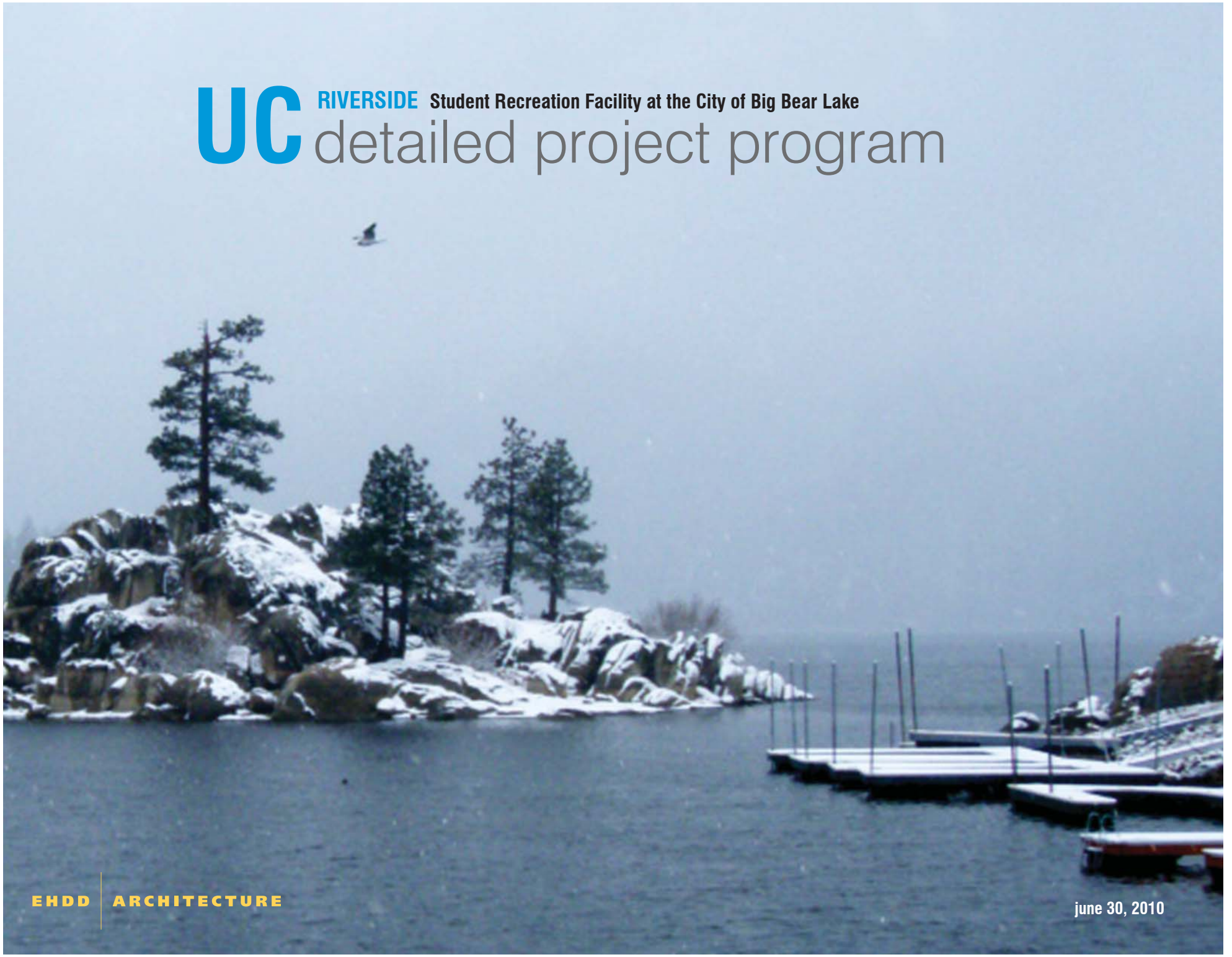
UC RIVERSIDE Student Recreation Facility at the City of Big Bear Lake

detailed project program



EHDD | ARCHITECTURE

june 30, 2010

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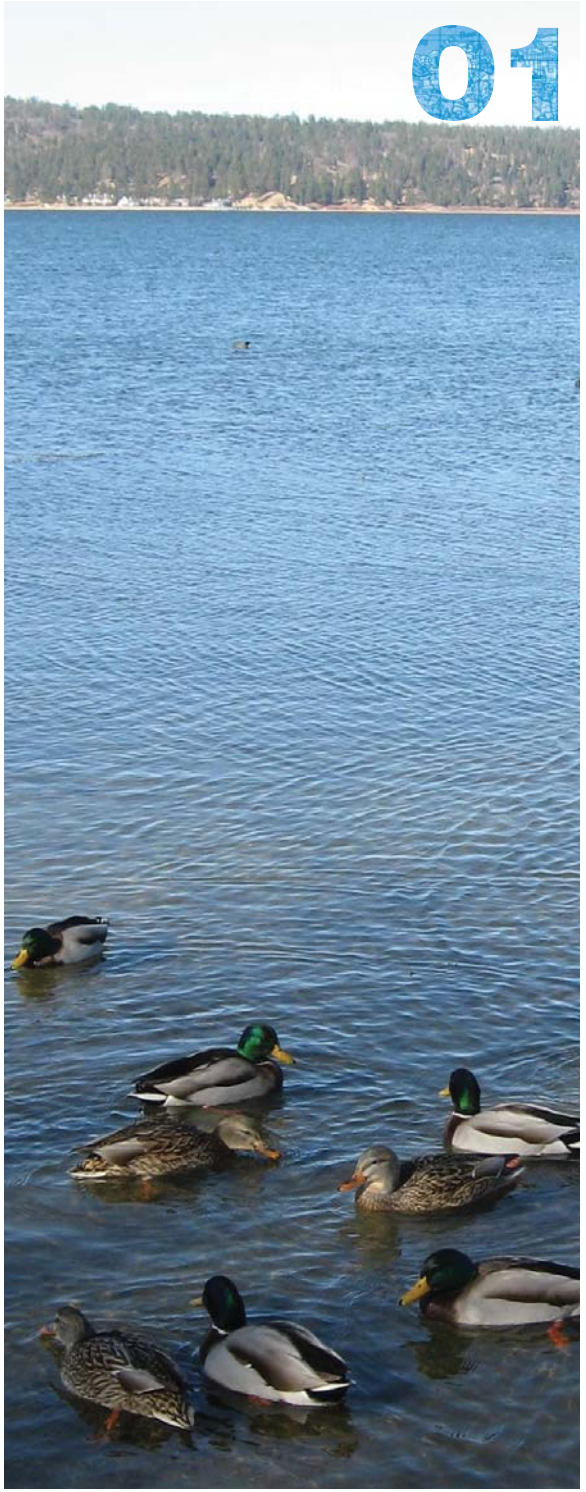

01 participants

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PROJECT MANAGEMENT TEAM

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02 executive summary


BIG BEAR
BLVD/
HWY 18
N

INTRODUCTION

In June 2008, the UC Riverside Recreation Programs purchased an existing house and parcel in the City of Big Bear Lake, CA for use as a home base for their Outdoor Excursion Programs. Although the house is being used by the Recreation Programs, the structure is not ADA compliant and does not serve the proposed needs of the Recreation Programs at Big Bear Lake, which include instruction and retreats in all seasons, including skiing, snowboarding, camping, hiking, kayaking and bicycling.

In 2008, an analysis of the house and property by Institutional Designs and Architecture Services investigated life safety issues, accessibility compliance and performed a structural evaluation. Repairs and upgrades were deemed more expensive than replacing the structure, and the decision was made to build a new Student Recreation Facility that would instead allow for expanded Outdoor Excursion and Recreation Programs to maximize the use of the facility with limited resources.

The following Student Recreation Facility (SRF) at the City of Big Bear Lake Detailed Project Program outlines the program and initial building organization, as well as building systems criteria, a cost plan, and sustainability options.

VISION

The vision for the SRF at Big Bear Lake is to provide a new facility for student recreation programs and retreats to enrich student experiences and offer overnight accommodations in the mountain setting of Big Bear Lake.

The facility should provide a “home away from home” as well as a venue for out-of-class experiences, and a place for team-building and bonding.

GOALS

Goals expressed during the process of developing the Detailed Project Program reiterate the University and the UCR Recreation Program’s desire to maximize the use of the Big Bear Lake facility for all-season recreation and retreat programs:

- **Establish a home base for Outdoor Excursions in the Big Bear area that allows expanded programs.**
- **Maximize facility utilization by giving priority to Outdoor Excursions and student use, followed by providing opportunities for other campus uses.**
- **Serve Outdoor Excursions seasonal equipment storage requirements.**
- **Contains a Great Room with a relaxing mountain retreat atmosphere that is inviting, friendly, encourages individual reflection, informal small group activities, and promotes community building.**
- **Provide a kitchen that can support multiple food preparation levels including self supported / individual cooking, organized group meals, and catered events.**
- **Achieve a minimum of LEED Silver or equivalent in a fiscally responsible way while balancing long-term operating costs.**
- **Construct a facility to maximize the use of limited resources**
- **Establish an attractive UCR presence as a good neighbor in the City of Big Bear Lake**
- **Design a well-organized facility that is secure and easy to operate with minimal staff supervision.**

METHODOLOGY

The Detailed Project Program (DPP) for the Student Recreation Facility at the City of Big Bear Lake was realized through two on-campus workshops and several teleconferences, which included the design consultant team and the UCR Project Management Team. The Project Committee for the DPP was made up of the Student Recreation Governing Board, the Associated Students UCR, the Graduate Student Association, and the Academic Senate Physical Resources Committee.

The workshops were used to refine the project vision and goals, the indoor and outdoor program needs, and to review options for site planning, phasing, and possible building systems and materials.

Numerous site concepts and phasing diagrams were developed and reviewed (see Appendix). Sizes and amenities for the proposed public and private spaces were reviewed and refined, as well as the degree of openness versus privacy of the buildings and outdoor spaces relative to the immediate neighbors, and the City at large. Parking requirements were reviewed along with possible transportation plans that would provide for carpools and vanpools, in an effort to minimize parking spaces and traffic to the site.

The results of these workshops and discussions are reflected in the Site Concept + Phasing Diagrams, Preferred Scheme, Phase I and II, and the Concept Floor Plans and Room Data Sheets which follow.

PROPOSED FACILITY CAPACITY (PHASE I)
Indoor dining: 56 seats (Great Room)
Overnight: 26 beds

PROPOSED FACILITY SIZE (PHASE I)

Community Wing	1,707 ASF	2,714 GSF	3,384 OGSF50
Bunkhouse I Wing	860 ASF	1,015 GSF	1,212 OGSF50
TOTAL NEW CONSTRUCTION	2,567 ASF	3,729 GSF	4,595 OGSF50
Equipment Storage	550 ASF	600 GSF	600 OGSF50

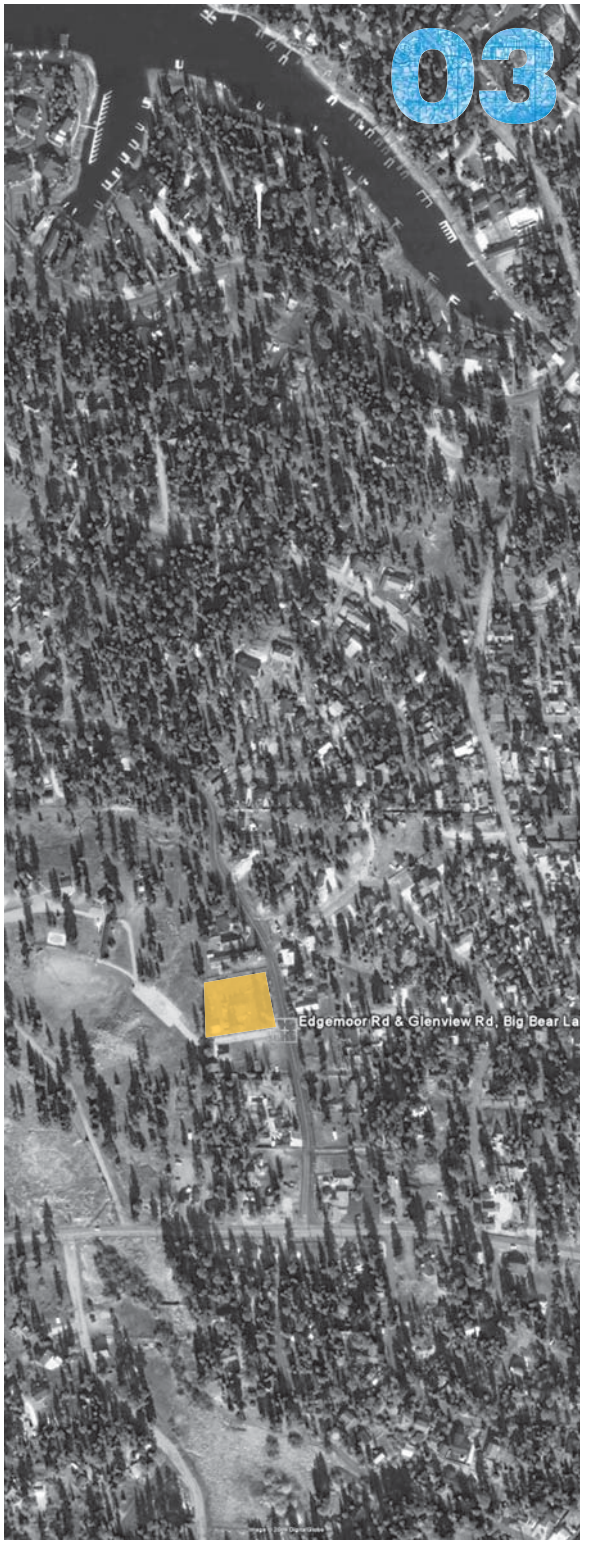
PROJECT SCOPE

The SRF at Big Bear Lake is proposed to be developed in Phases. Phase I includes new construction of approximately 3,700 square feet of indoor program divided into two wings.

The Community Wing includes communal dining, kitchen and service spaces, and the Bunkhouse I Wing includes overnight accommodations for 26 beds. The two wings are connected by exterior covered porches that extend the usable space to the outdoors.

Phase I also includes parking, a multi-purpose lawn and BBQ area and equipment storage in an existing shed structure on the property.

The Detailed Project Program is focused primarily on Phase I construction, including the Community Wing, Bunkhouse I, parking, and related site work. As shown in the Site Concept Diagrams and the Program Area Summary, planned construction for Phase II includes additional parking, a second bunkhouse, and additional equipment storage.



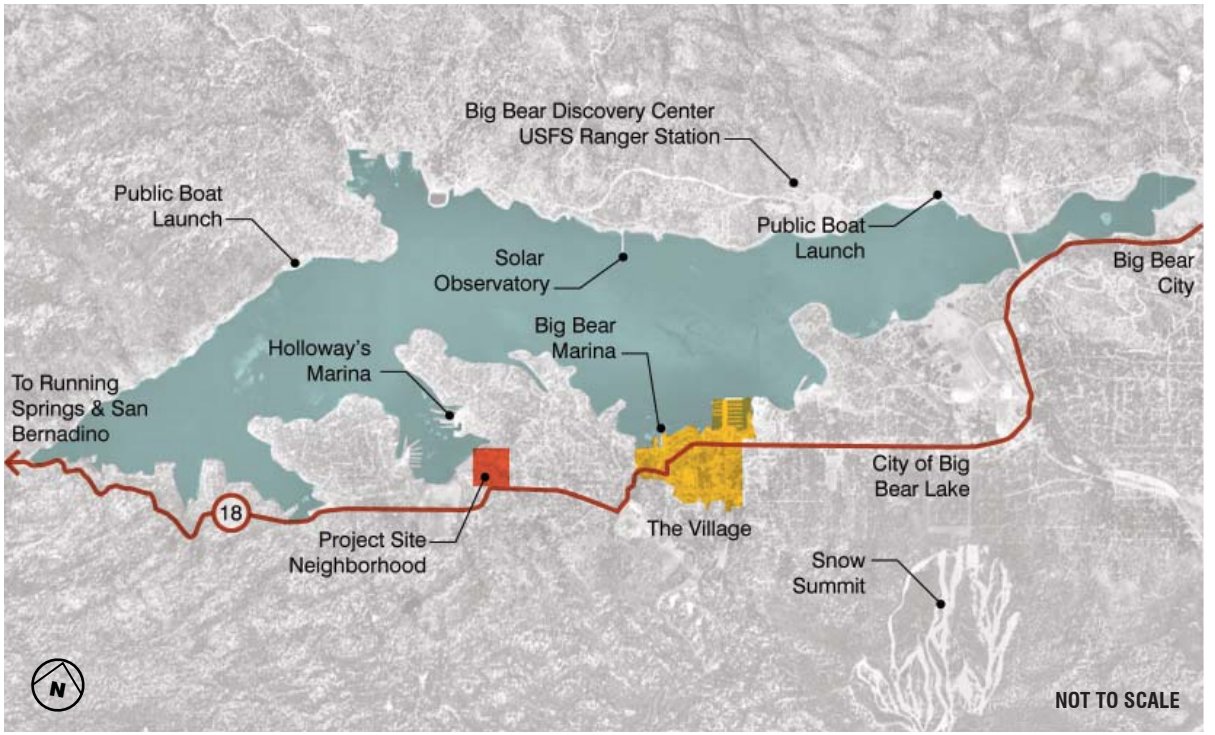
project site

SITE DESCRIPTION

SITE ANALYSIS

SITE PLANNING + DEVELOPMENT

SITE CONCEPT + PHASING DIAGRAMS



BIG BEAR LAKE

The City of Big Bear Lake, a quasi-suburban mountain community in San Bernardino County, is at an altitude of 6,750 feet above sea level, has a population of over 6,000 residents, and is approximately 50 miles north-east of Riverside, CA.

