logical identity viability collaboration productive future native active integrated scale performance **variety** indoor/outdoor innovative vision users **community** connections flexibility sustainability technology operations security design layers accessibility diversity safety respect opportunity educational experiential timeless efficiency practical

MEETING MINUTES

MEETING MINUTES

WORKSHOP 1

Project	UCR Dundee Student Housing	Report Date	June 24, 2009	
Job No.	09-008	Meeting Date	June 10, 2009	
Location	Bannockburn J-102	Subject	Workshop #1	
Attendance	UCR: Don Caskey, Susan Marshburn, Kieron Brunelle, Richard Racicot, Hassan Ghamlouch, Tim Brown, Bob Brumbaugh, Angie Villegas, Karen Burleson, Andy Plumley, Yun Baird, Nita Bullock, Cheryl Garner, Mike Delo, Kathy Garcia EHDD: Scott Shell, Duncan Ballash, Rick Feldman, Jessica Rothschild, Siling Tan			
Distribution	Yun Baird			
Purpose	Refine program, program elements and planning details with Housing.			
9:00-10:00 – Discussion of Residence Hall character and features			Action Item	
Character/Features <ul style="list-style-type: none"> • Welcoming community that facilitates social interaction • Variety of scales of places • Strong connection to campus • Clear entrance access for cars, bikes, and pedestrians from within campus and outside of campus • Durable, low maintenance • Efficient, sustainable 				
10:00-12:00 – Review Program, Room Data Sheets and bubble diagrams. Discuss adjacencies, view and amenities in a typical suite.				
General <ul style="list-style-type: none"> • Group housing will not be part of phase one. • The bed count is 50 beds per floor community with two single rooms with private toilets for RA and PC. All other rooms to be pairs of doubles with one shared bathroom. • UCR to confirm number of one-bedroom staff apartments. • EHDD to review and critique Strategic Plan for Housing 2008 and Arroyo Student Housing DPP 				UCR EHDD
Typical Suite <ul style="list-style-type: none"> • Balconies from individual units will not be allowed. • Dresser and desk could be contiguous to give a bigger work surface. • EHDD to study possibility of private bathroom access for conference attendees staying in dorm rooms. • Stair use is preferable, but code necessitates elevators. • Each room to have one telephone jack, three ethernet jacks, and cable TV jack as well as electrical outlets for microwave and mini fridge. 				EHDD
Mail <ul style="list-style-type: none"> • Dundee will have its own Residential Services Office (RSO) adjacent to their mail room with capacity to serve both phases. EHDD to study RSO location as it relates to the phasing of the Dundee community. • Mail room to be adjacent to vehicle access and include shelving and secure area for packages and be adjacent to the front desk of RSO. • Mailboxes should be located inside for climate control. 				EHDD
Security <ul style="list-style-type: none"> • EHDD to study security desk/reception solutions that can service multiple buildings. • EHDD to consider security screens at first floor (example: Stanford law school). • All public program visitors to pass through or near one central access point. • Minor entry points to be controlled with card keys. 				EHDD EHDD

EHDD	ARCHITECTURE	meeting report
	<ul style="list-style-type: none"> Cameras at entries, elevators, dining, common spaces, computer lab, parking lot, roof. Coordinated lockdown system to be incorporated into each building. Exterior hallways pose security concern and should not be considered. Roof access should be limited. Each building to have PA system. 	
	<p>Classrooms</p> <ul style="list-style-type: none"> UCR prefers: tables with casters, stackable chairs, folding tables, storage closets. Most flexible size is for 60-70 people. Computer lab should have floor outlets or access floor. EHDD to review Glen Mor DPP for more info. 	EHDD
	<p>Common Space</p> <ul style="list-style-type: none"> EHDD to study A-I's c-store model that includes a mini deli and grill. New location for c-store should be outside security point. Laundry should be centralized with adjacent, quiet study room. See Glen Mor DPP Conference facilities should be on the ground floor, adjacent to dining or kitchen. Waste collection should be provided for trash, paper, and CRV. UCR has separate composting collection system. Bicycle storage should be on main route of travel with possible self-service repair station. Susan Marshburn to provide more information. Central kitchen with gas or electric stove, sink, garbage disposal and lockable cabinets and can serve as demonstration kitchen and warming pantry for catering. There are no Kitchenettes at each floor. Common spaces should be accessible to outside students without compromising security. Fitness center should be acoustically separate from bedrooms. Living learning: small informal spaces should be scattered throughout each building and a larger, more formal space should be provided for each community. Larger spaces may be rented out for other purposes when located with easy access. Multi-purpose room should be flexible and have a staging area and storage room Floor lounges on each hall should have cable TV and infrastructure for future conversion into bedrooms. Double-high common spaces shared between floors would need schedule coordination and incorporate security restrictions. Shared common space should be designed for 100 students (or less). Interior common spaces should foster activities that spill out into the adjacent outdoor spaces Corridors should be naturally lit. Locate doors to individual units to promote social interaction with opposing neighbors. 	EHDD EHDD UCR
	<p>Staff Apartment</p> <ul style="list-style-type: none"> Locate near parking lot. Separate feel from student housing complex – not near recreation fields. Two bathrooms required. Guests should have access to bathroom without going into bedroom. TV, phone and internet connection in all rooms. One entrance from corridor, one from exterior patio. Dishwasher required. 	

EHDD	ARCHITECTURE	meeting report
	<p>1:30-3:30 – Site and Project Analysis, Basis of Design, Schedule and Phasing, Parking, Residence Halls and Dining</p> <p>LRDP Presentation (Kathy Garcia)</p> <ul style="list-style-type: none"> Campus transit is oriented around circular loops. <ul style="list-style-type: none"> 5 minute ring is academic. 10 minute ring is specialty programs and residential. Parking structure 24 will be built first to serve northern campus. Linden will be closed except for university vehicles in order to curtail movement through campus. Proposed Watkins entry will be main gateway to residential community; Linden will be closed off to Watkins. Bike travel goes primarily north-south to main campus. Aberdeen is the current and future primary bike route. Proposed Student Rec Center is doubling in size and expanding south in the future 	
	<p>Basis of Design and Master Planning (Jessica Rothschild)</p> <ul style="list-style-type: none"> EHDD to look at East Campus study for new buildings and circulation studies. Demolition of existing housing must be phased to minimally affect existing family housing. Proposed row-housing will facilitate direct bike/pedestrian flow from north to south and emphasize the recreation mall circulation. Recreation field to have controlled access. Splitting Dundee is not cost effective and disrupts the sense of community. Maintaining a large open space may allow some of the existing mature trees to be saved. EHDD to study combining dining and conference for greater flexibility and ease of staging. UCR to provide dining information to EHDD. EHDD to study the possibility of a central plant. EHDD to develop more schemes for options 1 and 3. 	EHDD EHDD UCR EHDD EHDD
	<p>Parking and Circulation</p> <ul style="list-style-type: none"> Group housing parking ratio is 1:2. Residence Halls parking ratio is 1:4. No parking outside of Canyon Crest can be included except from new lot 22 adjacent to Aberdeen. Proximity of parking should be considered a security issue. Group Housing should be closer to parking than Residential Housing. Phase 1 will include a 150 student lot parking and 10 additional visitor parking spaces. Phase 2 parking will accommodate dining and conference use. Campus transit favors circular drives with pickup/drop off points. The corporation yard will move to the west side of the freeway in the future. The acoustic impact of the loading dock next to child development center should be considered. EHDD to compare the program from the Canyon Crest DPP and the current program for cost estimate purposes. 	EHDD
	<p>Project schedule</p> <ul style="list-style-type: none"> EHDD to assess CEQA phasing and its impact on the schedule, and provide dates for when current units must be vacated. 	EHDD
<p>END OF NOTES</p> <p>Unless the Architect is informed, in writing, within 10 days of receipt of these minutes, the minutes will stand as written. It will be assumed that all in attendance and those receiving copies understand and agree to the accuracy of the statements and information herein.</p>		