The City of Big Bear Lake is reached from Riverside via Highway 18, which runs along the southern side of the lake. There is a general aviation airport in adjacent Big Bear City, and the City of Big Bear Lake is also serviced by the Mountain Area Regional Transit Authority (MARTA) bus line from downtown San Bernardino. Local bus service at Big Bear Lake is also provided by MARTA.

Big Bear Lake is Southern California's largest recreation lake, about 7 miles long and 1 mile across at the widest point. Fishing, mountain bike riding and horseback riding are popular summer activities and skiing and snowboarding at Snow Summit and Bear Mountain ski resorts make Big Bear Lake the premier winter sports destination in Southern California.

PROJECT SITE

The 37,440 sf property at 578 Edgemoor Road includes an existing house, (approximately 3,600 sf), originally constructed in 1947. The property also includes an existing wood storage shed, approximately 600 GSF. No topographical survey of the property, or analysis of the existing shed are available at this time.

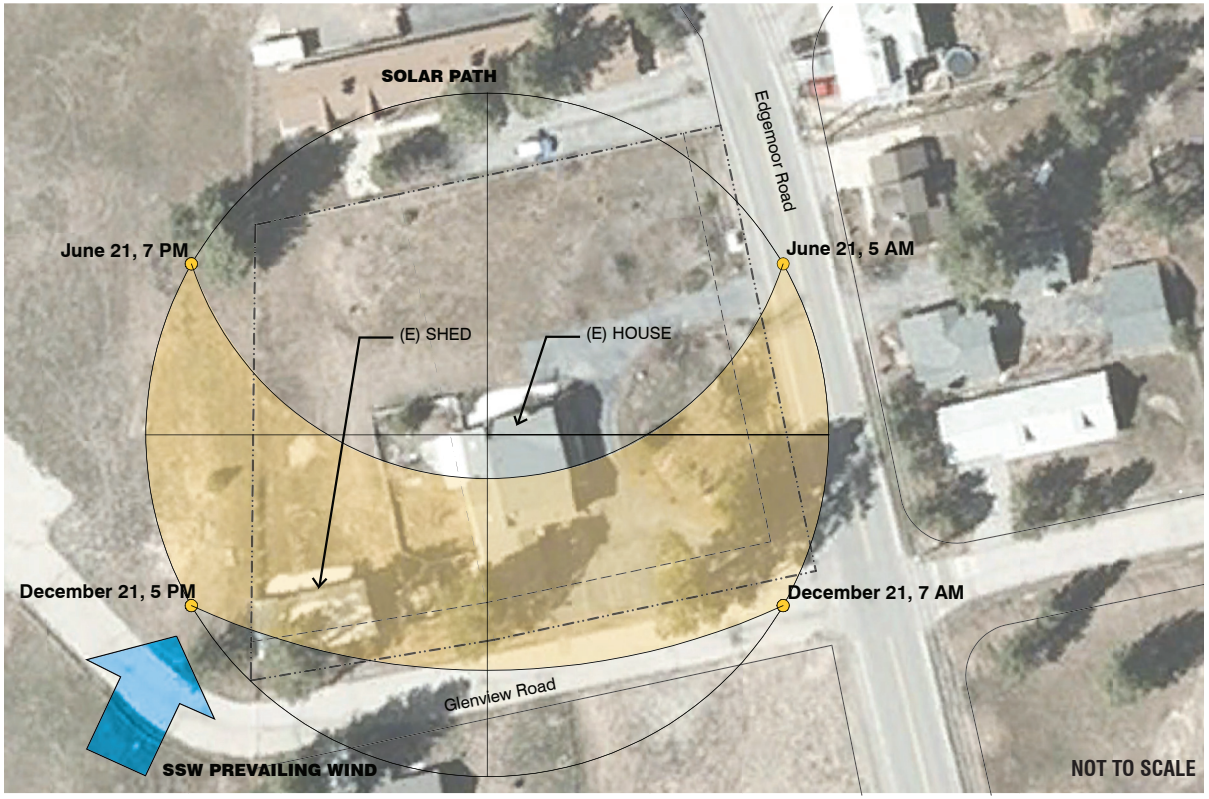
The site is in a neighborhood consisting mostly of single-family residences and vacation rentals. Most commercial uses are concentrated on Big Bear Blvd. (Highway 18), but Holloway's Marina is located less than a mile past the site off of Edgemoor Road.

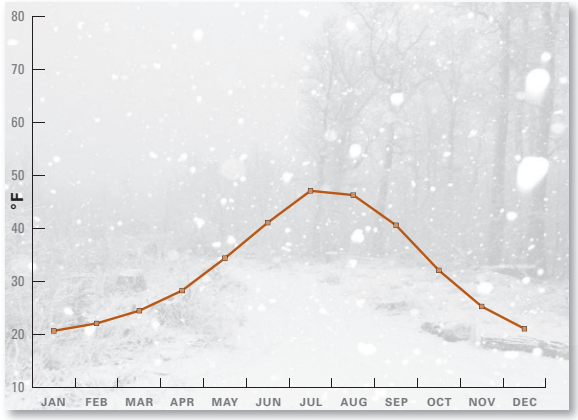
There are single-family residences across Edgemoor Road to the east, one single-family residence across Glenview Road to the south, an open space portion of the Presbyterian Church Conference Center to the west, and a group of rental cabins bordering the property on the north. A locked gate at the end of Glenview permits entrance to a private drive through the Church Conference Grounds, as well as access to a parking lot near the western project property line.

CLIMATE

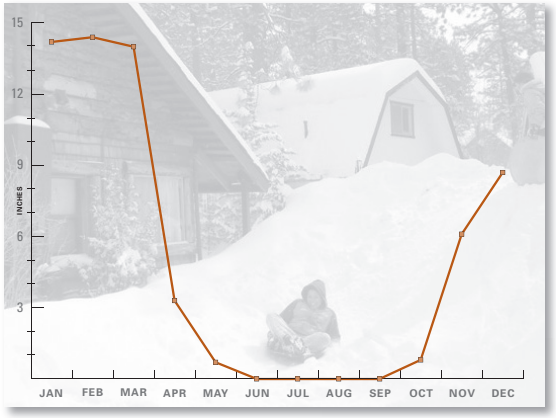
The average high July temperature at Big Bear Lake is 80 degrees Fahrenheit The average high January temperature is 47 degrees and the average low for January is 20 degrees. Freezing temperatures can occur at any month of the year and average 193 days each year.

Measured precipitation normally occurs 45 days per year, with an average annual snowfall of 61.8 measured at the lake level. Snow has fallen in every month, except for July and August, and there are normally 16.5 days each year with measurable snowfall (.1 inch or more).





monthly average low temperature



monthly average snowfall

UTILITIES

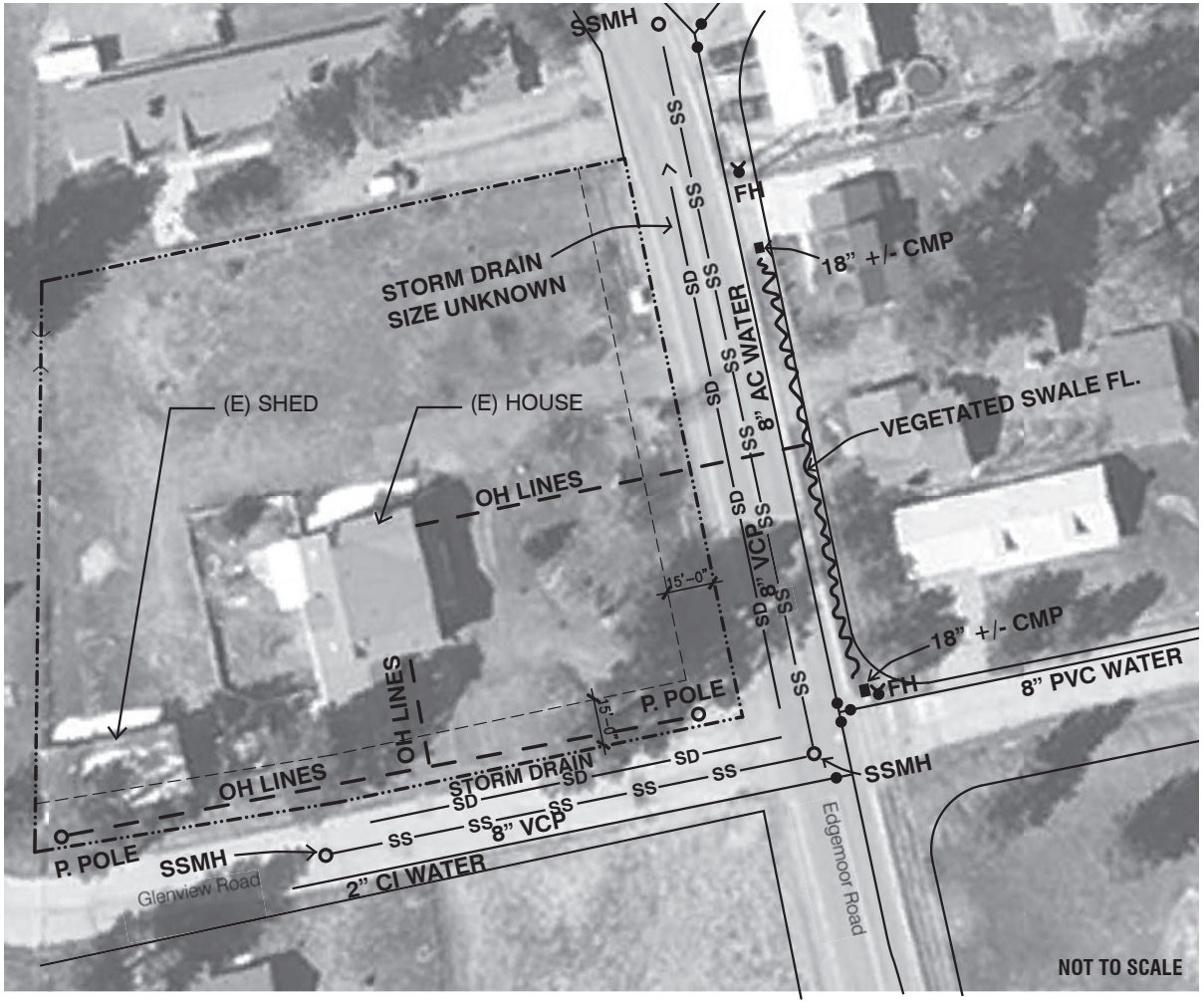
Existing utilities serving the neighborhood include sanitary sewer lines, domestic water, natural gas and electrical power. The existing water service has 5/8-inch meter and a ¾-inch building supply per the DPW records. The existing building also has natural gas service and an existing 200 amp electric service panel.

GRADING

There is no topographical survey available for this parcel. The existing sheet drainage on the property is generally in the northeasterly direction towards Edgemoor Road. There is an existing low CMU retaining wall, along the northern property line that was observed to be in poor shape.

SOILS

A preliminary limited Geotechnical Report was prepared for the UC Riverside Office of Design & Construction by GeoTeck, Inc. (Riverside, CA), dated August 24, 2008. The report addressed a proposed wood deck and stairway addition to the existing residence on the property. An amended Geotechnical Report would be required for the proposed new construction in this Detailed Project Proposal.



1. APPROXIMATELY (6) SS LATERALS TO THE EXISTING SITE.
2. PER SOUTHWEST GAS: THERE IS AN EXISTING 2" AND 4" GAS LINE IN EDGEMOOR. A 1 1/2" SERVICE SERVES THE SITE WITH AN EXISTING 425 METER (425 BTU MAX).

PARKING

The existing parking area is accessed from Glenview and Edgemoor Roads. Street parking is not permitted on either street.

In the programming workshops, the minimum Phase I parking requirements for the SRF at Big Bear Lake were determined to be 10 spaces in a new lot on the southern edge of the property and accessed off of Glenview Road. One of these ten spaces is an ADA parking space and would be near the proposed covered porch entry to the community wing. The proposed service drive off of Edgemoor Road can provide one additional parking spot, for a total of 11 new parking spaces.

The Phase II future build-out identifies a larger parking lot with 10 additional spaces, bringing the total available parking on the property to 21 total parking spaces.

SNOW REMOVAL

Edgemoor Road is maintained and plowed by the City in the winter. Although not identified in the 578 Edgemoor Road Appraisal Report (dated May 31, 2008), the block of Glenview Road bordering the southern edge of the property is designated as a private road and is not maintained by the City.

Despite being designated a private road, this block of Glenview Road is still considered a public right-of-way by the City. As such, it is currently plowed by the City in winter, but only after the emergency routes, main roads and local roads have been plowed.

Other property owners with access from Glenview must have a snow removal system in place, if not provided by the City. In the scheme proposed in this report, the preferred arrangement is to provide all auto access (excepting service) from Glenview Road, an easier and safer vehicle and trailer access.

Future snow removal involving the City of Big Bear Lake will need to be negotiated. A consideration will be whether the preferred parking lot access is anticipated to be from Glenview Road or Edgemoor Road.

COORDINATION WITH THE CITY OF BIG BEAR LAKE

The University of California Riverside functions as its own permitting jurisdiction, but UCR will coordinate with the City of Big Bear Lake in an effort to develop the subject property in a manner compatible with local development standards.

The City of Big Bear Lake Planning Department has indicated that there could be different interpretations of the parking requirements and proposed use. The University will take this under advisement during design.

TRANSPORTATION ASSUMPTIONS

In preliminary conversations with the City Planning Department, they have indicated that they are sympathetic to the goals of the project, and have understood that outsized parking requirements would compromise the project.

The proposed plan for this project is to access the SRF at Big Bear from the UCR campus via carpools and vanpools, which will reduce the overall parking requirements. UC Riverside will apprise the City of its parking and transportation plan for the proposed development.

CEQA

UC Riverside will prepare the appropriate documentation in compliance with the California Environmental Quality Act (CEQA) for approval/adoption by the University.

FIRE DEPARTMENT

The UC Riverside Fire Marshall will review drawings for compliance with City of Big Bear Fire Reduction Measures, and will also act as liaison with the City of Big Bear Fire Marshall.

PREFERRED SCHEME SITE DEVELOPMENT

The majority of the site is proposed to be redeveloped to accommodate the SRF at Big Bear Lake. The new building arrangement organizes the outdoor site activities in a courtyard and creates perimeter yards to buffer the facility from adjacent properties.

During Phase I, a Dining/Great Room building will be constructed set back approximately 40'-0" from the front property line (Edgemoor Road to the east) and a bunkhouse will be located parallel to the north property line, set back a minimum of 15'-0". This will form the foundation of the "courtyard complex," which will be completed with the Phase II Bunkhouse on the south side.

Parking is provided in a lot off of Glenview Road along the south property line. The parking lot is paved and set back a minimum of 15'-0" with a landscaped buffer. The parking lot serves as a one way drop off as well, with an entry point and exit onto Glenview Road.

The City of Big Bear Lake requires 10% of the total site area for snow storage. For this property's 37,440 total square feet, the required area would be 3,744 square feet. The front yard, between Glenview Road and the north property line provides this required area (4,000 SF). Additional snow storage is available between the parking lot and Bunkhouse II (1,000 SF) and in the Glenview Road setback (2,000 SF), ensuring more than adequate snow storage areas.

PREFERRED SCHEME SITE AMENITIES

Within the courtyard, a paved (1,500 sf) outdoor patio will be located adjacent to the covered porch off the kitchen and great room to serve outdoor gatherings. It is anticipated to be a concrete patio with barbecues and space for six tables, with a capacity to seat 50 people outdoors for dining or informal group classes.

The courtyard will focus around a multipurpose turf court or lawn. This large lawn area (3,648 SF), is suitable for volleyball, badminton, exercise or demonstrations. It will be designed with removable poles to be flexible for all these sports. In winter, it is suitable for snowshoe or camping demonstrations. This area will receive sun most of the day and will be the core of the complex.

A basketball hoop will be installed in the parking lot for pickup basketball games, if not all parking stalls are filled.

A paved path will connect the parking lot to the covered porch and Great Room and be suitable for disabled access. The remainder of the site will be open space, with unpaved trails to connect to any secondary destinations. All other paving (secondary paths, storage access) is envisioned to be constructed of a permeable surface (such as stabilized decomposed granite) to allow for water infiltration.

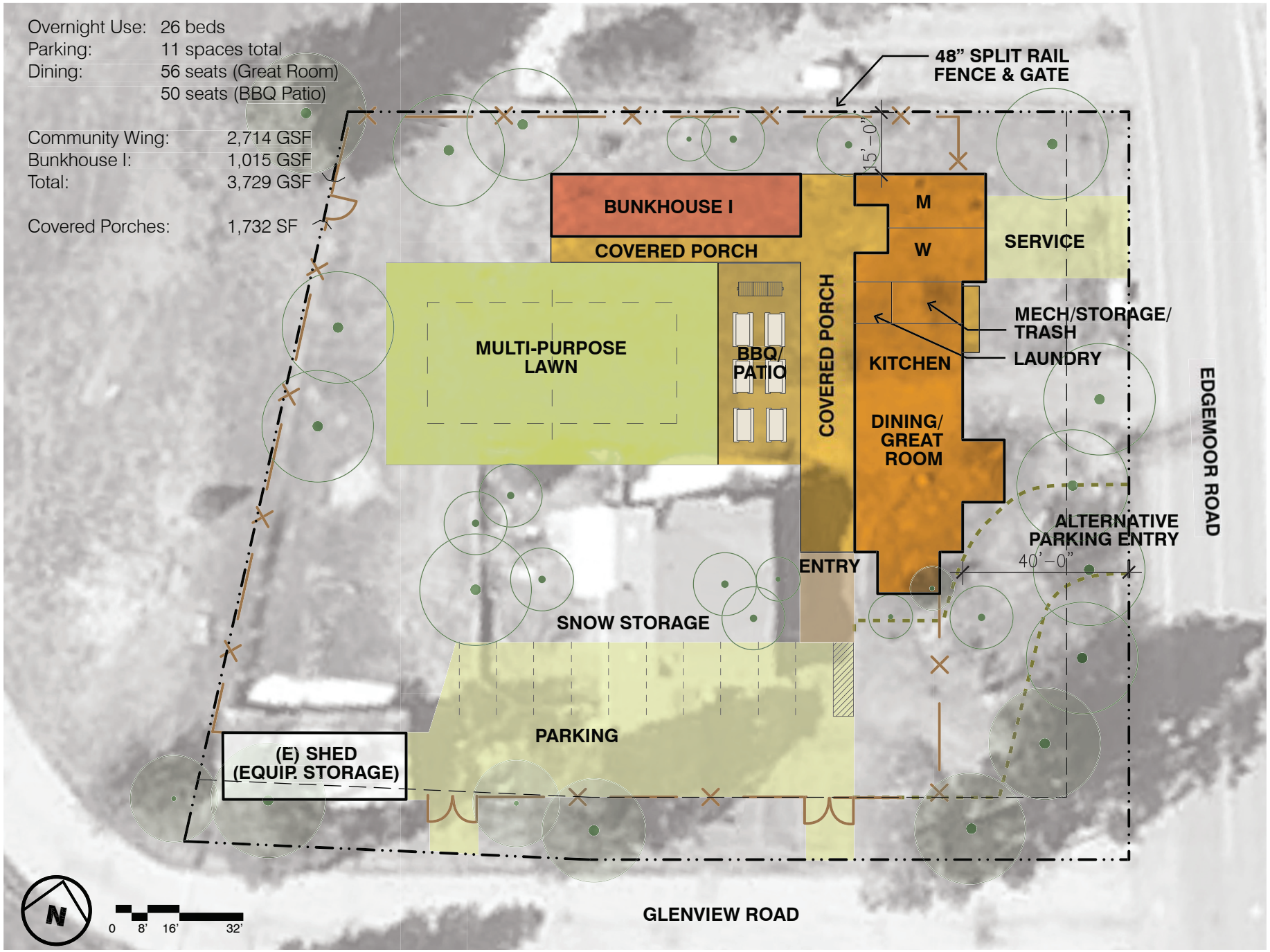
PROPOSED FACILITY CAPACITY

Phase I (shown on page 18)

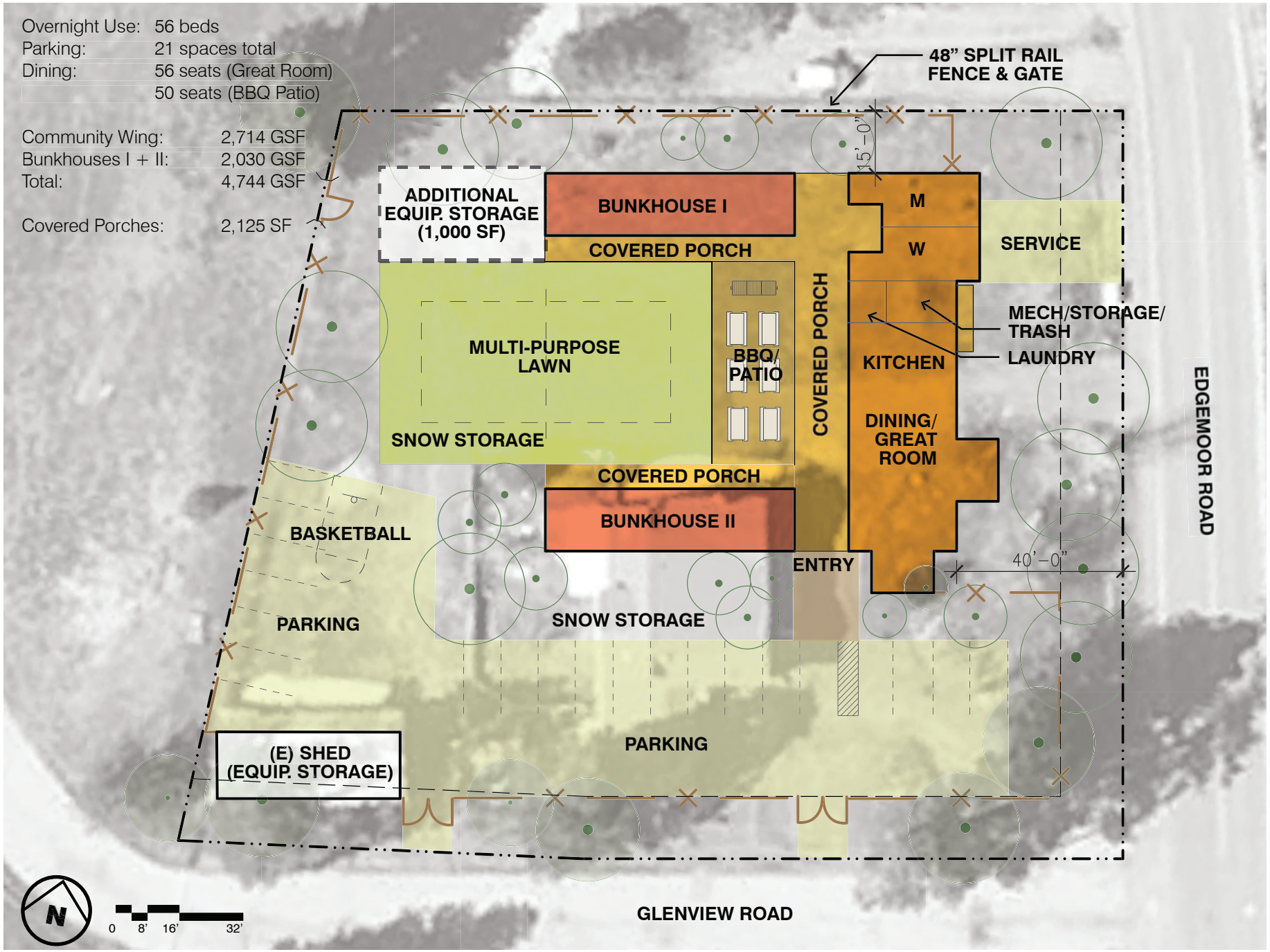
Overnight:	26 people (26 beds at Bunkhouse I)
Parking:	11 spaces total (just under 4,000 SF lot, plus 640 SF service driveway)
Dining:	56 seats (Great Room) 50 seats (BBQ Patio)
Equip. Storage:	600 GSF (pending verification)

Phase II (shown on page 19)

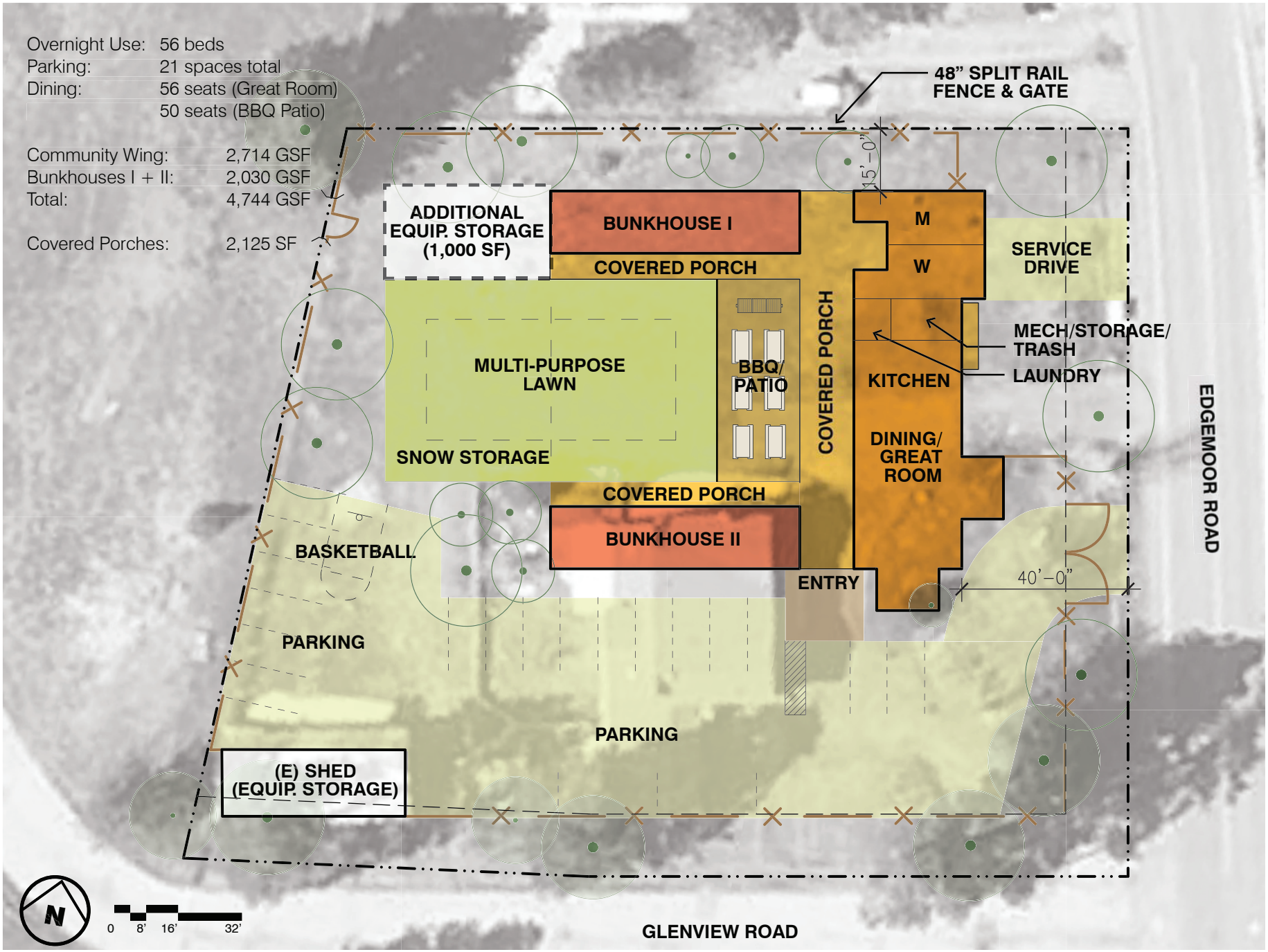
Overnight:	56 people (26 beds at Bunkhouse I + 30 beds at Bunkhouse II)
Parking:	21 spaces total (approx. 8,500 SF lot, plus 640 SF service driveway)
Dining:	56 seats (Great Room) 50 seats (BBQ Patio)
Equip. Storage:	1,600 GSF

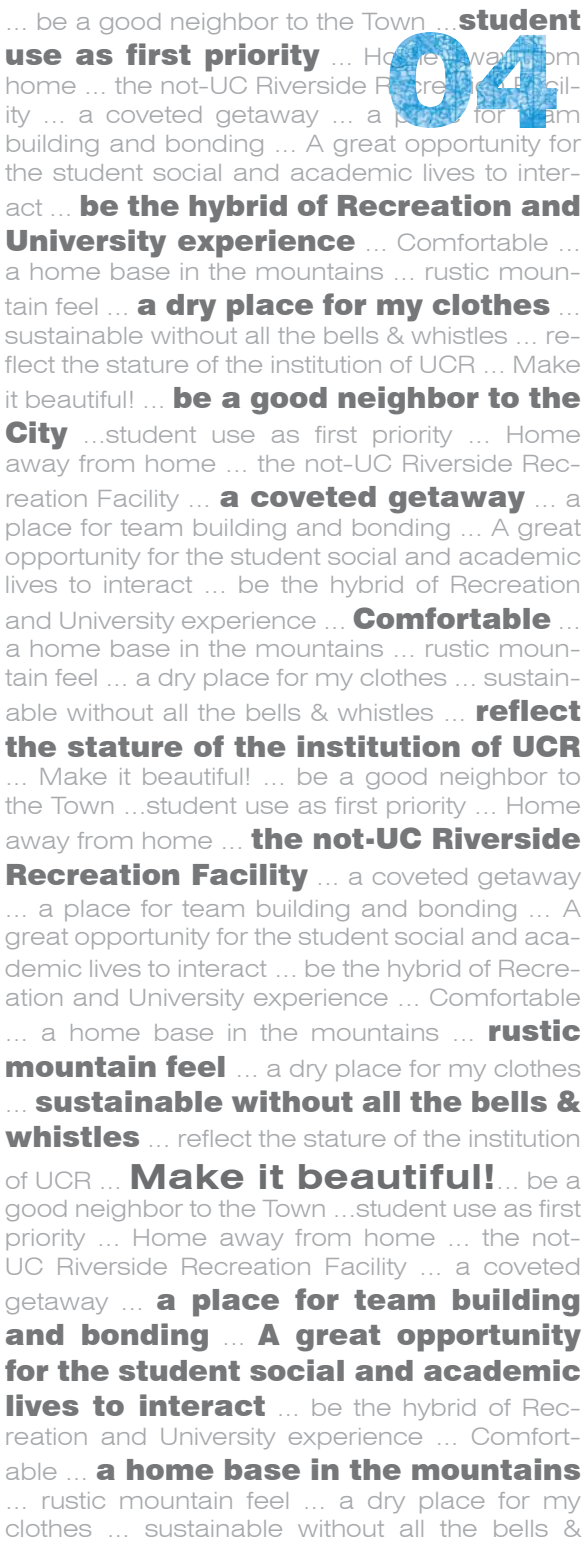

Overnight Use: 26 beds
Parking: 11 spaces total
Dining: 56 seats (Great Room)
50 seats (BBQ Patio)
Community Wing: 2,714 GSF
Bunkhouse I: 1,015 GSF
Total: 3,729 GSF
Covered Porches: 1,732 SF
48" SPLIT RAIL FENCE & GATE
15'-0"
BUNKHOUSE I
COVERED PORCH
M
W
SERVICE
MECH/STORAGE/ TRASH
LAUNDRY
KITCHEN
DINING/ GREAT ROOM
COVERED PORCH
MULTI-PURPOSE LAWN
BBQ/ PATIO
EDGEMOOR ROAD
ALTERNATIVE PARKING ENTRY
40'-0"
ENTRY
SNOW STORAGE
PARKING
(E) SHED (EQUIP. STORAGE)
N
0 8' 16' 32'
GLENVIEW ROAD