MEETING MINUTES

WORKSHOP 2

EHDD	ARCHITECTURE	meeting report
Project	UCR Dundee Student Housing	Report Date July 8, 2009
Job No.	09-008	Meeting Date June 26, 2009
Location	Bannockburn J-102	Subject PMT Meeting and Workshop #2
<p>Attendance UCR: Yun Baird, Andy Plumley, Kieron Brunelle, Susan Marshburn, Tricia D. Thrasher, Richard W. Racicot, Don Caskey, Tim Brown, Karen Burlesen, James Smith, Nita Bullock, Lindy Fenex, Hassan Ghamlouch, Suzanne Trotta, John Freese, Chuck Spini, Jerry Higgins, Jeff Adams, Scott Corrin</p> <p>KPFF: Rick Davis, Jeff Gavazza</p> <p>IBE: Alan Locke</p> <p>EHDD: Scott Shell, Jessica Rothschild, Rick Feldman, Duncan Ballash</p>		
Distribution Yun Baird		
PMT Meeting: 8:30-9am		Action Item
Purpose: To discuss project schedule and identify important milestones.		
<p>Project Schedule:</p> <ul style="list-style-type: none"> UCR cannot sign CM contract until Regents approve schematic design, but the interview and selection of CM can take place beforehand. <p>CEQA Schedule and Milestones:</p> <ul style="list-style-type: none"> CEQA process takes 6 months and will cover all Canyon Crest development. <p>Dates for Regents and other critical approvals:</p> <ul style="list-style-type: none"> DRB approval must come before Regents approval. <ul style="list-style-type: none"> Approval of DPP: first Tuesday of September Project package to be sent to Regents 6 weeks before mid-March. EHDD to add advertising period and prequalification period for subcontractors to project schedule. 		EHDD
Workshop 2: 9am-5pm		
Purpose: To review system criteria for the project.		
9-11am: Review Master Plan Options		
<p>4 major entry points:</p> <ul style="list-style-type: none"> (1) Watkins entry is exclusively a housing entry (not a campus entry) for 5,000-6,000 students and for conferences. This entry should be welcoming but not monumental. There will be a block wall here separating the Corporation Yard. (1) There should be bike and pedestrian avenues and a bus pullout just south of the entry on Watkins. (1) Drop-off areas are important and should be sized appropriately. (1) The permanent entry will be from the parking area developed for Housing. (2) The Aberdeen pedestrian extension should be grander and incorporate bike paths. (3) Northwest corner of the Student Recreation Center will be redesigned with a climbing wall. EHDD to consider adding a turn-around at this point and a drop off for the fields and the Student Recreation Center. (4) EHDD to incorporate east-west pedestrian connection between Canyon Crest and Housing through fields. Study pull-out drop-off at Canyon Crest to serve fields. (4) Pedestrian/bike access will also extend from Recreation Mall to Blaine. 		EHDD EHDD
<p>Recreation Fields</p> <ul style="list-style-type: none"> UCR prefers all grass fields. Fields need to be rotated to provide steps only between groups of fields (ie upper and lower fields). 		

EHDD	ARCHITECTURE	meeting report
<ul style="list-style-type: none"> Field sizes to be same as Glen More field sizes (100 yd X 55 yd). Fields will be fenced with card key access. Soccer fields must have barriers for outbound balls if fields are stacked end to end. 		
11-12pm: Integrated Design Approach, Sustainable strategies and goals, LEED		
<ul style="list-style-type: none"> According to the UCR DRAFT Sustainable Guidelines, all new campus projects will have the goal of LEED gold and will aim to exceed title 24 energy by 30% In August 2009, UCR is moving to T-24 2008, which will be much tougher. UCR is considering mold resistant drywall as a standard. UCR has a 7 year contract with Web Laundry, and use energy star appliances. UCR is considering having a binder of cut sheets for every spec item during DD/CD. UCR to provide EHDD with information from campus on current fixtures, flow of water, energy use and cost info and laundry vendor. 		UCR
1-2pm: Mechanical, Electrical and Plumbing Issues		
Mechanical: <ul style="list-style-type: none"> Split system, heat pumps <ul style="list-style-type: none"> Not appropriate for student housing Variable Refrigerant Volume <ul style="list-style-type: none"> Series of condensing units Fan coil units Water Source Heat pumps <ul style="list-style-type: none"> Cooling towers Floor-mounted heat pumps must be located in each unit and require a 3'x3' closet. Fan coil units <ul style="list-style-type: none"> Heating and cooling coil and fan Less noise than heat pump and less maintenance Water cooled chiller <ul style="list-style-type: none"> Located inside building, typically on basement or first floor Requires a cooling tower Air cooled chiller: <ul style="list-style-type: none"> Requires no cooling tower, typically on roof Max 300 tons per T24 (or must add TES) Absorption chiller <ul style="list-style-type: none"> Driven by either gas or by solar hot water Waste heat from absorption chillers provides domestic hot water for showers. Mechanical system considerations <ul style="list-style-type: none"> Cost Energy use Maintenance Space requirements The UCR maintenance staff recommends a central plant with chilled and hot water, which is lower maintenance and lower operating energy/cost, but higher initial cost. Central plant equipment lifespan is 25 years, which is much longer than individual heat pumps. If a central plant is built in phase I, the design would have to incorporate future phase II. 		
Plumbing: <ul style="list-style-type: none"> Collecting, treating, and reusing graywater in the building is expensive. It is recommended that graywater is used only for irrigation, and this requires careful plant selection. Solar hot water is recommended. The payback is 8 years for domestic hot water. 		
Electrical/Data: <ul style="list-style-type: none"> Photovoltaics have a 14 year payback and a 15 year warranty. 3 degrees difference in temperature set point produces a 10%-15% energy savings. 		

EHDD	ARCHITECTURE	meeting report	
<ul style="list-style-type: none"> Rooms should have a key card-operated master room switch and a dashboard to keep track of how much energy each unit is using. Copper for voice and data to all the rooms. One data port per bed, at least one outlet on each wall. Outdoor spaces need convenient power and domestic water. 			
Security: <ul style="list-style-type: none"> UCR's philosophy is crime prevention through environmental design. Cameras should be placed at common areas, entrances, parking lots, and elevators. UCR has used cameras with IP addresses that can tilt and zoom to respond as needed. Security screens should be incorporated at first floor. Proximity cards are a UCR standard. Dundee should have controlled central entries like A-I and Lothian. There should be judicious use of fencing and gating around development 			
Access: <ul style="list-style-type: none"> There should be power operated doors at entry points. There will be elevators in all buildings, so every room will be considered a ground floor and will have to be "adaptable". 			
2-3pm: Civil Issues, Utility Layouts, Fire Marshall			
Civil: <ul style="list-style-type: none"> Two sewer lines in Linden: <ul style="list-style-type: none"> North line is original 1940 line – it's old but has some capacity. EHDD to verify condition in the 2002 East Campus Infrastructure report. The city line in Canyon Crest is possibly being replaced to Linden and will increase capacity. The DPP cost estimate should include the cost of replacing the North line (as an alternate). Replacement solutions that do not require tearing up the street are preferable. Dundee will have a combined fire/water line. The eastern most leg is already installed as part of the Child Development Center project. The line will have dry standpipes and sprinklers (13R) in buildings (the code has changed since the Canyon Crest DPP). All water will need to be looped. Fire lane access should be hardscape and needs a 20' wide, 13'6" vertical clearance. Riverside fire department will need to ladder access. Existing fire hydrants in Canyon Crest cannot be used for Dundee. 			EHDD
3-4pm: Structural Issues, Soil Conditions			
Structural <ul style="list-style-type: none"> EHDD will carry two schemes through schematic design: wood frame and light gage steel. This will allow a full evaluation: acoustics, thermal, cost, utility routing, constructability. This was requested by Facilities Design and Construction. EHDD to study different options to avoid an 11' excavation for fill. The foundation will depend on the height of the building. 			EHDD
END OF NOTES			
<p>Unless the Architect is informed, in writing, within 10 days of receipt of these minutes, the minutes will stand as written. It will be assumed that all in attendance and those receiving copies understand and agree to the accuracy of the statements and information herein.</p>			

MEETING MINUTES

WORKSHOP 3

EHDD	ARCHITECTURE	meeting report	
Project	UCR Dundee Student Housing	Report Date	July 16, 2009
Job No.	09-008	Meeting Date	July 8, 2009
Location	Bannockburn J-102	Subject	Workshop #3
Attendance	UCR: JoAnn Alvarez, Angie Villegas, James Smith, Andy Plumley, Richard Racicot, Nita Bullock, Yun Baird, Tim Ralston, Mike Delo, Tricia Thrasher, Cheryl Garner, Kieron Brunelle, Susan Marshburn, Tim Brown, Hassan Ghamlouch Cummings: Ken Pang EHDD: Duncan Ballash, Scott Shell, Jessica Rothschild, Sijing Tan, Rick Feldman		
Purpose	Finalize Master Plan and Scope/Prepare Cost Estimate		
Distribution	Yun Baird		
			Action Item
9- 11am: Review Master Plan/Site Plan/Floor Plans			
<p>The group reviewed the LRDP 2008 Master Plan and design process to date and discussed modification of the Master Plan.</p> <ul style="list-style-type: none"> Parking/Transit: <ul style="list-style-type: none"> In order to meet LRDP requirements for residential capacity, the first phase needs to provide 150 parking spots and the second phase an additional 150 spots. Although not included in the LRDP, the campus will need additional parking capacity for the conference center. Group housing will park in adjacent lot shared with others and doesn't need a separate drop off. The north-south axis is important – students already come through campus that way, and it will reinforce sales from dining/conference and the C-store. There will be no vehicular drop off at the north end of the Aberdeen extension. EHDD to verify parking demand for a conference center that accommodates 500 people, considering both summer long-term visitors as well as day visitors. EHDD to locate Recreation Field parking closer to residential spaces. EHDD to label parking in terms of phasing. All community and all public access should be controlled and pass through RSO. Residential areas should be secure but don't have to pass through RSO. The RSO need not be exactly in center of the complex, but should be on the natural route towards campus. The C-store should be considered as a flexible dining facility (more like a grill or a café) that could spill out into the lobby near the RSO. EHDD to provide a comparison of the 2009 Master Plan development and previous plans. EHDD to articulate what has changed since 2003 Strategic Plan, LRDP and 2008 master plan (i.e. change of apartment housing to group housing, security fencing of recreation fields). Show construction staging for phase 1 and 2. (This will be needed for the LRDP/CEQA.) EHDD to make following modifications to master plan 2009: <ul style="list-style-type: none"> Parking: provide required program parking for phase I and II adjacent to site; add more spaces adjacent to dining/conference; research parking ratio needed for 500 person occupancy for conference center; flip north-east field west for closer proximity to housing. Precinct should not overburden traffic on Linden between Canyon Crest and Aberdeen. For SD phase, further study location of Watkins Rd. entry to Linden Street with intent of coordinating entrance to Lot 22. Locate café in Phase I on southwest corner for visibility and access. 			
11am- 12:15pm: Review Room Data Sheets			
<ul style="list-style-type: none"> 4 Person unit: <ul style="list-style-type: none"> Bathroom: 			