site concept + phasing diagrams . **Preferred Scheme, Phase II**



Preferred Scheme, Phase II - Parking Entry on Edgemoor Road





concept floor plans

ADJACENCY DIAGRAM

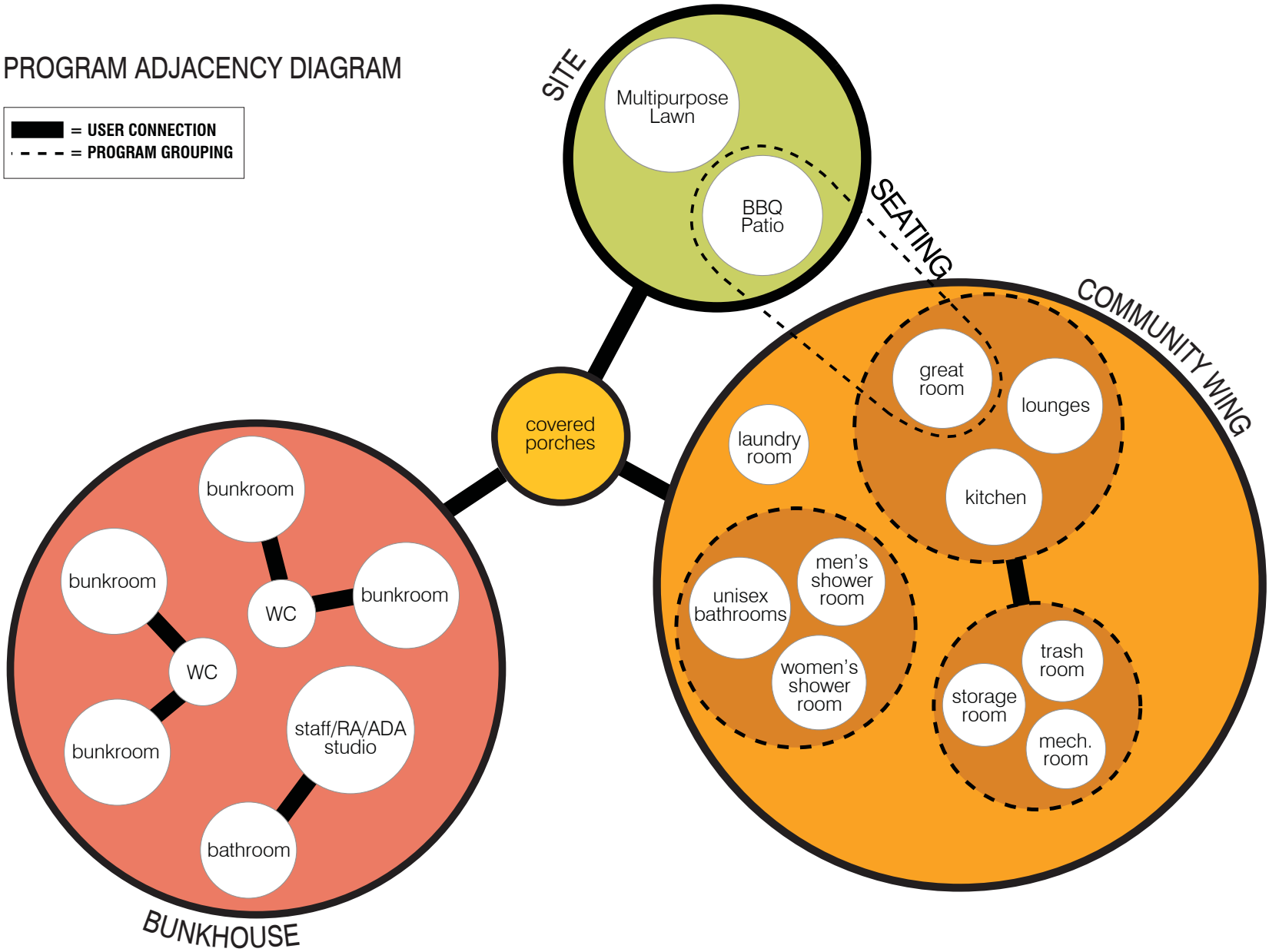
ARCHITECTURAL NARRATIVE

BUILDING CODE SUMMARY

CONCEPT FLOOR PLAN INTRODUCTION

COMMUNITY WING PLAN

BUNKHOUSE WING PLAN


PROGRAM ADJACENCY DIAGRAM
= USER CONNECTION
= PROGRAM GROUPING
SITE
Multipurpose Lawn
BBQ Patio
SEATING
COMMUNITY WING
great room
lounges
laundry room
kitchen
unisex bathrooms
men's shower room
women's shower room
trash room
storage room
mech. room
covered porches
bunkroom
bunkroom
bunkroom
WC
WC
staff/RA/ADA studio
bunkroom
bathroom
BUNKHOUSE

ORGANIZING PRINCIPLES

- Conformance with the Student Recreation Governing Board and University goals for the Student Recreation Facility at the City of Big Bear Lake to provide a venue in the mountains for student group retreats and outdoor excursions.
- Use of the buildings to create an “outdoor room” for outdoor activities, while providing some privacy from neighboring properties.
- Provide a clear main entrance to facility in close proximity to parking area.
- Use covered porches as additional outdoor space, as well as for circulation between the bunkhouse wing and the community wing.
- Provide a combined kitchen/dining/multipurpose space that can feed a minimum of 56 people indoors and open up for outdoor access to dining and group events.
- Provide overnight sleeping for a minimum of 25 guests in Bunkhouse 1.
- Maximize the use of the construction budget for program spaces by keeping most of the circulation between spaces as exterior space.
- Provide some covered, locked storage for sporting equipment (kayaks, camping gear, etc.). The existing barn/shed on the property could be repaired to accommodate some equipment storage.
- Provide a LEED Silver equivalent building.

ORIENTATION

The more public community wing, which contains the great room, kitchen, laundry, shower/restrooms and other service spaces is set back 40 feet from Edgemoor Road. This location orients the great room dining space along a north-south axis, which will bring in daylight to the eating areas through the east-facing windows during morning meals, and through the west-facing windows at end of the day for evening meals. This orientation also allows direct access to the outdoor spaces and views to the open space of the adjacent church conference grounds.

Bunkhouse I sits parallel to, and set back 15 feet from, the northern edge of the property. The primary exterior window wall and porches of these bunkrooms face south onto the outdoor spaces of the lawn and BBQ areas. The bunkrooms are provided with shared washrooms (sink & toilet), and the nearby shower rooms are connected by exterior covered walkways.

The more public community room wing and the more private bunkhouse begin to define an outdoor space for outdoor programs, recreation, retreat activities, and picnics and barbeques. They also screen the outdoor space from Edgemoor Road and from the rental cabins on the property to the north. Bunkhouse II, part of the future build-out, would further reinforce the courtyard and provide additional screening and privacy from Glenview Road.

The existing wood-framed shed, on the southwestern corner of the property, is proposed to be repaired and used for equipment storage. The western part of the property borders the open space of the Church conference grounds.

A parking lot for 10 spaces, including (1) ADA compliant space, is proposed with access off of Glenview Road. This lot also provides paved access to the storage shed. A small service driveway off of Edgemoor Road offers one additional parking space, as well as access for deliveries, service calls, and trash collection.

THE COMMUNITY WING

The kitchen will be used for preparing shared meals for small or large groups, but is not intended to be a true commercial kitchen. It will accommodate students preparing their own meals, and allow outside caterers to bring in meals to be served to larger groups. Residential kitchen appliances are proposed, with an option to use a commercial style range and range hood.

A small laundry room with stackable residential washers and dryers also has storage cabinets for cleaning and kitchen supplies, and is accessed from the covered porch. Other service spaces in the community wing include a trash room off of the service drive, a storage room for building-related equipment and supplies (ladders, hoses, etc.), and the mechanical/electrical room.

The great room opens off of the kitchen and serves as a dining and multipurpose room for gatherings and activities in addition to meals. Dining for at least 56 can be accommodated in the great room, and sliding doors can close off the kitchen area from the dining area, if desired.

Two smaller lounge spaces, located on the east and south sides of the great room offer more intimate areas for students to gather in smaller groups—these spaces could also be closed off with sliding doors for even more privacy, if needed. A wood-burning fireplace is located in the north lounge, and a free-standing fireplace could alternately be located at the entrance to the south lounge, along the main axis of the great room.

THE BUNKHOUSE WING

In Phase I, Bunkhouse I provides four bunkrooms with shared washrooms, and one staff/R.A./ADA studio with a full bathroom that is ADA compliant. A small mechanical closet contains a furnace and water heater serving the bunkhouse. Bunkhouse I provides a maximum of 26 beds.

The future Bunkhouse II (without a staff studio) could provide another 30 beds. The program requirements for capacity and configuration of the future bunkhouse would be determined at that time.

The bunkrooms provide space for three (3) bunkbeds each, with built-in shelving for duffel bags and hooks on the walls for jackets and clothes. The staff/R.A./ADA studio provides room for two (2) twin-size beds and a full bathroom with sink, toilet and a roll-in shower. The studio also has a small built-in dresser and clothes hanging rod.

THE COVERED PORCHES

The covered porches join the different wings of the courtyard and provide exterior circulation between the bedrooms and the bathing and dining spaces, in addition to providing a covered outdoor space for gathering in small groups. The main covered porch along the western side of the community wing is 13 feet wide and can accommodate seating and dining tables.

A “main” entrance to the compound from the parking lot is at the southern end of the wide covered porch that runs along the western side of the Community Wing. Bunkhouse II (future) would further reinforce this entry as viewed from the parking lot.

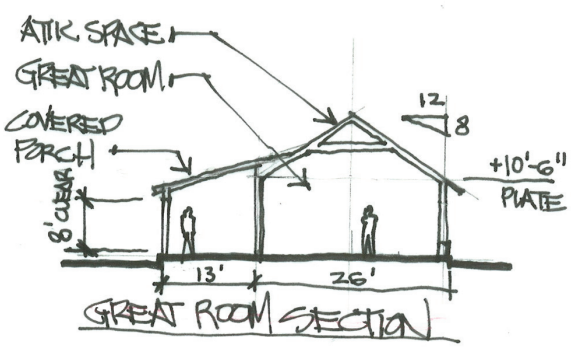
Certain exterior wall areas at these covered porches could be used for locked ski and snowboard racks, and for bulletin and whiteboards.

MASSING

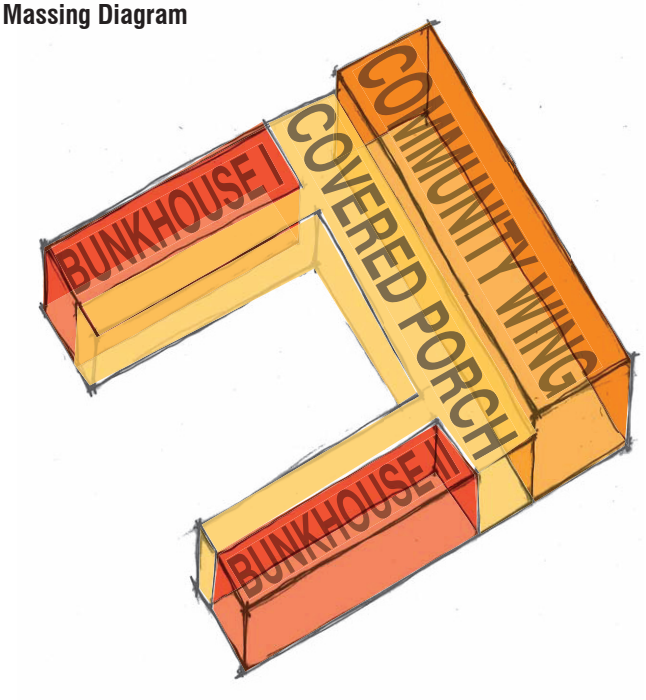
The proposed structures are one-story in height. Given the mountain environment and snow loads, a roof slope of 8:12 would help to shed snow, while reinforcing the mountain feel of the compound. Simple shed and gable roof forms would also be more economical to build. Attic spaces will be utilized for ductwork and other utilities, as needed.

Situated properly, a second story might provide views of the lake beyond, but a one-story structure was determined to be more economical, and more flexible for the proposed program and phasing.

Massing Analysis Sketch



Massing Diagram



MATERIALS/ASSEMBLIES

The proposed exterior palette for the structures is economical, durable and easy to maintain, and compliant with fire reduction measures, while reinforcing the "mountain" aesthetic of the facility.

An approved 3-tab composition shingle roofing will be used on the buildings and porches. Exterior siding is cement-board siding or board & batten, or an approved wood shingle siding. A 30" high CMU base for all exterior walls is proposed for durability and weather-resistance from snow and mud. Super-insulated wall and roof assemblies minimize the need for heat. Residential-style wood doors and insulated windows with low-emissitivity glazing are also proposed.

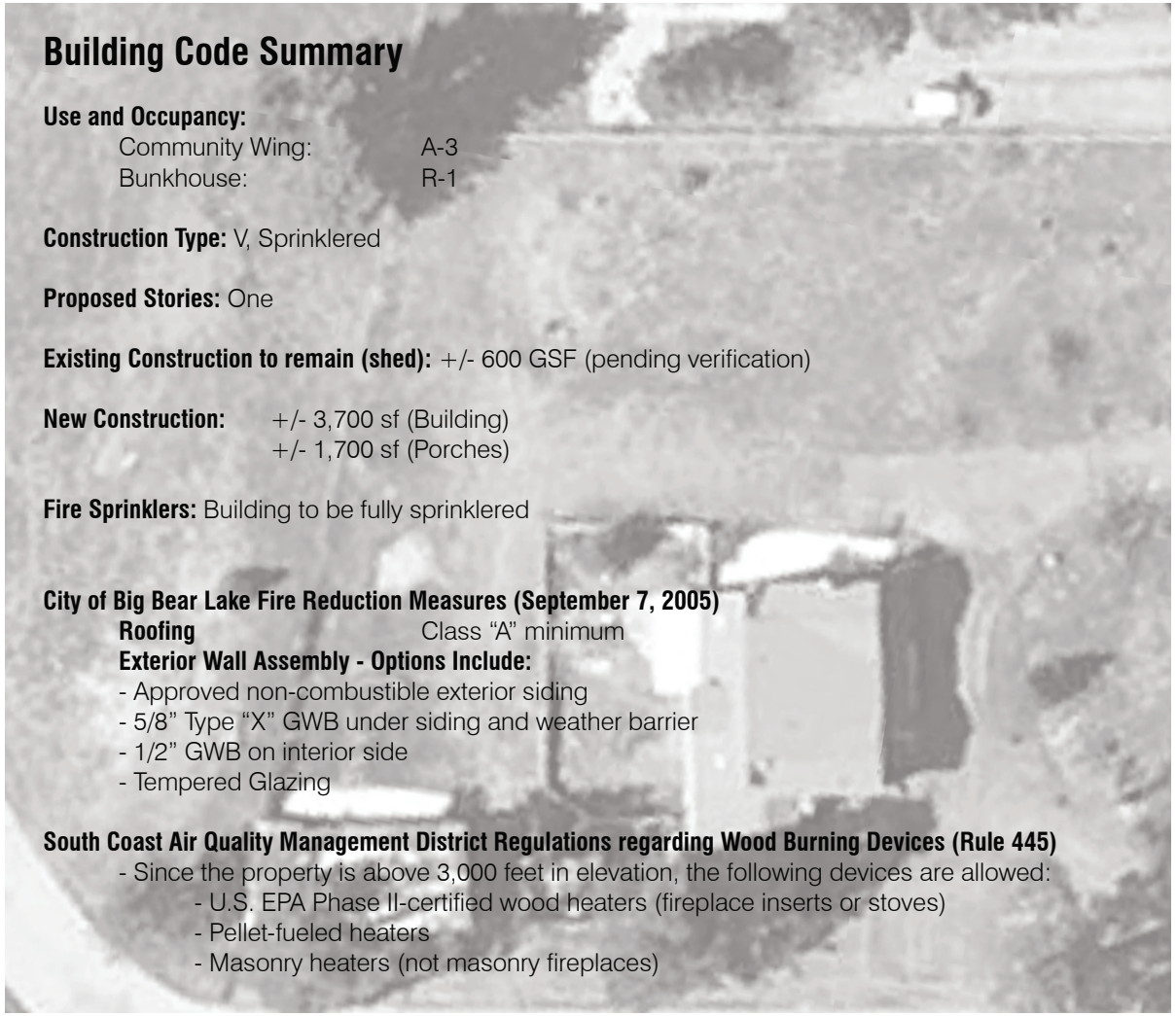
Wood framed structures on slab-on-grade foundations should be economical and relatively quick to build. The concrete structural slabs are proposed as the finish floor material for economy and durability.

Interior wall finishes are mostly painted drywall. Wood paneling is proposed for the bunkrooms and the great room for durability and for a more "lodge and mountain" character for those spaces.

BUILDING CODE SUMMARY

The Building Code Summary is provided as a reference for the design phase. Because the City of Big Bear Lake is located in a high fire-hazard zone, fire resistant wall and roof assemblies, and fire-sprinklers will be required.

The minimum plumbing fixtures in the shower room (toilets, urinals and sinks) were calculated based on the size and occupant load of the great room and kitchen as a day-use facility. Additional toilets and sinks are provided in the bunkrooms for use by overnight guests.