EHDD	ARCHITECTURE	meeting report	
	<ul style="list-style-type: none"> Counter with open storage below. Add Floor drain. UCR to send EHDD standard integral fiberglass shower unit cut sheets. 		UCR
	<ul style="list-style-type: none"> All ceiling heights to be a minimum of 9'6" in the bedrooms. No custom sized windows. All units to be ADA adaptable. Double loaded hallway to be carpeted. Closet to be built in, dresser to be set inside it with room to hang long coat/dress. EHDD to study sidelites/transoms over bedroom doors and sinks to allow natural light inside. EHDD price both vinyl and aluminum windows. EHDD to advise on an energy efficient mini-fridge/microwave. EHDD to show a triple layout with a loft bed and a bunk bed. 		EHDD
	<ul style="list-style-type: none"> Student Lounges: <ul style="list-style-type: none"> One lounge per floor community (serving 40-60 students). Peninsula-shaped counters Garbage disposal in sink. No security camera/ No dishwasher. Show flat screen TV in plan and layout. Reduce closet size by half. Two Bedroom staff apartment: <ul style="list-style-type: none"> No bar. Add pantry. Make drawer sizes that are functional. Unit will need its own hot water heater as shown (so apartments can be occupied when dorms are closed) Flip W/D and closet, combine plumbing walls, and perhaps open closet into bath. Master bed to be queen size. Trash/Recycling: <ul style="list-style-type: none"> Recycling is mixed. Maximum bin is sized 4 cubic yards. Trash is compacted, recycling is not. Trash room should be isolated to contain noise and odor. Trash room needs hose bib and floor drain. RSO Lobby/Reception: <ul style="list-style-type: none"> Lobby should have ability to be secured after hours. Computer on counter for students to submit work orders, etc. Package Storage: <ul style="list-style-type: none"> Not for mail, only packages. Needs to be climate controlled. Mail Room: <ul style="list-style-type: none"> Need area for possible expansion, in case tripling in RH occurs. UCR to send EHDD ratio of tripling possibility for new mailbox expansion. Staff workroom: <ul style="list-style-type: none"> Upper cabinet on both sides. 2 voice, 4 data, phone, fax, networked copier/printer. Staff breakroom: <ul style="list-style-type: none"> Put in kitchenette with hood for range, dishwasher, storage cubbies, 1 phone, 1 voice, wireless. Show tables and chairs. Staff Restroom: <ul style="list-style-type: none"> Need storage and counter. Graphics Production Room: <ul style="list-style-type: none"> 3 data, large format printer, 2 computer workstation, layout table. Should be adjacent to the staff work room. Entry Vestibule/main desk: 		EHDD EHDD EHDD
			UCR

EHDD	ARCHITECTURE	meeting report
	<ul style="list-style-type: none"> o Not needed due to RSO configuration. 	
	<ul style="list-style-type: none"> • Living Room: <ul style="list-style-type: none"> o Demonstration kitchen should be in close proximity. o Shrink closet. o No projector screen. o Add more tables and chairs. • Computer Lab: <ul style="list-style-type: none"> o Leave as is. • Classroom: <ul style="list-style-type: none"> o Show multiple layouts: classroom, small groups, theater, narrow seminar tables, etc. o Ceiling mounted projector. • Laundry: <ul style="list-style-type: none"> o EHDD to ask Web to calculate numbers of washers/dryers, and how many data lines are needed. • Resident Life Central Kitchen: <ul style="list-style-type: none"> o Two stoves, more preparation area, large refrigerator, floor drain. • Bike Repair: <ul style="list-style-type: none"> o Should be within bike storage area. No storage, tools will be checked out from RSO. Workbench, small compressor. • Bike Storage: <ul style="list-style-type: none"> o UCR to provide specification info based on Glen Mor research. • Meeting rooms: <ul style="list-style-type: none"> o Large Meeting Room: locate counter near the door to accommodate catering staff. o Small Meeting Room: accomodate 20 people. • Fitness room: <ul style="list-style-type: none"> o Needs cable TV. • Janitor Closets: <ul style="list-style-type: none"> o Need storage for linen and janitorial/equipment. • Telecom/Server room: <ul style="list-style-type: none"> o See Glen Mor DPP. • Separate Access control room: <ul style="list-style-type: none"> o See Glen Mor DPP. • Recreation Fields: <ul style="list-style-type: none"> o Needs power, hose bib, storage for nets, and a roll down door to fit in striping machine. o Approximately 400 sf. • Summary: EHDD to pick up comments from today's meeting, add support spaces, and send UCR program summary for public spaces on first floor. 	<p style="text-align: center;">EHDD</p> <p style="text-align: center;">UCR</p> <p style="text-align: center;">EHDD</p>
1- 2pm: Schedule Update		
	<ul style="list-style-type: none"> • 14 July – Provide cost estimate draft package, and share as much as possible with UCR for their initial review. • 22 July – Workshop 4 – EHDD to present detailed draft developed “cost basis draft” • 28 July – EHDD final draft of DPP to UCR • 4 Aug – DRB presentation • 5 Aug – UCR comments from 28 July administrative draft • 12 Aug – EHDD to deliver final DPP • 15 Aug – CEQA to start • September – EHDD to start SD 	

EHDD	ARCHITECTURE	meeting report
2- 3pm: Dining/Grill/C-Store Discussion		
	<ul style="list-style-type: none"> • Dundee Phase I's C-store should be more like a café or coffeehouse so it can meet the needs of the full Canyon Crest community in both the initial phases and full build-out. The central student lounge can be shared and open to café. UCR to give EHDD more program information. 	UCR
3- 4pm: Cost Estimate		
	<ul style="list-style-type: none"> • Structural: light gauge steel as base, wood as alternate. • Mechanical: central plant as base, distributed system as alternate. • LEED: LEED silver equivalent as base, LEED gold as alternate; LEED commissioning as base, LEED enhanced commissioning as alternate. 	<p style="text-align: center;">EHDD</p> <p style="text-align: center;">EHDD</p>
EHDD Action List		
	<ul style="list-style-type: none"> • Provide tear down schemes for zones of construction. • Provide excel sheet showing room data for phase 1 and 2 (except for dining). • Provide a narrative explaining the process of getting from the 2005 LRDP, the 2005 Canyon Crest DPP, and the 2008 SPSU to the 2009 DPP. • Provide a parking count for each phase of the project. • Update room data sheets. • Update RSO adjacency. 	<p style="text-align: center;">EHDD</p>
END OF NOTES		
<p>Unless the Architect is informed, in writing, within 10 days of receipt of these minutes, the minutes will stand as written. It will be assumed that all in attendance and those receiving copies understand and agree to the accuracy of the statements and information herein.</p>		

7: APPENDIX

ALTERNATIVE STUDIES WORKSHOP 1

2008 STRATEGIC PLAN ANALYSIS PRESENTED IN WORKSHOP 1

DESCRIPTION:

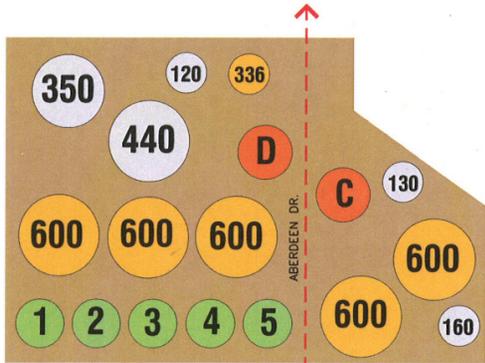
- adheres to the 2005 LRDP
- student apartments replaced by group housing
- parking lots and vehicular roads are grouped parallel to adjacent Blaine St. and Watkins Dr.
- athletic fields are grouped together
- housing program is located between recreation fields and parking areas
- Aberdeen Dr. Extension ends at dining and conference facilities
- dining and conference facilities are centrally located and easily accessed and serviced

NOTE: The adjacent diagram is adapted from the 2008 Strategic Plan for Student Housing Update, East Campus Sites.