Building Code Summary

Use and Occupancy:
Community Wing: A-3
Bunkhouse: R-1

Construction Type: V, Sprinklered

Proposed Stories: One

Existing Construction to remain (shed): +/- 600 GSF (pending verification)

New Construction: +/- 3,700 sf (Building)
+/- 1,700 sf (Porches)

Fire Sprinklers: Building to be fully sprinklered

City of Big Bear Lake Fire Reduction Measures (September 7, 2005)
Roofing Class "A" minimum
Exterior Wall Assembly - Options Include:
- Approved non-combustible exterior siding
- 5/8" Type "X" GWB under siding and weather barrier
- 1/2" GWB on interior side
- Tempered Glazing

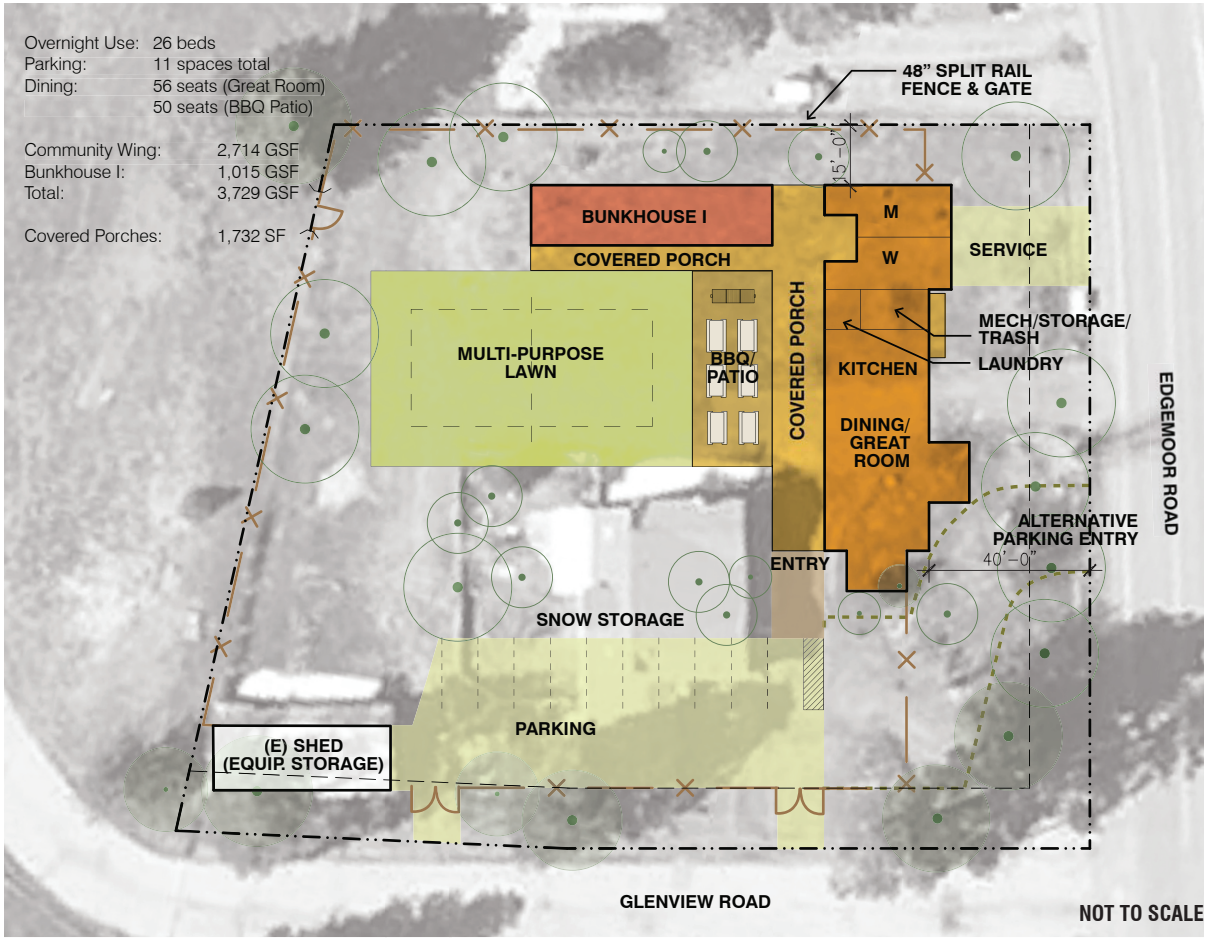
South Coast Air Quality Management District Regulations regarding Wood Burning Devices (Rule 445)
- Since the property is above 3,000 feet in elevation, the following devices are allowed:
  - U.S. EPA Phase II-certified wood heaters (fireplace inserts or stoves)
  - Pellet-fueled heaters
  - Masonry heaters (not masonry fireplaces)

INTRODUCTION

The Phase I conceptual floor plans include the community wing plan, with dining, kitchen, service and shower room spaces, and the Bunkhouse I plan with bunkrooms, shared toilet rooms and a staff/R.A./ADA studio.

Adjacent covered porches provide circulation between the wings, as well as covered outdoor spaces.

The concept floor plan sheets also list design criteria for each wing as a whole. For additional design criteria for individual rooms, see the room data sheet for that room.



GENERAL

room use: serves as a "day lodge" for students + staff with kitchen, dining/multi-purpose room, shower rooms, laundry and storage
basic gross area (GSF): 2,714
no. of occupants: 56 seats for dining
adjacencies: outside, bunkhouse
views: outside
min. ceiling height: varies
accessibility: per code
scale: 1/8"=1'-0"

COVERED PORCH

use: covered outdoor connection to bunkhouse, as well as outdoor space for gathering, seating, instruction, eating, etc.

FINISHES/TREATMENT

refer to individual room data sheets

SYSTEMS

electrical: main service panel, alarm system panel, telephone/data panel at mechanical room, exterior GFI outlets at covered porch
lighting: high-efficacy lighting at covered porch, service porch/driveway
mechanical: high-efficiency residential furnace for heat (no cooling.) High-efficiency residential water heaters on re-circulating hot water pump for kitchen and shower rooms.
plumbing: The quantity of plumbing fixtures (toilets, urinals, sinks) were calculated based on the size and occupant load of the great room and kitchen as a day-use facility. Additional toilets and sinks are provided in the bunkrooms for overnight guests. Refer to individual room data sheets for detailed plumbing information.
security: keyed access, intercom at main entry gate (Phase II) and kitchen service entry
fire protection: building is fully sprinklered, alarms and strobes as required

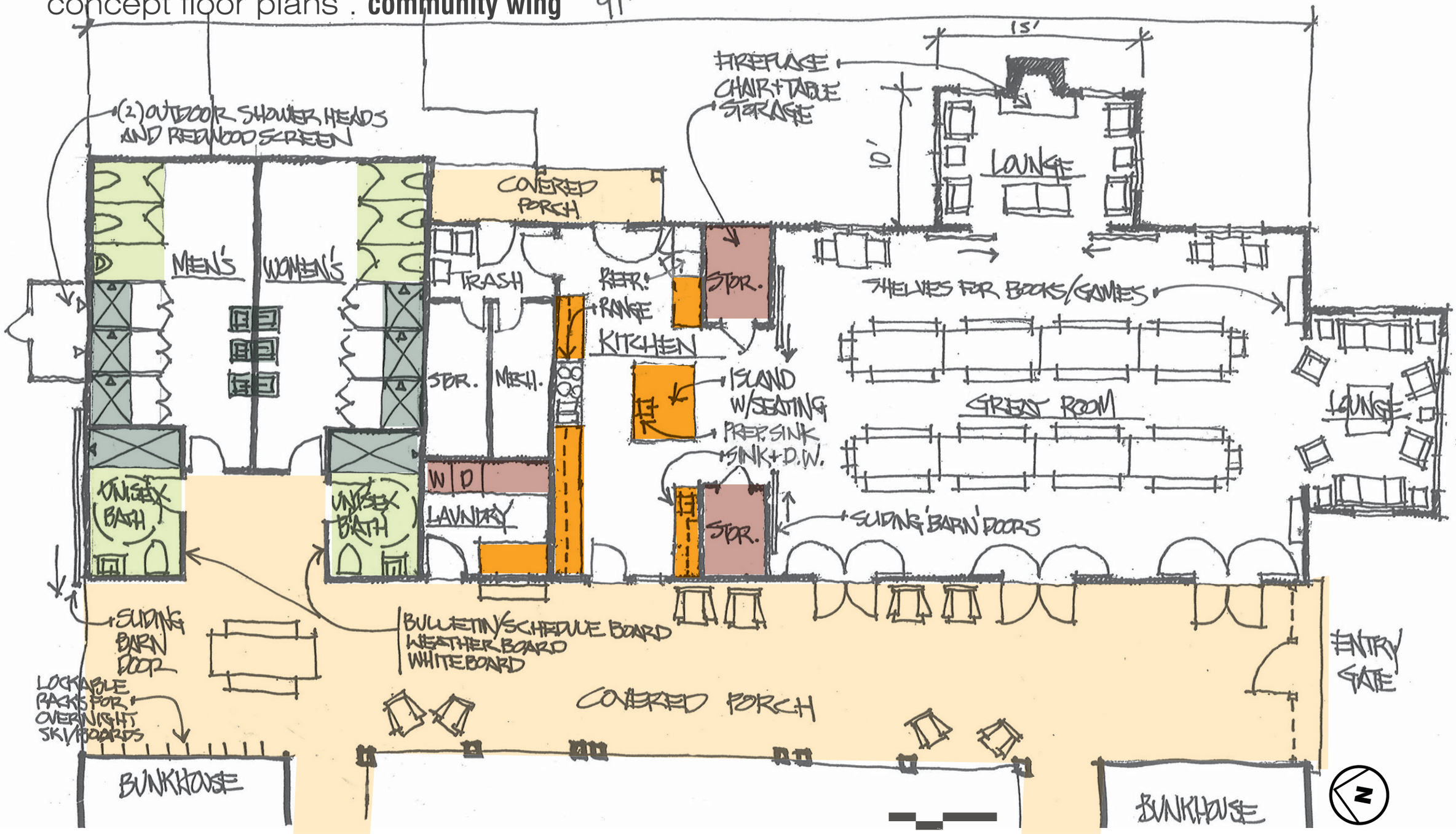
FURNITURE + EQUIPMENT

outdoor:

- 1 wooden rectangular picnic table with 3 benches, seats 6
- 8 wooden porch chairs
- 1 lockable rack for ski/snowboard storage

refer to individual room data sheets for indoor spaces

concept floor plans . **community wing**



concept floor plans . **bunkhouse I**

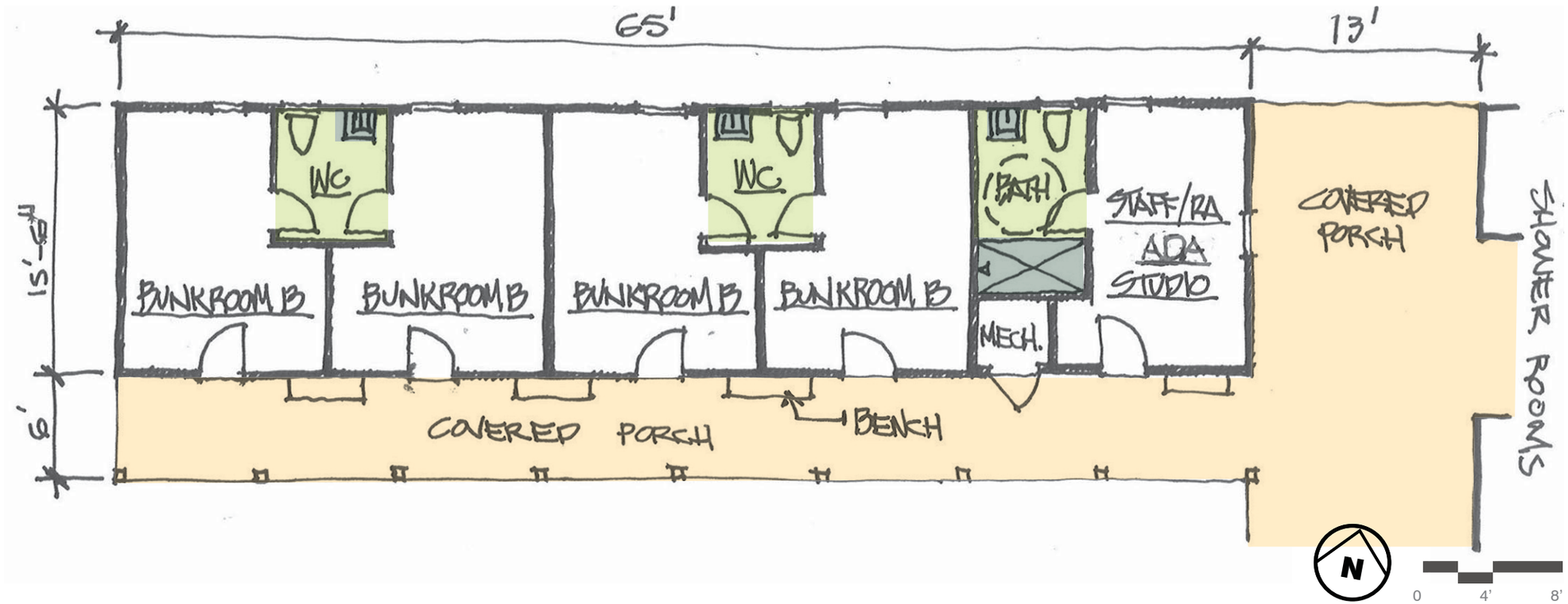
GENERAL
room use: sleeping rooms for students and staff
basic gross area (GSF): 1,015
no. of occupants: 26 beds
adjacencies: outside, community wing
views: outside
min. ceiling height: 9'-6"
accessibility: per code
scale: 1/8"=1'-0"

COVERED PORCH
use: covered outdoor seating and gathering area, covered walkway to shower rooms and dining

FINISHES/TREATMENT
refer to individual room data sheets

SYSTEMS
electrical: refer to individual room data sheets
lighting: high efficiency lighting at covered porch
mechanical: Located in the mechanical closet for Bunkhouse I, a residential high-efficacy furnace (heat only), and tankless hot water heater (gas).
plumbing: refer to individual room data sheets
security: key access at rooms
fire protection: fully sprinklered, smoke alarms, and strobes as required

FURNITURE + EQUIPMENT
outdoor: (4) wooden benches
refer to individual room data sheets for rooms



05 program

PROGRAM AREA SUMMARY

ROOM DATA SHEETS

INTRODUCTION

The Program Area Summary reflects the square footage requirements and indoor and outdoor program quantities developed in the course of the SRF at Big Bear Lake DPP planning process. Indoor areas are divided into Assignable Area (ASF) and Non-Assignable Area (Non-ASF). These together, along with structural area, comprise Basic Gross Area (GSF) of each structure. Covered Porches are considered Covered Unenclosed Areas (listed in square feet, SF), and other outdoor site areas are listed simply as square feet.

The Room Data Sheets describe the initial design criteria for each program element including a general description, finishes/treatments, engineering systems, and furniture and equipment in each room. The accompanying plans are graphic representations of the requirements.

program area summary

STUDENT RECREATION FACILITY AREA CALCULATIONS

AREA DESCRIPTON	PHASE 1 Quantity	PHASE 1 SF	PHASE 1 Total	PHASE 2 Quantity	PHASE 2 SF	PHASE 2 Total	PHASE 1 & 2 Total	Notes
COMMUNITY WING								
Lounge	2	140	280					Nooks adjoining great room
Great Room	1	975	975					Main great room only
Kitchen	1	275	275					
Chair/Table Storage	2	29	58					
Storage	1	47	47					
Laundry	1	72	72					
Subtotal Assignable Area (ASF)			*1,707*			*0*	*1,707*	
Trash	1	45	45					
Mechanical	1	47	47					
Women's Shower Room	1	251	251					
Men's Shower Room	1	251	251					
Unisex Bathroom	2	63	126					
Subtotal Non-Assignable Area (Non-ASF)			*720*			*0*	*720*	
Net Usable Area			*2,427*			*0*	*2,427*	Net Usable Area = Assignable Area + Non-Assignable Area
Basic Gross Area (GSF)			*2,714*			*0*	*2,714*	Basic Gross Area = Net Usable Area + Structural Area

BUNKHOUSE I				**BUNKHOUSE II**				
Staff/R.A./ADA Studio	1	186	186					Includes full bathroom
Bunkroom B	4	144	576	5	144	720		Bunkroom II: Preliminary program, exact size and configuration TBD
Shared WC	2	49	98	3	49	147		
Subtotal Assignable Area (ASF)			*860*			*867*	*1,727*	
Mechanical Closet	1	16	16	1	16	16	32	
Subtotal Non-Assignable Area (Non-ASF)			*16*			*16*	*32*	
Net Usable Area			*876*			*883*	*1,759*	
Basic Gross Area (GSF)			*1,015*			*1,015*	*2,030*	

COVERED UNENCLOSED AREA								
Covered Porches			1,732			393	2,125	

program area summary

AREA DESCRIPTON	PHASE 1 Quantity	PHASE 1 SF	PHASE 1 Total	PHASE 2 Quantity	PHASE 2 SF	PHASE 2 Total	PHASE 1 & 2 Total	NOTES:
COMMUNITY WING + BUNKHOUSE I								
TOTAL ASSIGNABLE AREA (ASF)			**2,567**			**867**	**3,434**	
TOTAL NET USABLE AREA			**3,303**			**883**	**4,186**	
TOTAL BASIC GROSS AREA (GSF)			**3,729**			**1,015**	**4,744**	
OUTSIDE GROSS AREA (OGSF50)			**4,595**			**1,212**	**5,807**	OGSF50 = Basic Gross Area + 50% of Covered Unenclosed Area
EFFICIENCY RATIO			**0.56**			**0.72**	**0.59**	Efficiency Ratio = Assignable Area/OGSF50

EQUIPMENT STORAGE	**EXISTING EQUIP. SHED**			**ADDITIONAL EQUIP. STORAGE**				
Storage	1	550	550	1	950	950	1,500	
Subtotal Assignable Area (ASF)			*550*			*950*	*1,500*	
Subtotal Non-Assignable Area (Non-ASF)			*0*			*0*	*0*	
Net Usable Area (Non-ASF)			*550*			*950*	*1,500*	ASF and GSF figures pending verification.
Basic Gross Area (GSF)			*600*			*1,000*	*1,600*	
Outside Gross Area (OGSF50)			*600*			*1,000*	*1,600*	