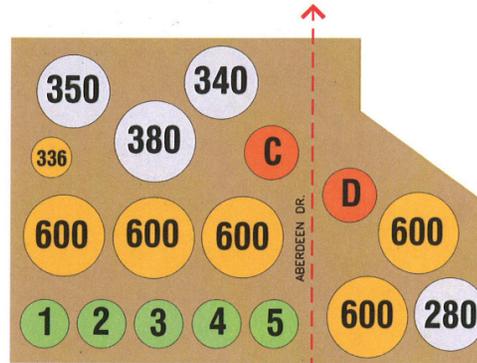


PROGRAM LOCATION ANALYSIS

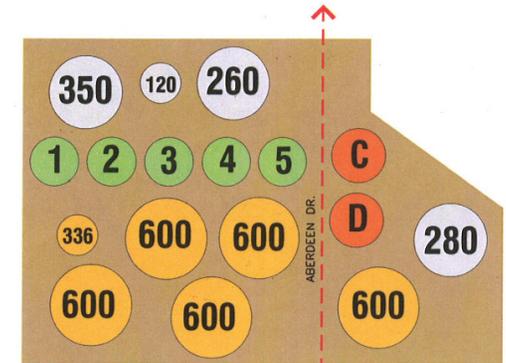
PRESENTED IN WORKSHOP 1



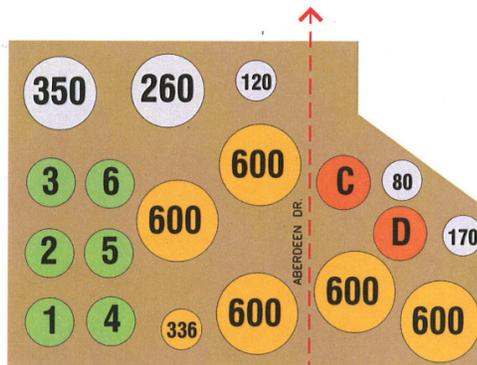
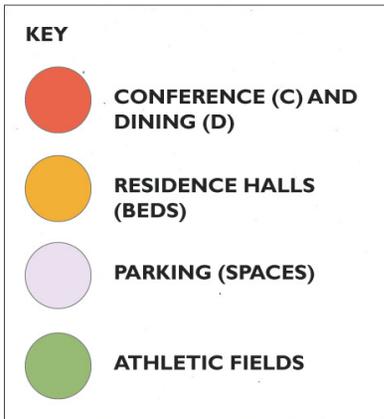
STRATEGIC PLAN 2008



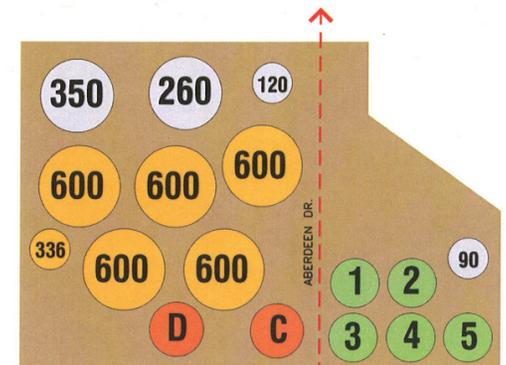
GROUP HOUSING
MOVED TO CANYON CREST DR.



FIELDS MOVED NORTH



FIELDS MOVED WEST



FIELDS MOVED EAST
(does not work with phase I construction)

SCHEME 1

PRESENTED IN WORKSHOP 1

DESCRIPTION:

- adheres to the 2005 LRDP
- Aberdeen Drive extends through to Blaine Street as a pedestrian/bicycle circulation route
- secondary vehicular circulation is reduced
- conference and dining facilities anchor open space areas
- group housing is re-conceptualized as row housing along Canyon Crest Drive
- children's development center is buffered by a deep alley of trees



	HOUSING		VEHICULAR CIRCULATION
	DINING/CONFERENCE FACILITIES		BICYCLE / PEDESTRIAN CIRC.
	RECREATION FIELD		POINT OF ENTRY
	OPEN SPACE		PHASE I
	PARKING		
	OTHER BUILDINGS		

SCHEME 2 PRESENTED IN WORKSHOP 1

DESCRIPTION:

- consolidates the majority of the parking along Blaine Street – land banks for future expansion
- Aberdeen Drive extends through to Blaine Street as a pedestrian/bicycle circulation route
- secondary vehicular circulation is reduced
- the recreation fields are moved north
- conference and dining facilities are east of Aberdeen Drive.
- conference and dining facilities anchor open space areas
- group housing is re-conceptualized as row houses perpendicular to Canyon Crest Drive
- Children’s Development Center is buffered by a deep allee of trees
- does not adhere to the 2005 LRDP



SCHEME 3 PRESENTED IN WORKSHOP 1

DESCRIPTION:

- consolidates the majority of the parking along Blaine Street – land banks for future expansion
- Aberdeen Drive extends through to Blaine Street as a pedestrian/bicycle circulation route
- secondary vehicular circulation is reduced
- the recreation fields are moved to the east
- conference and dining facilities are east of Aberdeen Drive
- conference and dining facilities anchor open space areas
- group housing is re-conceptualized as row houses along Linden Street
- children's development center is buffered by a deep alley of trees
- does not adhere to the 2005 LRDP



7: APPENDIX

ALTERNATIVE STUDIES WORKSHOP 2

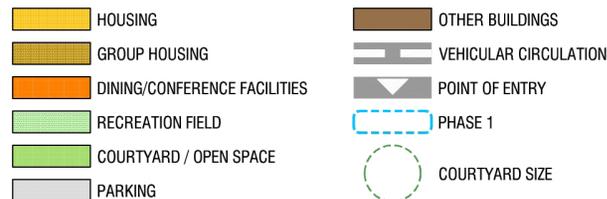
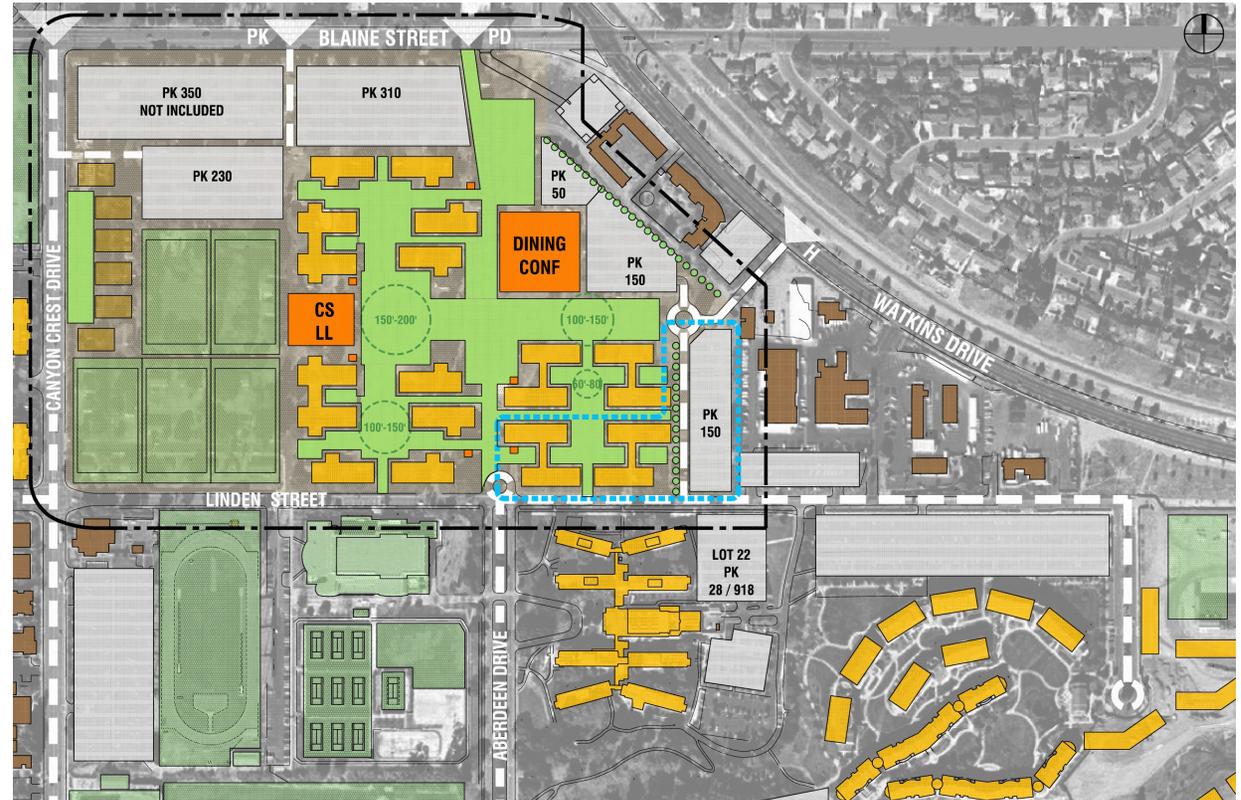
FORMAL SCHEME PRESENTED IN WORKSHOP 2

DESCRIPTION:

The formal open space option groups buildings around axial, rectangular open spaces reminiscent of the UCR academic core. The vehicular round-about is focused at the Watkins Drive entrance both anchoring and providing views toward a central Canyon Crest open space. Public program such as the C-store/café, RSO and dining/conference center will be grouped along the Aberdeen Drive extension which forms the pedestrian/bicycle spine of the development.

Small, medium and large courtyard spaces are a continuum of the building program allowing for both spontaneous and programmed uses of all scales. The outdoor open spaces will have different characteristics: i.e. sunny, shady, quiet, active, colorful, natural etc... that will be reinforced by the massing and exterior skin development of the surrounding buildings.

Group housing is located along Canyon Crest drive and parking is collected on the northern portion of the site. An extension of the Recreation Mall continues from south of Linden St. up to the c-store/café and living/learning center which anchors the west side of the central open space. The dining and conference center are grouped together in one building.