COMMUNITY WING + BUNKHOUSE I WITH EQUIPMENT STORAGE								
TOTAL ASSIGNABLE AREA (ASF)			**3,117**			**1,817**	**4,934**	
BASIC GROSS AREA (GSF)			**4,329**			**2,015**	**6,344**	
OUTSIDE GROSS AREA (OGSF50)			**5,195**			**2,212**	**7,407**	

SITE								
Multi-purpose Lawn	1	3,648	3,648					Also to be used for snow storage area req'd by the City of Big Bear Lake
Picnic BBQ/Seating	1	1,500	1,500					For 50 people (6-7 tables, 4 BBQ's, trash)
Parking/Basketball court	1	4,000	4,000	1	4,500	4,500	8,500	SF is approximate. Phase II parking SF assumes 21 spaces and entry from Glenview Road
TOTAL SITE AREA			9,148				13,648	

trash room

GENERAL

room use: trash and recycling bins
total Non-ASF: 45
no. of occupants: -
adjacencies: kitchen, service drive
views: n/a
min. ceiling height: 8'-0"
accessibility: -
scale: 1/4"=1'-0"

FINISHES/TREATMENT

ceiling: low VOC painted GWB
walls/base: low VOC painted plywood
floor: concrete
windows: none
door/frame: FSC-Certified, solid-core wood
daylighting: none

SYSTEMS

electrical: GFCI utility outlets
lighting: direct, artificial lighting, 10-20 Fc
mechanical: non-conditioned space
acoustics: -
plumbing: area drain in floor, hose bib
security: keyed access
fire protection: sprinklered, smoke detector, fire alarm strobe

mechanical + electrical room

GENERAL

room use: mechanical/electrical room, with an attic access panel in ceiling
total Non-ASF: 47
no. of occupants: -
adjacencies: trash room
views: n/a
min. ceiling height: 8'-0"
accessibility: -
scale: 1/4"=1'-0"

FINISHES/TREATMENT

ceiling: low VOC painted GWB
walls/base: low VOC painted plywood
floor: concrete
windows: none
door/frame: FSC-Certified, solid-core wood
daylighting: none

SYSTEMS

electrical: GFCI utility outlets
lighting: direct, artificial lighting, 20-30 Fc
mechanical: non-conditioned space
acoustics: -
plumbing: -
security: keyed access
fire protection: sprinklered, smoke detector, fire alarm strobe

NOTE: see page 39 for diagram

storage room

GENERAL

room use: building and grounds equipment storage
total ASF: 47
no. of occupants: -
adjacencies: trash room
views: n/a
min. ceiling height: 8'-0"
accessibility: -
scale: 1/4"=1'-0"

FINISHES/TREATMENT

ceiling: low VOC painted GWB
walls/base: low VOC painted plywood
floor: concrete
windows: none
door/frame: FSC-Certified, solid-core wood
daylighting: none

SYSTEMS

electrical: GFCI utility outlets
lighting: direct, artificial lighting, 20-30 Fc
mechanical: non-conditioned space
acoustics: -
plumbing: -
security: keyed access
fire protection: sprinklered, smoke detector, fire alarm strobe

chair/table storage

GENERAL

room use: storage for dining tables, chairs, misc. equipment
total ASF: 58 (2 @ 29 sf each)
no. of occupants:-
adjacencies: great room
views: n/a
min. ceiling height: 10'-0"
accessibility: -
scale: 1/4"=1'-0"

FINISHES/TREATMENT

ceiling: low VOC painted GWB
walls/base: low VOC painted plywood
floor: concrete
windows: none
door/frame: FSC-Certified solid-core wood
daylighting: none

SYSTEMS

electrical: general duplex receptacles
lighting: direct, artificial lighting on a jamb switch, 20-30 Fc
mechanical: -
acoustics: -
plumbing: -
security: storage lockset
fire protection: sprinklered, smoke detector

NOTE: see page 39 for diagram

laundry

GENERAL
room use: laundry and storage for staff/student use
total ASF: 72
no. of occupants: -
adjacencies: outside
views: to outside (glazed door)
min. ceiling height: 8'-0"
accessibility: per code
scale: 1/4"=1'-0"

FINISHES/TREATMENT
ceiling: low VOC painted GWB
walls/base: low VOC painted GWB, vinyl base
floor: concrete
door/frame: FSC-Certified, solid-core wood with windows
daylighting: daylight at laundry from glazed door

SYSTEMS
electrical: duplex receptacles, power for residential washer and dryer
lighting: direct, artificial lighting, 20-30 Fc
mechanical: residential ceiling exhaust fan, dryer vent
acoustics: -
plumbing: 2 residential washers (stackable)
security: keyed access
fire protection: sprinkler, smoke detector, fire alarm strobe

FURNITURE + EQUIPMENT
built-in: locked pantry/supply storage, broom closet
fixed: -
movable: -
other: -
equipment:
- (2) stackable residential washers
- (2) stackable residential dryers (gas)

kitchen

GENERAL
room use: meal preparation for small or large groups
total ASF: 275
no. of occupants: -
adjacencies: great room
views: outside
min. ceiling height: 10'-0"
accessibility: per code
scale: 1/4"=1'-0"

FINISHES/TREATMENT
ceiling: low VOC painted GWB
walls/base: low VOC painted GWB, ceramic tile backsplash, wood base
floor: concrete
windows: wood, insulated
door/frame: FSC-Certified wood (French Door), glazed
daylighting: daylight at kitchen

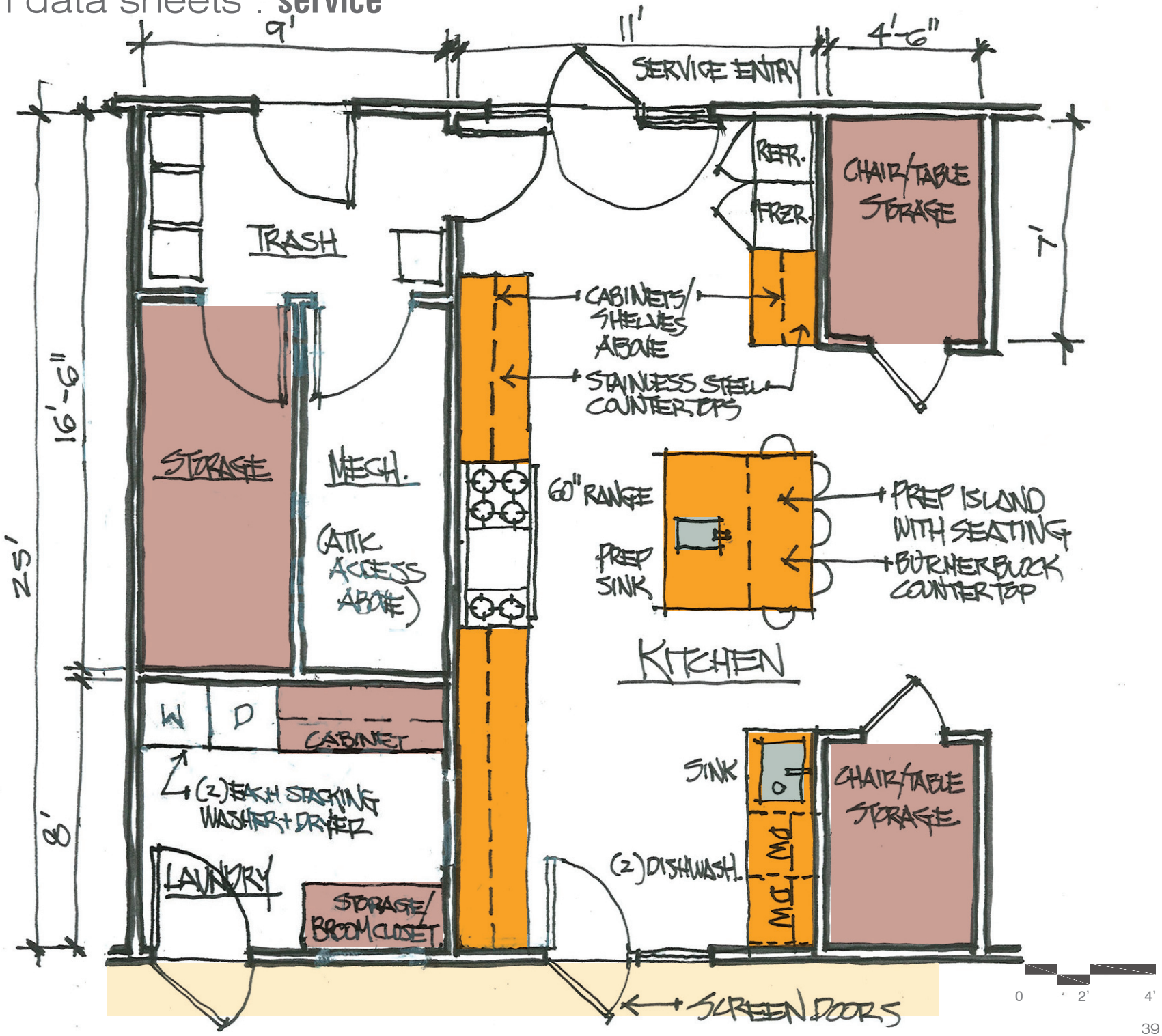
TECHNOLOGY
voice/data: 1 phone/data outlet, master alarm keypad
media: n/a

SYSTEMS
electrical: GFI outlets at counter + island per code, per appliance reqs., wall receptacles
lighting: general lighting (includes under-cabinet lighting), 30-40 Fc
mechanical: forced air heat, return air, range exhaust hood
plumbing: per appliance reqs., including sinks, gas outlets + shut-off at range
security: keyed access
fire protection: sprinklered, smoke detector, fire alarm horn + strobe

FURNITURE + EQUIPMENT
built-in: base cabinets, upper and open shelves, prep island with base cabinets
fixed: kitchen sinks:
- (1) large residential single-bowl stainless steel sink
- (1) medium residential single-bowl stainless steel prep sink (at island)

movable:
- (5) stools for island seating

other:
- (1) 24" residential refrigerater
- (1) 24" residential freezer
- (1) 60" gas range with double oven
- (1) range exhaust hood
- (1) large stainless wash sink with disposal
- (1) medium stainless prep. sink with disposal
- (2) residential dishwashers


9'
11'
4'-6"
SERVICE ENTRY
REFR.
FRZR.
CHAIR/TABLE STORAGE
7'
TRASH
CABINETS/ SHELVES ABOVE
STAINLESS STEEL COUNTERTOPS
STORAGE
MECH.
ATTIC ACCESS ABOVE)
16'-9"
25'
60" RANGE
PREP SINK
PREP ISLAND WITH SEATING
BURNER BLOCK COUNTER TOP
KITCHEN
W
D
CABINET
(2) EACH STACKING WASHER + DRYER
LAUNDRY
STORAGE/ BROOM CLOSET
8'
SINK
(2) DISHWASH.
CHAIR/TABLE STORAGE
SCREEN DOORS
0
2'
4'

GENERAL

room use: dining and multi-purpose room for students + staff
total great room ASF: 975
total lounge ASF: 280 (2 @ 140 sf each)
no. of occupants, dining: 56 minimum
no. of occupants, lounge: 6-10 each
adjacencies: kitchen
views: to outside
min. ceiling height: 10'-0"
accessibility: per code
scale: 1/8"=1'-0"

FINISHES/TREATMENT

ceiling: low VOC painted GWB
walls/base: low VOC painted GWB, wood wainscot
floor: concrete
windows: wood, insulated
door/frame: FSC-Certified wood, french doors with screen doors
daylighting: daylighting at great room + lounges

SYSTEMS

electrical: receptacle outlets, centralized flush floor outlet for projector in great room
lighting:

- direct + indirect artificial lighting at Great Room, 20-30 Fc
- direct + indirect artificial lighting at Lounges, 20-30 Fc
- provide multi-level lighting/switching controls to support presentations

mechanical: forced air heat, return air, ceiling fans
plumbing: gas supply for fireplace
security: keyed access at exterior doors, alarm control pad near (1) exterior door
fire protection: sprinklered, smoke detector, fire alarm horn + strobe

FURNITURE + EQUIPMENT

built-in, great room: wood bookshelves
built-in, lounge: (1) wood-burning fireplace (insert-style, not true masonry)
fixed: -
movable, great room:

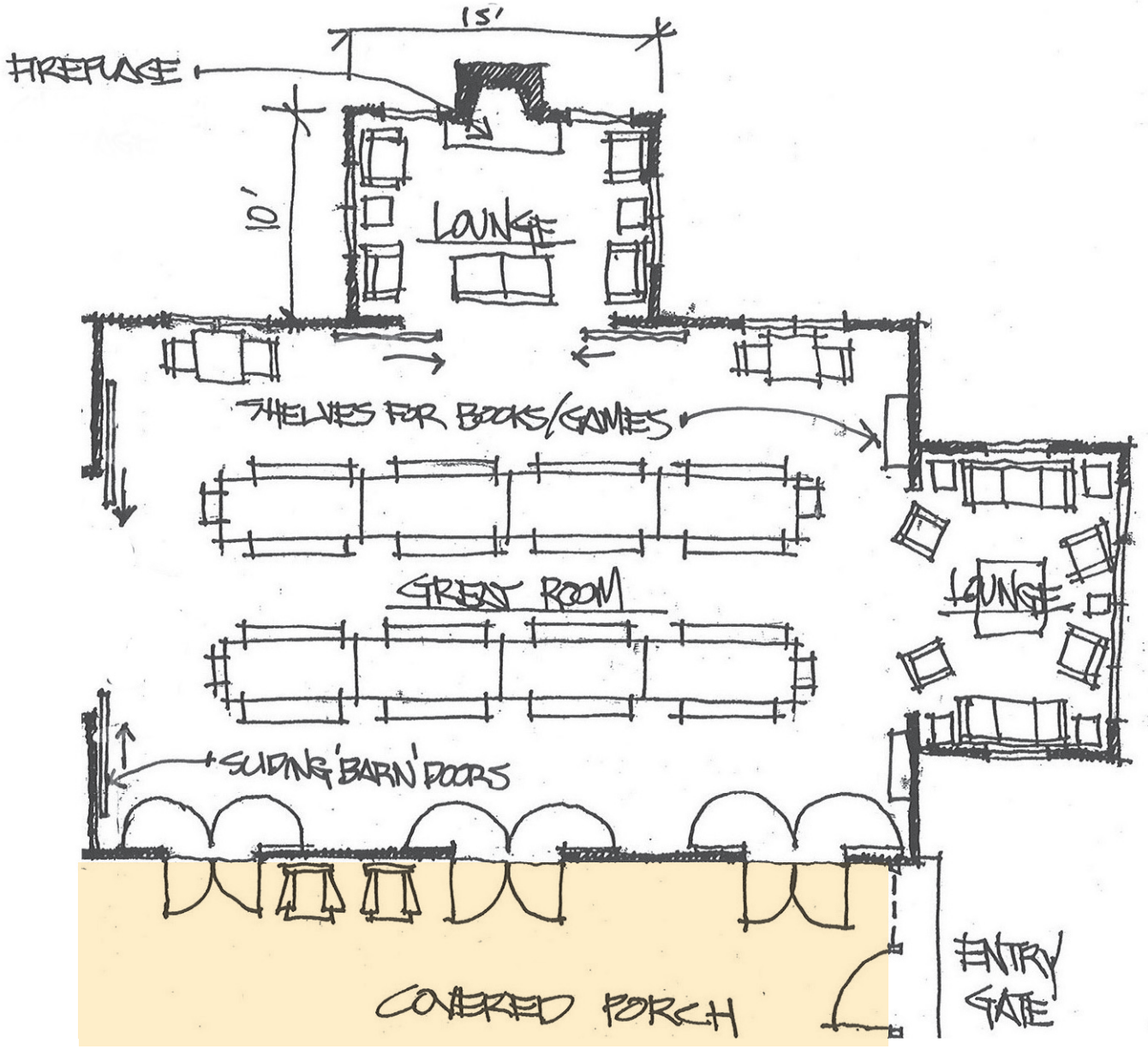
- 8 folding tables
- 16 dining benches
- 2 game tables
- 6 chairs

movable, lounges:

- 8 lounge chairs
- 1 two-person sofa
- 2 three-person sofa
- 7 side tables
- 1 coffee table

TECHNOLOGY

- video projector and required power and data connections
- coaxial/data port for cable TV and wireless access


15'
FIREPLACE
10'
LOUNGE
SHELVES FOR BOOKS/GAMES
GREAT ROOM
LOUNGE
SLIDING 'BARN' DOORS
COVERED PORCH
ENTRY GATE

0 4' 8'

GENERAL

room use: student bunkroom
total ASF: 144 (bunkroom), 49 (shared WC)
no. of occupants: 6 beds
shared washroom with toilet (WC)
adjacencies: covered porch, other bunkrooms
views: to outside
min. ceiling height: 9'-6"
accessibility: per code
scale: 1/4"=1'-0"