FORMAL SCHEME LANDSCAPE CONCEPT:



Source: Great Streets by Allan Jacobs



1



5



4



3

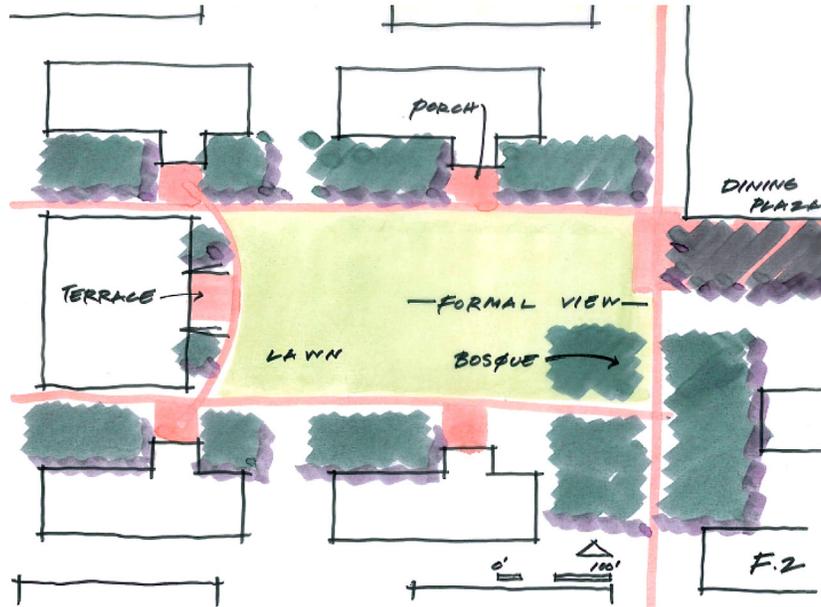


2

FORMAL SCHEME - CONTINUED

PRESENTED IN WORKSHOP 2

FORMAL SCHEME LANDSCAPE FEATURES:



X-Large (1-1.25 acres) Canyon Crest wide

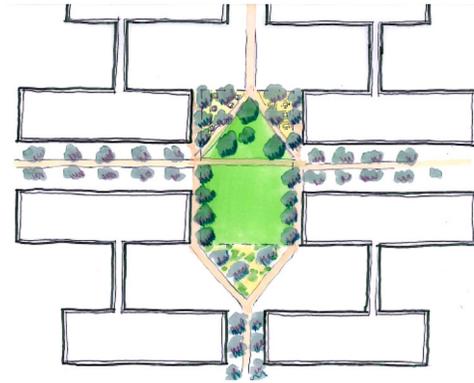
Open Space, large open lawn for campus wide activities (concerts, all campus celebrations, events, 2000 plus students)

Surrounded by paths and axis from surrounding buildings (terraces/plazas)

Shade trees, seating along perimeter

OVERALL CONCEPT

- Axial, geometric
- Grids of trees
- Large simple planes, turf, paving, groundcover
- Open formal Views
- Symmetrical spaces with structured seating

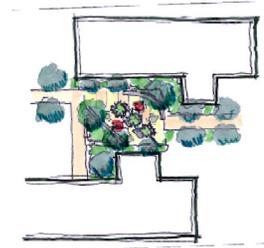


Large (1/2 acre) Residence Hall Wide

Open Lawn for large groups (pick-up sports games, sunbathing, group yoga, etc)

Perimeter seating and shade trees

Picnic tables/bbq areas



Small

Grids of small group tables and chairs

Individual spaces

Shade trees and flowering trees

Drought tolerant ornamental/flowering trees and shrubs

Textured paving (DG or Pavers)

Tables and chairs

Seat walls

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DYNAMIC SCHEME PRESENTED IN WORKSHOP 2

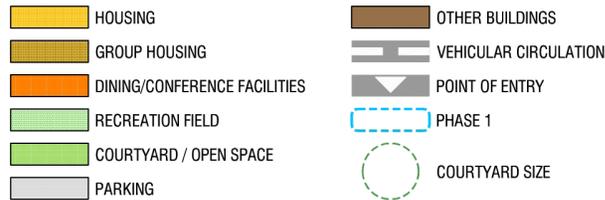
DESCRIPTION:

The dynamic open space option groups buildings around rectilinear but asymmetrical courtyards with non-parallel boundaries.

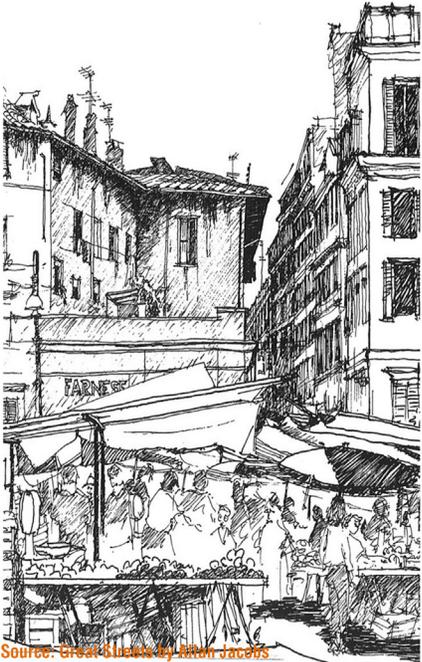
The vehicular round-about is focused at the Watkins Drive entrance both anchoring and providing views toward a central Canyon Crest open space. Public program such as the C-store/café, RSO and dining/conference center will be grouped along the Aberdeen Drive extension which forms the pedestrian/bicycle spine of the development.

Small, medium and large courtyard spaces are a continuum of the building program allowing for both spontaneous and programmed uses of all scales. The outdoor open spaces will have different characteristics: i.e. sunny, shady, quiet, active, colorful, natural etc... that will be reinforced by the massing and exterior skin development of the surrounding buildings.

Group housing is located along Blaine Street and parking is collected at the north-west portion of the site. An extension of the Recreation Mall continues from south of Linden St. The conference center is shown as an anchor to the Watkins Drive entrance and alternatively could be grouped together with or to the north of the dining facilities.



DYNAMIC SCHEME LANDSCAPE CONCEPT:



Source: Great Streets by Milton Jacobs



COPENHAGEN



5



4



3

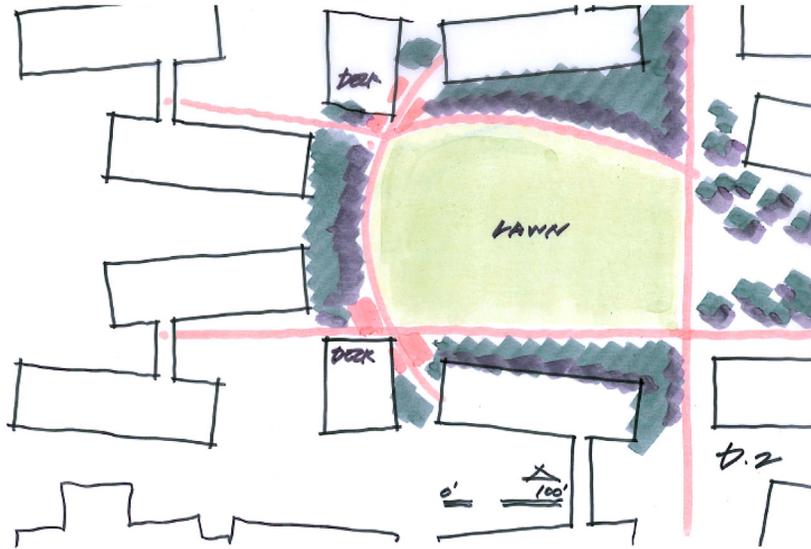


2

DYNAMIC SCHEME - CONTINUED

PRESENTED IN WORKSHOP 2

DYNAMIC SCHEME LANDSCAPE FEATURES:



X-Large (1-1.25 acres) Canyon Crest wide

Large open space/lawn for campus wide events (concerts, events, celebrations, orientations)

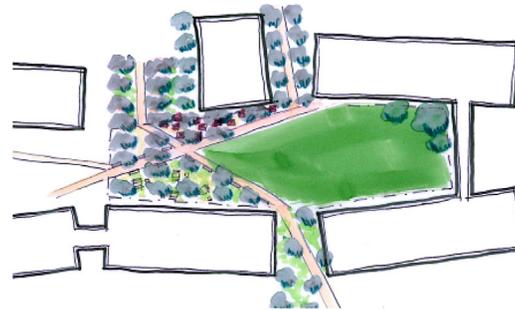
Ring of trees along perimeter

Plazas and terraces open onto space

Direct site and path lines

OVERALL CONCEPT

- Elliptical shapes, asymmetrical, diagonal lines
- Diagonal lines of trees/plant material
- Intersecting paths that follow site lines and form use areas
- Large masses of plant material
- Mounds and grading that create interesting spaces

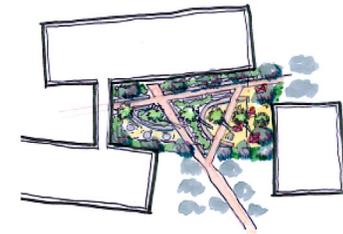


Large (1/2 acre) Residence Hall Wide

Large open lawn (outdoor movie night on projection screen, Frisbee, sunbathing, etc)

Shade trees and drought tolerant shrubs and groundcover around perimeter

Grids of contemporary picnic and bbq areas



Small

Small lines of table and chairs and seatwalls

Geometric organization of small/intimate and individual spaces

Diagonal lines of shade trees and plant material, sunny/shaded areas

Geometric paving patterns and contemporary materials

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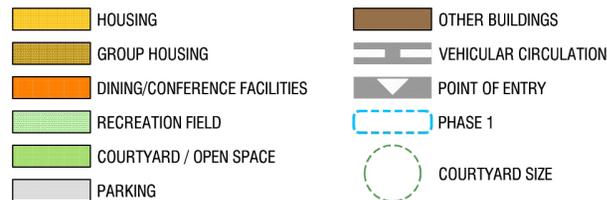
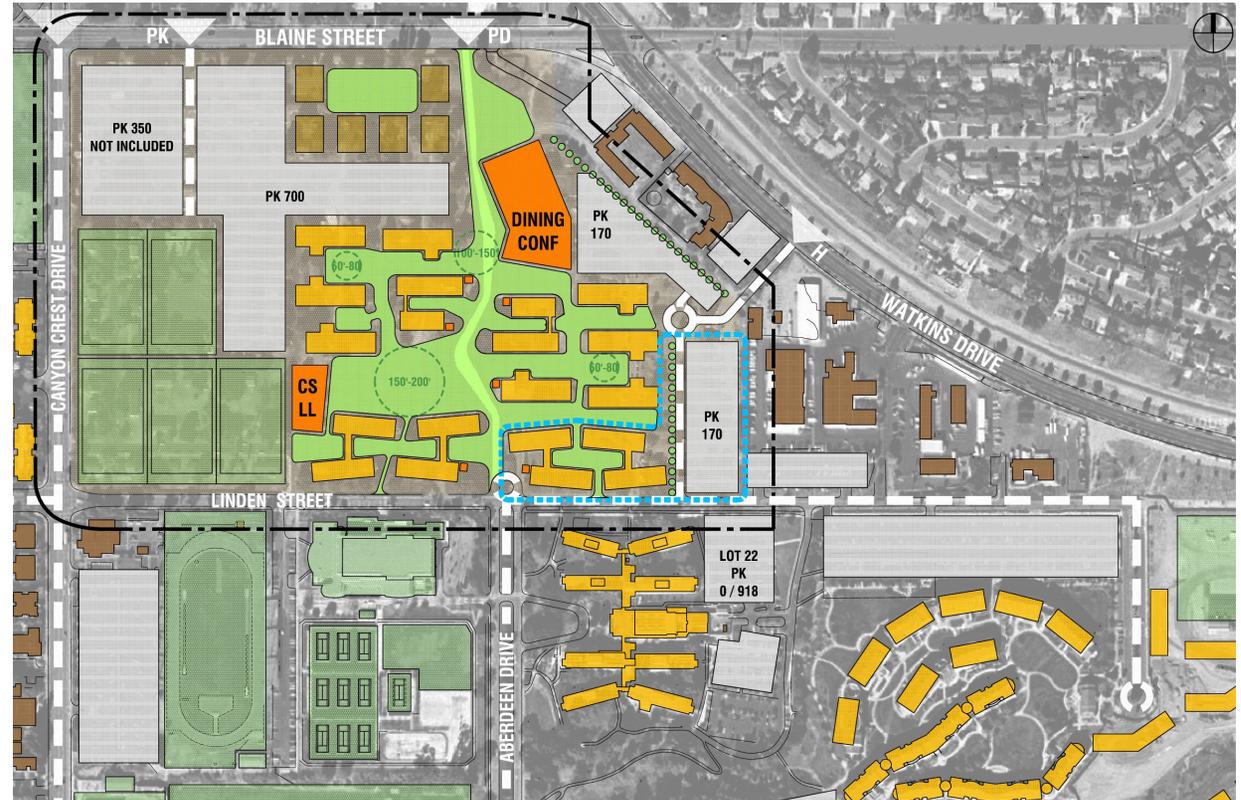
MEANDERING SCHEME PRESENTED IN WORKSHOP 2

DESCRIPTION:

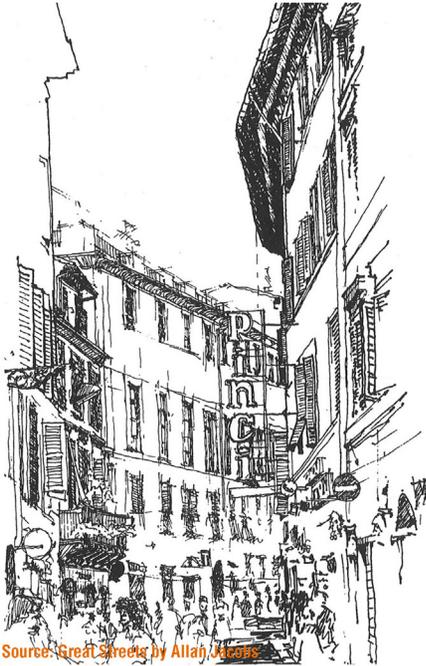
The meandering open space option groups buildings around loose natural spaces. The vehicular round-about is focused at the Watkins Drive entrance. Public program such as the C-store/café, RSO and dining/conference center will be grouped along the Aberdeen Drive extension which forms the pedestrian/bicycle spine of the development.

Small, medium and large courtyard spaces are a continuum of the building program allowing for both spontaneous and programmed uses of all scales. The outdoor open spaces will have different characteristics: i.e. sunny, shady, quiet, active, colorful, natural etc... that will be reinforced by the massing and exterior skin development of the surrounding buildings.

Group housing is located along Blaine Street and parking is collected at the northwest portion of the site. An extension of the Recreation Mall continues from south of Linden St. The dining and conference center are combined and massed to relate to the more organic nature of the pedestrian walk-ways.



MEANDERING SCHEME LANDSCAPE CONCEPT:



LONDON



1



5



4



3



2

MEANDERING SCHEME - CONTINUED

PRESENTED IN WORKSHOP 2

MEANDERING SCHEME LANDSCAPE FEATURES:



OVERALL CONCEPT

- Loose, natural shapes
- Weaving paths
- Informal clusters of trees and plant material
- Mixed masses of vegetation
- Undulating masses of grading and landforms

Courtyard Spaces

X-Large Space

- Large organic loose open lawn space (campus events, concerts, celebrations)
- Terrace areas off of buildings
- Flanked by perimeter shade and ornamental tree plantings and natural/drought tolerant shrubs and groundcovers
- Curved plazas and terraces open up onto the space

Large

- Large open lawn surrounded by shade trees (sunbathing, group gathering spot, frisbee, etc.)
- Informal groups of picnic tables and bbq on DG paving
- Large boulders for seating

Small

- Small clusters of movable tables and chairs
- Natural shaped linear seat walls
- Shaded quiet space
- Clusters of shade trees with informal groups of flowering shrubs
- Natural materials for paving and site furnishings

7: APPENDIX

ALTERNATIVE STUDIES WORKSHOP 3

HYBRID PLAN

SCHEME 7

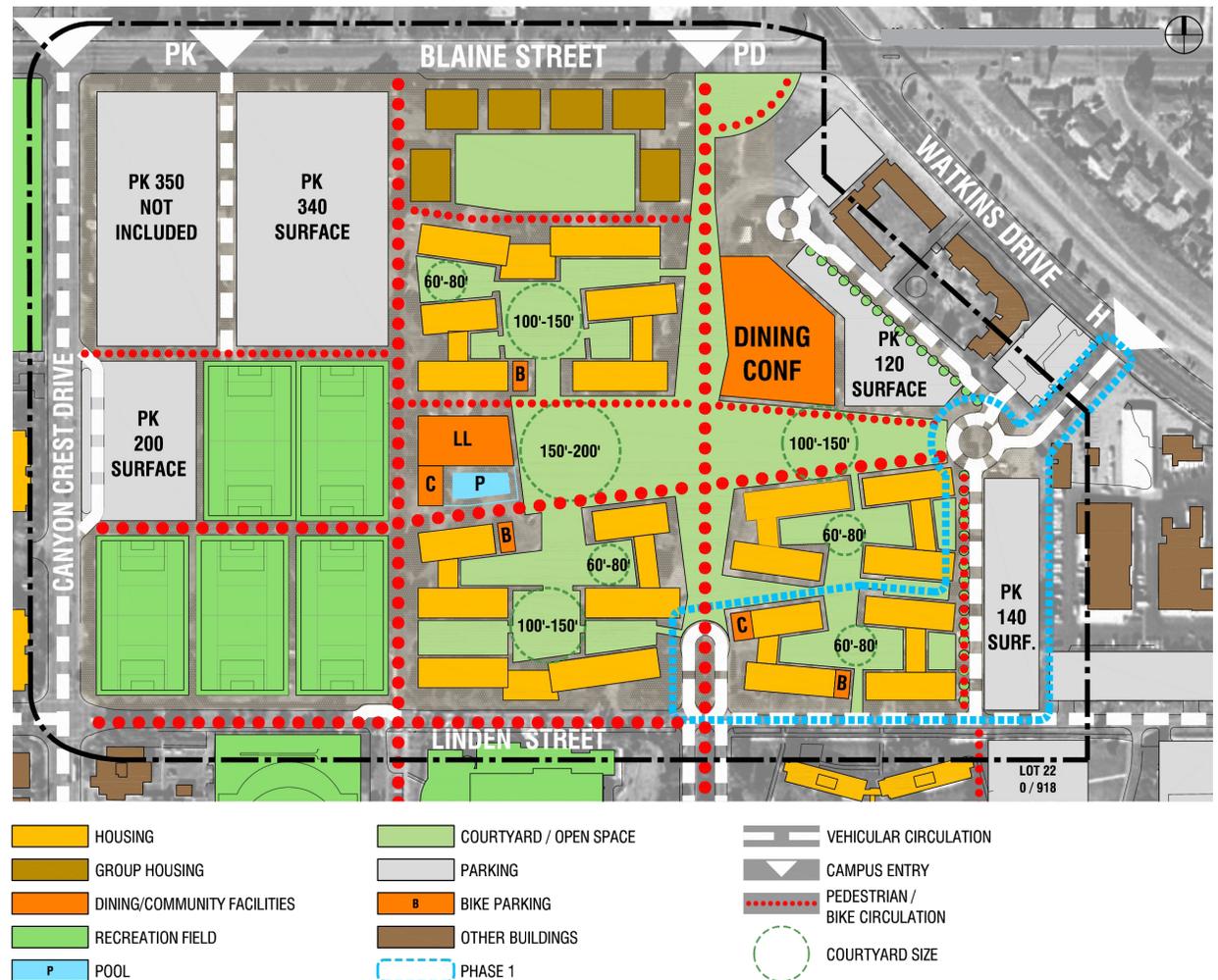
PRESENTED IN WORKSHOP 3

DESCRIPTION:

- Phase 1 includes two southern buildings in the Dundee Residence Halls complex

Three primary circulation axis:

- Aberdeen Dr. extension to Blaine Street,
- Recreation Mall extension to Blaine Street
- East-West extension from Canyon Crest Drive to Watkins Drive drop-off
- Secondary circulation routes connect all Canyon Crest communities and activities
- Buildings are oriented with respect to solar orientation
- Buildings are sited and grouped to reduce the impact of building scale and foster community around outdoor courtyards of different sizes and characteristics
- Vehicular entrance off of Watkins Drive – will be considered as a major entrance accommodating 5000-6000 students as well as conference attendees; the entrance will accommodate Child Development Center traffic; a bus pullout will be accommodated
- Drop off at Linden Street and Blaine Street – will accommodate vehicular access to service RSO and C-store functions; campus buses will be accommodated



HYBRID PLAN

SCHEME 7 ALTERNATE

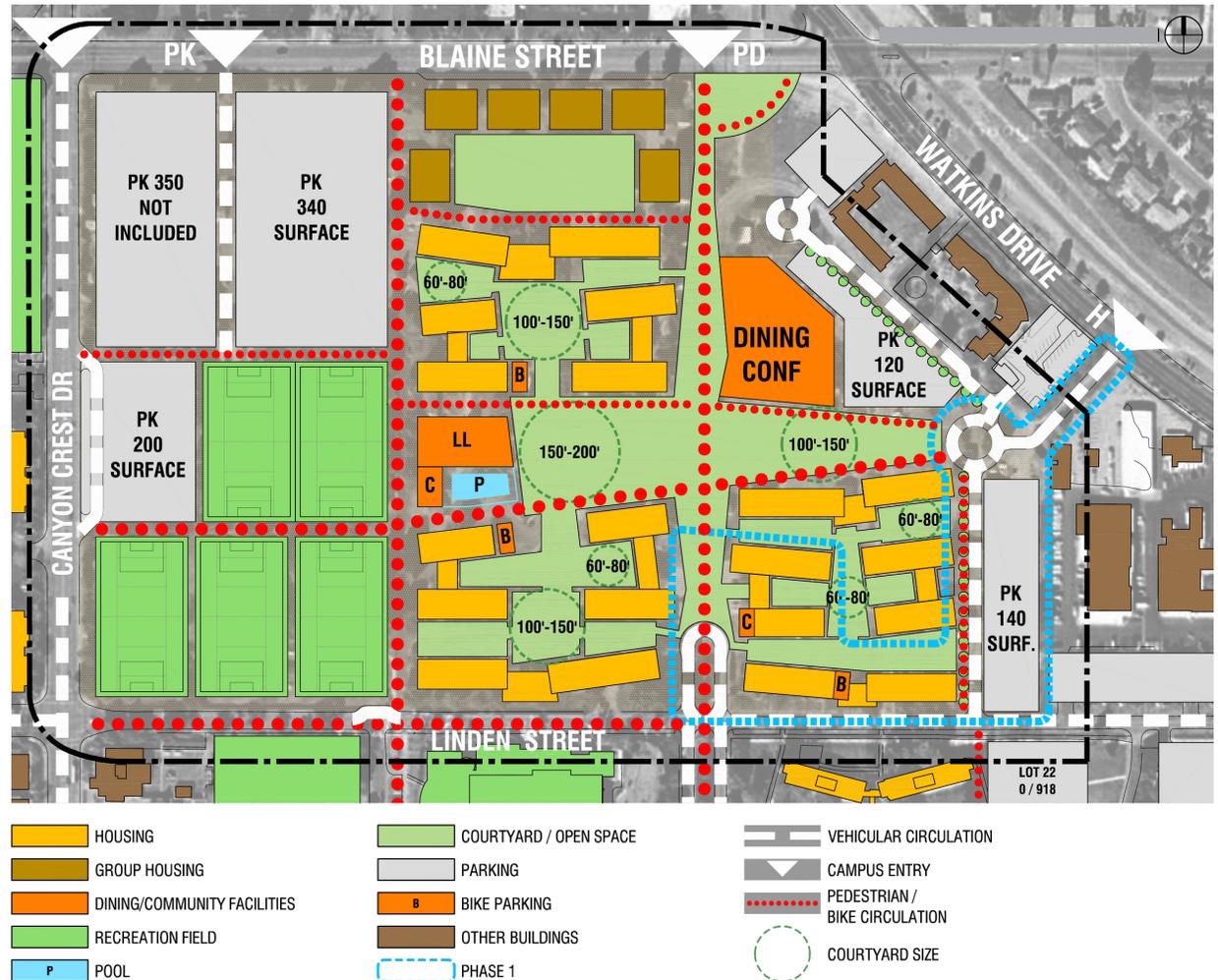
PRESENTED IN WORKSHOP 3

DESCRIPTION:

- Phase 1 includes the middle building and southern bar in the Dundee Residence Halls complex

Three primary circulation axis:

- Aberdeen extension to Blaine Street,
- Recreation Mall extension to Blaine Street
- East-West extension from Canyon Crest Drive to Watkins Drive drop-off
- Secondary circulation routes connect all Canyon Crest communities and activities
- Buildings are oriented with respect to solar orientation
- Buildings are sited and grouped to reduce the impact of building scale and foster community around outdoor courtyards of different sizes and characteristics
- Vehicular entrance off of Watkins Drive – will be considered as a major entrance accommodating 5000-6000 students as well as conference attendees; the entrance will accommodate Child Development Center traffic; a bus pullout will be accommodated
- Drop off at Linden Street and Blaine Street – will accommodate vehicular access to service RSO and C-store functions; campus buses will be accommodated



PROJECT AREA SUMMARY FOOTNOTE SOURCES

FOOTNOTE 1

UCR SPSH 2008 Residence Hall Program Model (pg. 20-21)

residence hall program model

Space #	Space / Description	Quantity	ASF	Total ASF	Occupancy	Comments
Staff / Living Spaces				13,720		
982	1-Bedroom Apt. (2/Hall)	2	504	1,008	1	Head Resident Staff
911	1-Person Suite (1/Hall)	1	384	384	1	Program Coordinator
982	2-Bedroom Apt. (1/300)	4	810	3,240	2	Resident Director Staff
911	Bedrm w/Private Bath (1:38 +/-)	32	284	9,088	1	Resident Assistant (RA)
Student Residences				146,928		
914	4-Person Semi-Suite (2D)	240	562	134,880	960	
912	2-Person Semi-Suite (2S)	24	502	12,048	48	
913	3-Person Semi-Suite (1S/1D)	48	501	24,048	96	
911	1-Person Suite (1S)	0	284	0	0	
912	2-Person Suite (1D)	32	284	9,088	64	
Residential Community				23,520		
630	Student Lounges	32	550	17,600	15-30	
920	Hall Kitchen	32	140	4,480	15-30	
920	Trash & Recycle (Hall)	12	120	1,440	0	
Residence Services Office				3,667		
335	Lobby/Reception/Waiting	1	537	537	8	
320	Resident Director Office	1	120	120		
320	Head Resident Office	1	100	100		
320	RSO Manager Office	1	160	160		
320	Staff Offices	5	120	600		
335	Staff Workroom	1	225	225		
335	Staff Restroom	1	60	60		
335	Staff Workstations	3	120	360		
630/929	Staff Lounge/Kitchenette	1	120	120		
340	Conference Room	1	325	325		
410	Poster Room	1	160	160		
335	Storage	1	300	300		
615	Mail Room/Boxes	1	600	600		



Pentland Hills

The program model for residence halls is designed to meet the study and living needs of the first-year student, the development of a strong residential community, and strong campus connections. The model is based on a community of 600 students to generate an area/student for planning and budget purposes. Due to the unique site features, program features and phasing needs, the final community size/building groups will vary in size; however, the planning figure of 280 gsf/bed should not be exceeded as an average for the total residence hall program.

residence hall program model

Space #	Space / Description	Quantity	ASF	Total ASF	Occupancy	Comments
Community / Academic				4,300		
130	Seminar rooms	4	300	1,200	0	
410	Small Group Study	6	150	900	0	
630	Fitness Room	1	1,000	1,000	0	
260/110	Computer Lab or Classroom	1	800	800	30	
630	Gaming Lounge	1	400	400	0	
630	Living Room	1	1,200	1,200		
340	Multipurpose Room	1	6,000	6,000		
Support Spaces				12,800		
985	Laundry/Vending	16	375	6,000	0	
335	Public Restrooms	2	250	0	0	Note 1
720	Student Personal Storage	2	600	1,200	0	
510	Mechanical Space	2	120	0	0	Note 1
920	Housekeeping Closets	32	80	0	0	Note 1
510	Telecommunications	32	100	3,200	0	
920	Trash Recycle Collection Room	4	500	2,000	0	
610	Unassigned	1	400	400	0	
Subtotal ASF				204,935		
Program Efficiency Ratio @ 70%						
Target GSF				292,764		
Target GSF/Bed @ 1168 Beds (1,207 beds including Staff)				280		