FINISHES/TREATMENT

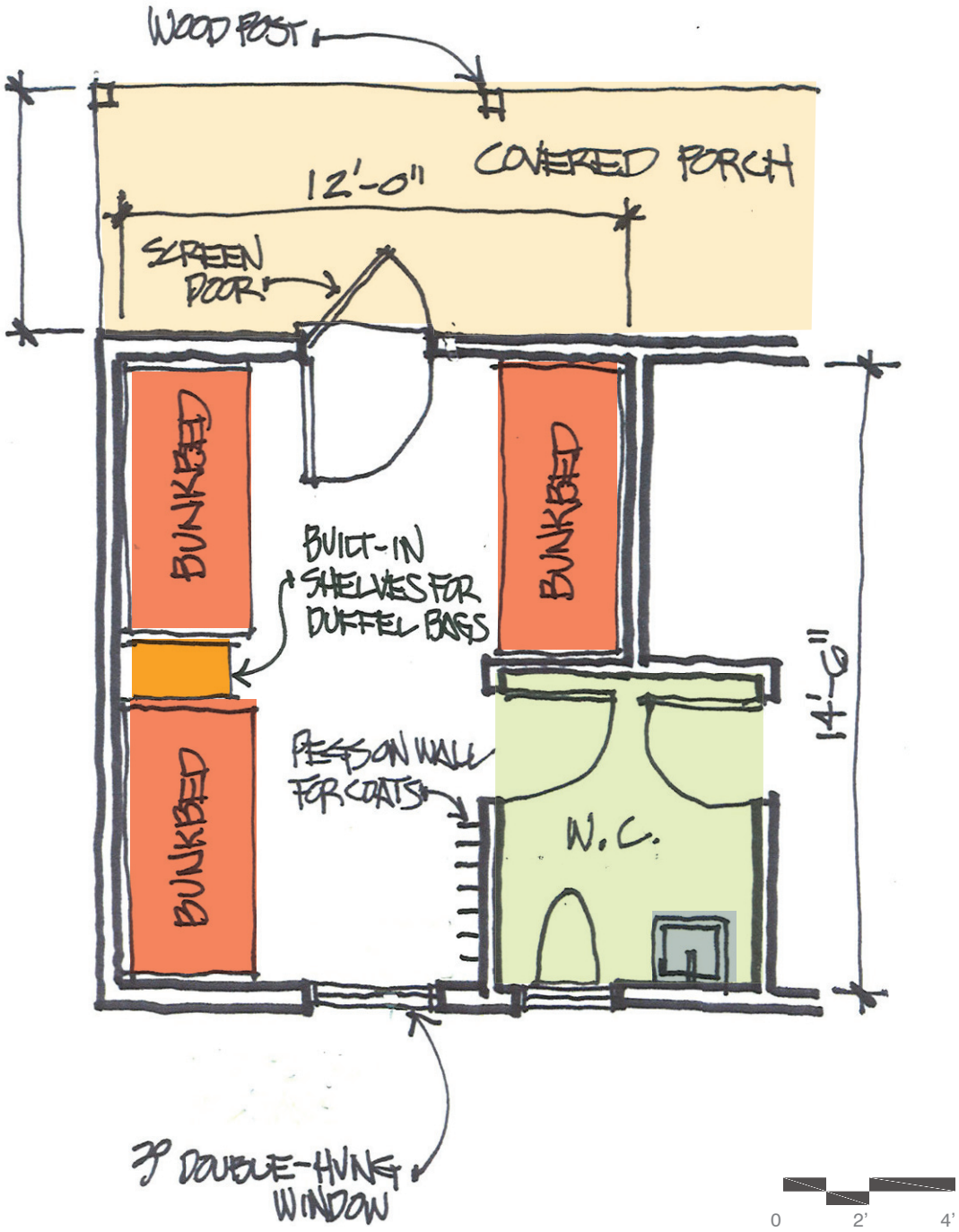
ceiling: low VOC painted GWB
walls/base: low VOC stained wood
floor: concrete
windows: wood, insulated
door/frame: wood (french door), glazed
daylighting: south-facing windows, french door with insulating shades

SYSTEMS

electrical: AFCI receptacles in bunkroom per code, GFCI in WC per code
lighting: direct, artificial lighting, 10-15 Fc; vacancy sensors
mechanical: no A/C, forced-air heat, residential exhaust fan in WC
acoustics: accoustic insulation between bunkrooms, between WC and bunkrooms
plumbing: hot + cold water at lavatory sink, dual-flush toilet
security: key access, window sash locks
fire protection: sprinklered, smoke detectors, fire alarm horn + strobe at sleeping area

FURNITURE + EQUIPMENT

built-in: cubby cabinet for 6 duffel bags
fixed: plumbing fixtures
movable: 3 twin-size bunkbeds
other: coat/towel hooks



GENERAL

room use: caretaker, R.A., and ADA-compliant studio
total ASF: 186, including bath
total Non-ASF: 16, for mechanical closet
no. of occupants: 1-2
private bathroom: ADA-compliant
adjacencies: off of covered porch
views: to outside
min. ceiling height: 9'-6"
accessibility: per code
scale: 1/4"=1'-0"

FINISHES/TREATMENT

ceiling: low VOC painted GWB; moisture-resistant GWB in WC
walls/base: low VOC stained wood; GWB/Ceramic tile wainscot in shower
floor: concrete
windows: wood, insulated
door/frame: wood (french door), glazed
daylighting: south-facing windows, french door with insulating shades

SYSTEMS

electrical: AFCI receptacles in bunkroom per code, GFCI in WC per code
lighting: direct artifical lighting, 10-15 Fc; vacancy sensors
mechanical: no A/C, forced-air heat
acoustics: accoustic insulation between RA studio and bunkrooms, between bath and studio
plumbing: dual flush toilets
security: key access, window sash locks
fire protection: sprinklered, smoke detectors, fire alarm horn + strobe at sleeping area

FURNITURE + EQUIPMENT

built-in: dresser + shelves for duffel storage
fixed: plumbing fixtures
movable:

- 2 twin-size beds
- 1 low table

TECHNOLOGY

voice/data: (1) phone/data outlet

room data sheets
men's shower room (women's similar)

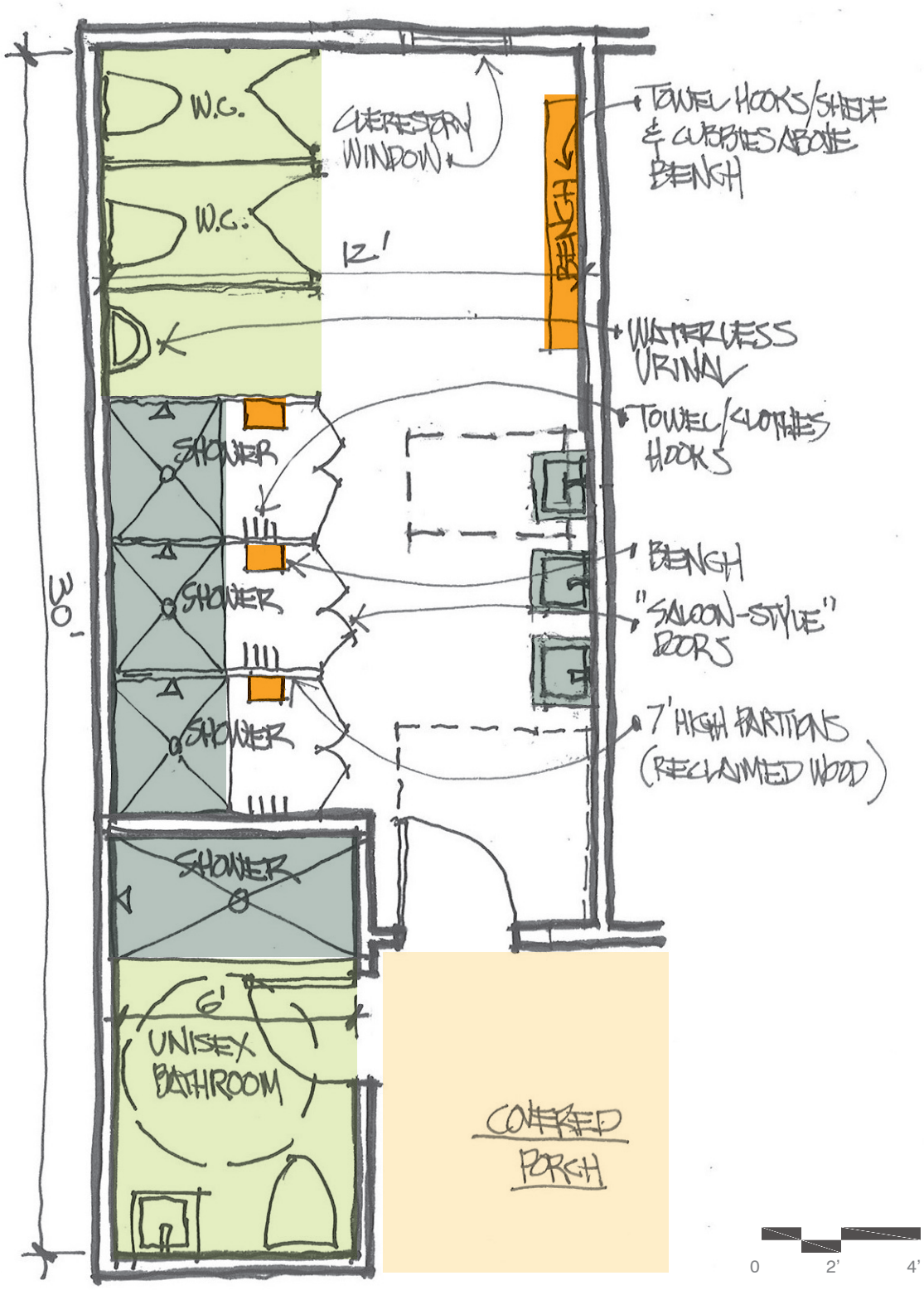
GENERAL
room use: shower rooms for students, plus separate, accessible unisex bathrooms
total Non-ASF, shower room: 502 (251 each)
total Non-ASF, unisex bathroom: 126 (63 each)
no. of occupants: -
adjacencies: off of main covered porch
views: none
min. ceiling height: 8'-0"
accessibility: per code
scale: 1/4"=1'-0"

FINISHES/TREATMENT
ceiling: moisture-resistant GWB
walls/base: GWB/ceramic tile wainscot
floor: concrete
windows: wood, insulated, opaque
door/frame: FSC-Certified solid-core wood
daylighting: clerestory windows

SYSTEMS
electrical: general duplex receptacles, GFI outlets at lavatory
lighting: direct, artificial lighting, 30-40 Fc
mechanical: exhaust air, no A/C, forced air heat
acoustics: -
plumbing: dual flush toilets, waterless urinal, flow control aerator on lavatory
security: key access
fire protection: sprinkler, smoke detector, fire alarm, strobe

FURNITURE + EQUIPMENT
built-in: fixtures, shower/changing stalls, cubbies/ shelves for clothes
fixed: -
movable:
- 2 long wood benches (1 per shower room)
- 6 short wood benches (3 per shower room)

other: -



GENERAL

room use: existing shed to be repaired and re-used for recreation equipment storage
total ASF: 550 (pending verification)
accessibility:
scale: 1/4"=1'-0"

FINISHES/TREATMENT

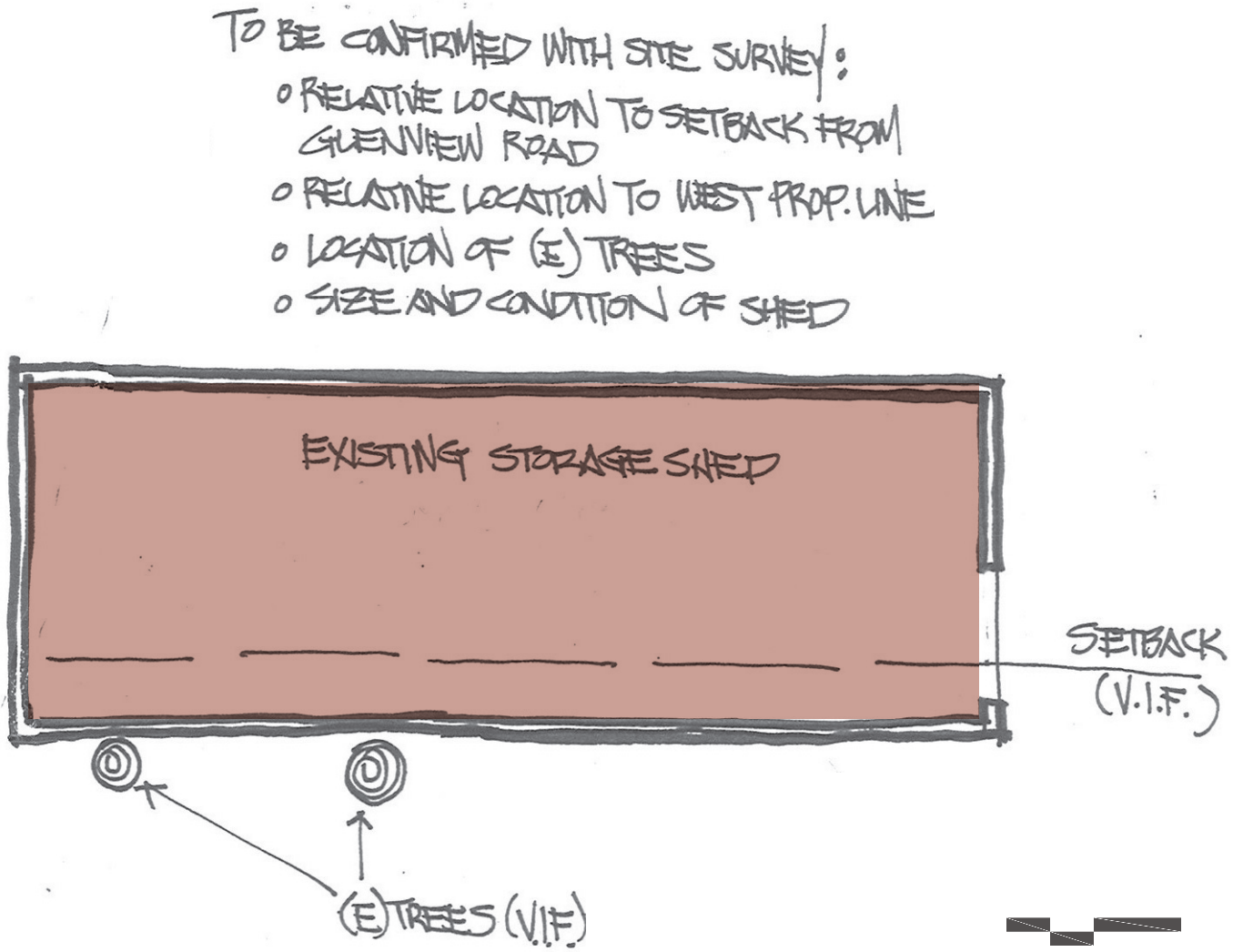
TBD

SYSTEMS

electrical: GFI duplex receptacles
lighting: direct, artificial lighting, 20-30 Fc
mechanical: -
acoustics: -
plumbing: -
security: key access
fire protection: smoke detector, fire alarm

FURNITURE + EQUIPMENT

TBD



06 technical narratives

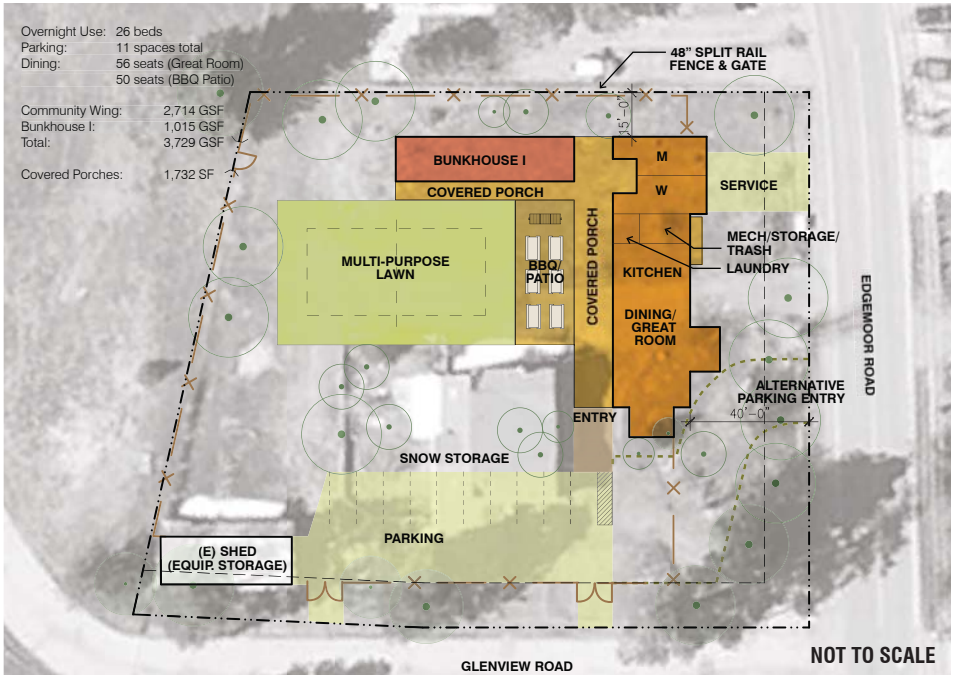
LANDSCAPE

CIVIL

STRUCTURAL

MECHANICAL/ELECTRICAL/PLUMBING

Above: Project site (looking east)
Below: Site Concept Diagram, Preferred Scheme, Phase I



LANDSCAPE + SITE DESIGN

The Student Recreation Facility at the City of Big Bear Lake is located at the perimeter of an existing subdivision on a previously developed site, presently occupied with a residential building. Currently, large native trees (pines and cottonwoods) exist at the property's perimeter, with an understory of pine-needle litter, annual grasses, and small ornamental trees and shrubs surrounding the existing structures. The neighborhood development is similar in character, with tall forest trees and little to no groundcover.