Note: 1 Non assignable area per U.C. program standards

FOOTNOTE 2

UCR SPSH 2008 A-I Common Space Renovation Program (pg. 127)

aberdeen-inverness
common space renovation program



KEY

	Housing
	Circulation
	Dining
	Emergency Exits
	Lounge
	Main Entrances
	Office / Support
	Other Common Areas
	Staff Apartment

Space #	Space / Description	Quantity	ASF	Total ASF	Comments
Residential Spaces				5,712	
982	2-Bedroom Townhouse. (1/200)	4	1,050	4,200	Resident Director
982	2-Bedroom Apt. (1/Hall)	2	756	1,512	Head Resident
Community Space				5,860	
335	Entry vestibule	1	100	100	
130	Large Meeting Rooms	3	500	1,500	
130	Small Meeting Rooms	6	150	900	
260/110	Computer Lab/Classroom	1	360	360	
630	Gaming Lounge	1	800	800	
630	Fitness Room	1	1,000	1,000	
630	Living Room	1	1,200	1,200	
Resident Services Office				3,067	
335	Lobby/Reception/Waiting	1	537	537	
320	Resident Director Office	1	120	120	
320	Head Resident Office	1	100	100	
320	RSO Manager Office	1	160	160	
320	Staff Offices	5	120	600	
335	Staff Workroom	1	225	225	
335	Staff Work Stations	3	120	360	
335	Staff Restroom	1	60	60	
630/920	Staff Lounge/Kitchenette	1	120	120	
340	Conference Room	1	325	325	
410	Poster Room	1	160	160	
335	Storage	1	300	300	
615	Mail	1	350	350	
Support Spaces				0	
335	Public Restrooms	2	250	0	Note 1
510	Mechanical Space	1	120	0	Note 1
920	Custodial Services	1	120	0	Note 1
920	Housekeeping Closets	1	80	0	Note 1
510	Telecommunications	1	100	0	Note 1
Total ASF				14,639	
Add Emporium				4,191	
Internal Net to Gross Factor (70%)				25,104	

Note 1 Non assignable area per U.C. program standards

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FOOTNOTE 3

UCR Glen Mor 2 Student Housing 2009 DPP Program Summary (pg. 40-41)

PROGRAM SUMMARY

Code	Space/Description	Quantity	ASF	Total ASF	Beds	Comments
RESIDENTIAL SPACES						
APT-4	4 Bedroom Apartment	182	1,100	200,200	728	Bedrooms sized for single occupancy
APT-2	2 Bedroom Apartment	36	675	24,300	72	Bedrooms sized for single occupancy
APT-RD	2 Bedroom Resident Director/Faculty In Residence Apartment	4	1,050	4,200	4	Master bedroom suite, with washer/dryer
APT-RA	1 Bedroom Resident Assistant Apartment	10	420	4,200	10	
			Subtotal	232,900	814	
COMMUNITY SPACE						
CR-2	Medium Meeting Room	2	750	1,500		Catering Kitchenette, 30 people
CR-4	Small Meeting Room	5	250	1,250		Provide 1 per building, 10 people
CL-1	Computer Lab/Classroom	1	800	800		
RC-1	Academic Resource Center	1	500	500		
PO-3	Private Office - Type 3	1	120	120		Faculty In Residence
GL-1	Gaming Lounge	1	500	500		
F-1	Fitness Room	1	800	800		Equipment
F-2	Multi-Purpose Room	1	700	700		Studio
L-1	Laundry	2	700	1,400		Additional laundry located in Resident Services Office
V-1	Vending	2	125	250		Adjacent to laundry
			Subtotal	7,820		
RESIDENT SERVICES OFFICE						
WT-1	Lobby/Reception/Waiting	1	500	500		
RR-1	Public Restroom	1	120	0		Note: Square footage not included in ASF
ST-1	Storage	1	300	300		
WR-1	Staff Workroom	1	300	300		
MR-1	Mail	1	500	500		Adjacent to Resident Services Office work stations
MR-2	Mail/Package Storage	1	250	250		Adjacent to Resident Services Office work stations
RR-2	Staff Restroom	1	60	0		Note: Square footage not included in ASF
SL-1	Breakroom/Kitchenette	1	120	120		Staff Lounge
MP-1	Graphic Production Room	1	200	200		

<i>Code</i>	<i>Space/ Description</i>	<i>Quantity</i>	<i>ASF</i>	<i>Total ASF</i>	<i>Comments</i>
Residence Life					
PO-2	Private Office - Type 2	2	160	320	Resident Directors; size accommodates small meetings
PO-4	Private Office - Type 4	1	100	100	Head Resident
PO-3	Private Office - Type 3	2	120	240	Support Resident Directors
Conference Staff					
PO-1	Private Office - Type 1	1	180	180	Staff Manager
PO-3	Private Office - Type 3	3	120	360	Support Resident Services Office Staff Managers
CR-3	Conference Room	1	400	400	
ST-1	Conference Storage	1	300	300	
Resident Services Office Staff					
PO-2	Private Office - Type 2	1	160	160	Resident Services Office Manager
WS-1	Staff Workstations	4	120	480	2 professional staff, 2 student staff
			Subtotal	4,710	
CONFERENCE FACILITY					
CR-1	Large Meeting Room	1	1,000	1,000	With sink and catering counter, 2 parking spaces (1 delivery, 1 handicap accessible)
RR-1	Public Restroom	1	120	0	Note: Square footage not included in ASF
ST-2	Storage	1	250	250	For large meeting room tables/chairs
APT-S	Studio Apartment	2	410	820	2 parking spaces
HS-1	Housekeeping Services	1	100	100	
			Subtotal	2,170	
SUPPORT SPACES					
HS-1	Housekeeping Services	5	100	500	1 per building; includes mod sink
ST-3	Custodial Closets (storage)	27	50	1,350	1 per floor
PO-2	Private Office - Type 2	2	160	320	Operations Office
MS-1	Maintenance Shop/Storage	1	750	750	
SL-1	Breakroom/Kitchenette	1	120	120	Maintenance Breakroom
			Subtotal	3,040	
PARKING					
Parking Structure		596			420 displaced + 176 additional = 596 total required
Total ASF				250,640	
Net to Gross Factor (75%)				334,187	

FOOTNOTE 5

UCR 2005 Canyon Crest DPP (section 2.2.2 residence halls)

2.2.2 Residence Halls

Room Code	Area Description	Phase 1	Phase 2	Phase 1		Phase 2	
		Quantity	Quantity	ASF	Total ASF	Total ASF	Total ASF
Staff / Living Spaces		4	2		2,520	1,512	4,032
982	Staff 2-bedroom apartment	2	2	756	1,512	1,512	3,024
981	Staff - 1 bedroom apartment	2	0	504	1,008	0	1,008
Student Residences		233	144		117,374	72,184	189,558
914	4-person semi-suite (2D)	149	93	562	83,738	52,266	136,004
912	2-person semi-suite (2S)	15	9	502	7,530	4,518	12,048
913	3-person semi-suite (1S/1D)	30	16	501	15,030	8,016	23,046
911	1-person suite (1S)	18	10	284	5,112	2,840	7,952
912	2-person suite (1D)	21	16	284	5,964	4,544	10,508
Residential Community		48	32		15,556	10,036	25,592
630	Student Lounges	20	12	550	11,000	6,600	17,600
920	Kitchen	20	12	140	2,800	1,680	4,480
920	Trash & Recycle Room	2	2	518	1,036	1,036	2,072
920	Trash Chute	6	6	120	720	720	1,440
Resident Services Office		15	1		2,607	160	2,767
335	Lobby/reception/waiting	1		537	537	0	537
320	Resident Director Office	1		120	120	0	120
320	Head Resident Office	1		100	100	0	100
320	RSO Manager Office	1		160	160	0	160
320	Office	1		120	120	0	120
335	Staff Workstations	3		80	240	0	240
335	Staff Workroom	1		225	225	0	225
335	Staff Restrooms	1		60	60	0	60
630/920	Staff Lounge/kitchen	1		120	120	0	120
340	Conference Room	1		325	325	0	325
410	Poster Room	0	1	160	0	160	160
335	Storage	1		300	300	0	300
335	Public Restrooms	2		150	300	0	300
Community / Academic		4	11		600	4,800	5,400
130	Seminar rooms	0	4	400	0	1,600	1,600
410	Small Group Study	4	4	150	600	600	1,200
630	Fitness Room	0	1	1,000	0	1,000	1,000
260/110	Computer Lab/Classroom	0	2	800	0	1,600	1,600
Support Spaces		37	28		6,700	4,500	11,200
720	Student Personal Storage	8	8	150	1,200	1,200	2,400
920	Housekeeping/custodial Closets	8	8	100	800	800	1,600
510	Telecommunications Closets	12	4	125	1,500	500	2,000
985	Laundry/Vending	8	8	250	2,000	2,000	4,000
630	Core living room/lounge	1	0	1,200	1,200	0	1,200
Subtotal ASF		341	218		145,357	93,192	238,549
Program Efficiency Ratio @ 70%							
Target GSF					207,653	133,131	340,784
Target GSF/Bed @ 1241 Beds (1241 beds including Staff)					167	107	275

Notes: Includes space allocations for accessible requirements
 Exterior Space program included in Master Plan for Housing Document
 280 GSF/ Bed is for planning and budget purposes; program refinement required in program and design phase

end