The property is located at an elevation of 6,750 feet within the San Bernardino National Forest, east of Metcalf Bay. There are some views to the lake from the western edge of the property, and the site primarily slopes east, orienting towards Edgemoor Road.

SITE LANDSCAPE

The majority of the existing large trees (conifers and cottonwoods) are intended to remain. Prior to further site development, a tree survey should be prepared along with the topographic survey. A tree survey will include accurate locations of all trees over 6" in trunk diameter, an accurate delineation of the extent of the tree canopy (spread) and species identification. It is the intent that further site development will not remove any tree over 6" in trunk diameter, unless the declining health of the tree warrants removal.

New planting is proposed within the disturbed existing building footprint and to supplement the existing landscape to remain. The site is in Sunset Western Garden Book Planting Zone 2, with cold winter requirements. The site is restricted for fire (fuel load) and water use, therefore the planting palette is limited to plants without high fire risk or high water use. Due to its presence within the National Forest, the plant palette emphasizes native Californian species.

Additional conifers and deciduous trees will be planted along Edgemoor Road to provide separation from the street, and along the north property line to screen the bunkhouse from adjacent property. The existing conifers along the south property line and at the corner with Glenview Road will be supplemented with deciduous trees to provide screening and some summer shade, but to allow winter light and sun. Mixed conifers and deciduous trees will be planted along the west property boundary to provide shade and privacy, but clustered to maintain distant views to the lake. In all cases, trees will be planted outside the building envelope for Phase II so that future construction will not remove established trees. Native shrubs are recommended for screening and erosion/dust control.

A low-water use mountain turf grass (Buffalo Grass) is proposed for the Multi-Purpose Lawn area. As this is an area for recreation and sports, there is no lawn substitution for three season use. Artificial sports turf cannot be used during periods of freeze-thaw because of hardened conditions associated with freezing and a paved court surface would be impervious and cause additional runoff.

Site irrigation is limited to this lawn area and will be low-flow system with an ET (evapotranspiration) controller to prevent watering if there is adequate soil moisture.

Since the plant palette is primarily native species, irrigation will not be necessary elsewhere once the plants are established. In any case, irrigation should be in the early morning hours when wind will not cause over-spray and sun will not cause evaporation. The goal is to provide the minimum amount of water to the landscape to maintain it in a healthy and attractive condition.

Recommended Plant List:

Latin Name	Common Name	Comments
Shrubs and Groundcovers		
Amelanchier alnifolia	Western Serviceberry	deciduous large shrub; fall color; spring flowers
Arctostaphylos parryi	Parry Manzanita	evergreen medium shurb; pinkish-white flowers
Arctostaphylos patula	Greenleaf Manzanita	evergreen med-lg shrub; bright foliage; pink flowers
Arctostaphylos uva-ursi	Bearberry	slow-growing, hardy evergreen groundcover
Ceanothus cordulatus	Snowbush; Mountain Whitethorn	evergreen med-lg shrub; gray-green; foliage; white flowers
Cercocarpus ledifolius	Curl-leaf Mountain Mahogany	evergreen large shrub; showy seed plumes; higher fire risk
Mahonia repens	Creeping Barberry	evergreen groundcover
Ribes nevadense	Pink Sierra Currant	deciduous small-med shrub; pink flowers; tolerates more water
Symphoricarpos albus	Common Snowberry	deciduous shrub; can form thickets; can withstand shade
Trees		
Cornus nuttallii	Western Dogwood	deciduous small-med tree; showy white flower bracts
Pinus jeffreyi	Jeffrey Pine	evergreen conifer ca. 100 ft tall; tolerates range of conditions
Pinus ponderosa	Ponderosa Pine	evergreen conifer to ca. 150 ft; fairly fast grower
Populus tremuloides	Quaking Aspen	decidous medium tree; fall color
Pseudotsuga macrocarpa	Bigcone Spruce	evergreen conifer to ca. 60 ft; drought tolerant; dark foliage

GENERAL DESIGN CRITERIA

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 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 attempt to meet a minimum LEED Silver certification, or equivalent.

A Systems Criteria meeting was conducted at the City of Big Bear Lake with representatives from the Planning Department and Engineering Department to determine proposed utility points of connection and verification of existing capacities of those systems to be utilized. A meeting with the Big Bear Lake Department of Water and Power was also conducted to determine the existing infrastructure and services available adjacent to the project site.

DEMOLITION

Demolition for the Student Recreation Facility at the City of Big Bear Lake is to include clearing and grubbing activities, demolition of the existing asphalt concrete surface parking areas, building, rear concrete deck and pad, and various hardscape/landscape features. The existing equipment shed located at the southwest corner of the site is to be protected in place for future use.

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 (asphalt, concrete deck/pad, railroad ties, brick fireplace, etc) may be recycled and used as either structural fill for the new buildings and site work, or as landscape features (pathways, etc).

Based on available record data provided, existing on-site water, gas and sanitary sewer laterals may have to be re-routed and/or demolished due to the location and limits of the new SFR at Big Bear development. Currently there are two power poles on-site, located at the southwest and southeast corner that provides overhead electrical and telecommunication lines. Per discussions with the City of Big Bear Lake Planning Department, for commercial zoning, it is preferred and typical to have existing overhead lines re-routed underground as a part of construction development.

UCR will work in coordination with the City of Big Bear Lake to determine the best solution for the project site. For purposes of this narrative, it is being assumed that all telecommunications and electrical lines will be re-routed underground.

GRADING + STORM DRAINAGE

The *Preliminary Geotechnical Evaluation* prepared by GeoTek, Inc dated August 26, 2008 was reviewed in preparation of this DPP. The report analysis was based on a proposed development scope limited to the construction of a new wood framed deck and/or stair along the rear of the existing building. Based on the current scope of proposed development, an Addendum should be issued by GeoTek, Inc. to include recommendations in support of the current proposed development. For civil design purposes, the Addendum should include recommendations for grading, an analysis of the project site for the applicability of storm water infiltration as a means of storm water mitigation, and paving recommendations for both permeable and impermeable asphalt concrete and concrete paving subject to light and heavy vehicular loading.

Based on a site visit, the project site is relatively flat with existing drainage sheet flowing from the western limits of the site to the eastern limits of the site. The project low point is located at the northeast corner of the site along Edgemoor Road. It was noted that there is an existing vegetated swale that runs east to west along the southern property line, ultimately discharging to the existing asphalt pavement parking lot. Additionally, there is an existing sump condition located at the rear of the property. Due to the observed granular profile of the existing soils, and the silty sand profile noted in the Geotechnical Evaluation, it is anticipated that water infiltrates into the soils. However, percolation testing (minimum of 4 locations) by a Geotechnical Consultant will have to be performed in order to confirm this assumption and to determine the feasibility of infiltration pit(s) moving forward. There were no area drains, roof downspouts, or other structural features observed on-site. Drainage is ultimately conveyed to the public street, Edgemoor Road.

Based on existing public storm drain information provided by the City of Big Bear Lake, there is an existing underground storm drain line located in both Edgemoor Road and Glenview Road, size unknown.

The proposed drainage system for the SRF at Big Bear Lake may be designed using sustainable methods so as to not exceed existing outflow conditions. LEED surface water management credits may be attempted in support of applying for LEED Silver accreditation.

Specifically, proposed site development grading and drainage for the project may include the following:

- For the L-shaped complex, roof downspouts could either be directed to planter areas for primary stormwater treatment prior to collection in local area drains, or, directly to an underground storm drain pipe network. If the latter is chosen, a mechanical BMP would be installed for primary filtration purposes prior to being directed to an underground infiltration pit(s). The infiltration pit(s) would have an overflow pipe discharging to the existing city storm drain line located in Edgemoor Road or Glenview Road.
- Various landscape areas could be developed along all sides of the buildings. Landscape and courtyard areas would be graded to flow to local area drains within the planter/landscape areas. Where feasible, bioswales would be incorporated into the landscape design. Underground PVC piping for this network would discharge to an infiltration pit(s) noted above.
- We recommend that the surface parking lot be constructed of permeable concrete or asphalt for infiltration purposes, and for snow removal. It is our understanding that permeable pavement may have limitations for proper snow plowing and removal, and therefore, further investigation will have to occur to determine if all or just portions of the surface parking lot can be allocated for permeable pavement. Additionally, these areas would be graded in coordination with the existing topography to divert runoff from high storm events to adjacent bioswales. These bioswales would be provided with inflow catch basins fitted with filter inserts for primary stormwater treatment purposes prior to discharging runoff to the infiltration pit(s) noted above.
- To reduce storm water runoff, all pedestrian paths and terraces could be constructed of permeable pavement and/or decomposed granite and graded towards areas of landscape for infiltration.

Additionally, it should be noted that another option to be evaluated in lieu of, or in addition to, the infiltration system(s) is the design of an underground cistern to capture the stormwater runoff from the project site to reuse for irrigation purposes. Further discussions regarding the feasibility of this option will commence as the project moves forward.

Please note that the various stormwater management and retention options listed above are excluded from the base cost estimate. See Alternate #9 (stormwater retention system) in the cost plan for a possible cost allowance.

DOMESTIC/FIRE WATER SYSTEM

Based on site plan parameters, it is anticipated that the existing combined domestic and fire water laterals that run within the proposed project limits will have to be demolished and removed as a part of the project scope. Based on preliminary information received from the Big Bear Lake Department of Water and Power, it has been stated that sufficient capacity is available in the existing 8" public water line located in Edgemoor Road and that the project site is currently serviced by a 5/8" meter and ¾" building supply. Further confirmation and verification will be obtained once the project specific water demands have been finalized. There is no available recycled or reclaimed water in the area.

During a site visit, it was noted that there are two existing public fire hydrants located along the east side of Edgemoor road, within close proximity to the project site. The UCR Fire Marshall will collaborate with the City of Big Bear Lake Fire Department to determine on-site fire department access requirements. Additionally, the UCR Fire Marshall will review drawings for compliance with the City of Big Bear Fire Reduction Measures, and will act as liaison with the City of Big Bear Fire Marshall as necessary.

SANITARY SEWER SYSTEM

It is anticipated that the SRF at Big Bear will have a series of sanitary sewer laterals discharging along the east side of the building. A series of cleanouts will be provided at appropriate distances and/or bends and will tie into the existing public 8" VCP located in Edgemoor Road. Based on preliminary information received from the City of Big Bear Lake Engineering Department, it has been stated that sufficient capacity is available in the existing 8" public sanitary sewer line. Final confirmation and verification will be provided during the design stage of the project. Additionally, it was noted that currently there are 4 sanitary sewer laterals provided to the project site from Edgemoor Road. Connection, if feasible, to one of these existing laterals may prevent trenching within the public right of way for a new service connection. Additional investigation will be required to determine the location, condition and feasibility of using the existing sanitary sewer lateral services.

A graywater system where wastewater from sinks, dishwashers, bathtubs, showers and laundry machines is captured, filtered and reused for drip irrigation purposes may be 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 on-site sewer lines. A graywater system is not included in the cost plan.

GAS SYSTEM

Though design and review of the gas infrastructure system is not a part of the civil scope of services, preliminary information was obtained from Southwest Gas Corporation (SGC). Per a telephone conversation with SGC, it was noted that there is an existing 2" and 4" gas line located in Edgemoor Road. Per their records, the project site currently has a 1 ½" service with an AL425 diaphragm meter. Based on the meter specifications, the existing meter can handle up to a 425,000 BTU demand. Additionally, due to the local climate, a shelter will have to be installed above the natural gas meter to prevent snow and ice accumulation. Standard details for these shelters were provided accordingly.

SUGGESTED STRUCTURAL SYSTEM

ROOF
Recommend use of pre-fabricated trusses at the Community Building. The trusses will allow the roof to span to the exterior walls and keep the great room open. At the Bunkhouse(s), the roof can be stick framed with 2x10s.

EXTERIOR WALLS
Use 2x8 stud framing with a plate height of 9 to 10 feet sitting over an 8 inch wide by 30 inch tall concrete or masonry curb wall. All exterior walls will be shear walls and have ½" plywood on the exterior face.

INTERIOR WALLS
Use 2x4 or 2x6 framing. Select interior walls will also be shear walls and have plywood sheathing on one side.

FOUNDATION
The floor shall be a 5 inch concrete slab on grade and the foundation shall be a 12 inch wide by 18 inch deep continuous concrete footing that will run the perimeter of the building. Interior footings will be located under interior shear walls.

COVERED PORCH
Stick frame with 2x6's over a post and beam system.

LEED
Since this project is to be a LEED Silver equivalent building, structural measures that could earn LEED credits would include using FSC certified lumber, and considering the use of Structural Insulated Panels or other high-insulating wall and roof systems.

GENERAL DESIGN CRITERIA

BUILDING SYSTEM

Bearing wall system with light-framed walls sheathed with wood structural panels

Governing Codes 2007 California Building Code

Soils Report GeoTek, Inc., Riverside CA

SEISMIC CRITERIA		WIND LOADS	
Importance Factor (I_E)	1.0	Importance Factor (I_W)	1.0
Site Class	D	Basic Wind Speed, V	85 mph
Site Coefficient, Fa	1.0	Exposure	C
Site Coefficient, Fv	1.5	SNOW LOADS	
Mapped Short Period Response Acceleration, S_S	1.786g	Importance Factor (I_s)	1.0
Mapped 1-Sec Period Response Acceleration, S_1	0.706g	Roof, p_r	100 psf
Design Short Period Response Acceleration,S_{DS}	1.191g	Ground, p_g	85 psf
Design 1-Sec Period Response Acceleration ,S_{D1}	0.706g	Exposure Factor (C_e)	0.9

MEP SYSTEMS

The mechanical, electrical, and plumbing (MEP) systems for the UC Riverside Student Recreation Facility will be consistent with the residential style and quality of the systems found in the project neighborhood. At the same time, these relatively common systems will be designed and sized recognizing the integrated design approach taken in the project. For example, high-quality double-pane low-emissivity windows will be used to provide a high insulation value in order to reduce heat loss and the heating systems will be sized with this in mind.

MEP systems will be designed for energy efficient and resource efficient operation. The design team will explore a variety of system options for the MEP systems in the design phase of the project. This narrative describes project design criteria, baseline system concepts, and some likely system options to be examined.

CODES AND STANDARDS

Project construction will adhere to the following codes and standards:

- 2007 California Mechanical Code
- 2007 California Plumbing Code
- 2007 California Electrical Code
- 2007 California Green Building Standards Code
- 2007 California Title-24 Part 6 Energy Standards

DESIGN CRITERIA

The project shall be designed to accommodate the following design temperature, humidity, and site requirements.

- Winter outdoor dry bulb temperature: -3°F
- Winter indoor occupied dry bulb temperature: 68°F
- Winter indoor unoccupied dry bulb temperature: 55°F
- No cooling requirements
- No humidity control requirements
- Project site is at approximately 7,000 ft elevation

Project MEP systems will be designed consistent with a LEED Silver equivalent level of performance.

MECHANICAL SYSTEMS

The community building contains a kitchen, dining/great room, laundry facilities, and rest rooms and is physically separated from the bunkhouse area by an outdoor breezeway that is protected by a covered porch. Because of the physical separation between the buildings, it is likely that separate HVAC systems will be used in the main building and the bunkhouse building.

In the main building, the kitchen will be residential-style and will not contain any commercial Type 1 or Type 2 exhaust hoods. The kitchen will employ a residential style exhaust hood over the cook top and oven. Residential-style bathroom exhaust fans will be provided in each of the restrooms sized at 75 cfm per fixture and per shower.

Ventilation to the all areas of the community wing will be provided via operable windows located in each room. Heating will be provided by a single 95% efficient constant-air-volume natural-gas forced air furnace located in the mechanical room that will serve all community building areas as a single HVAC zone. No cooling will be provided to any areas of the community building.

In the bunkhouse, ventilation will be provided via operable windows. Heating will be provided by a single 95% efficient constant-air-volume natural-gas forced air furnace located in the mechanical closet that will serve all bunkhouse rooms as a single HVAC zone. No cooling will be provided to any bunkhouse rooms. Windows will be situated in order to allow cross ventilation of the rooms. Each toilet or bathroom in the bunkhouse will be provided with a residential-style exhaust fan sized at 150 cfm each.

All building heating systems will be controlled with residential-style electronic programmable thermostats per the Title-24-2007 energy standards.

Alternative HVAC systems that may be explored during design (though not included in the cost plan) include the following:

- Provide a Type 1 commercial exhaust hood with Ansul fire protection system in the kitchen
- Electric baseboard heaters for the bunkhouse rooms
- Hydronic baseboard heaters for the bunkhouse rooms coupled with a small condensing boiler and hot water pump

PLUMBING (DOMESTIC HOT WATER) SYSTEMS

A 95% efficient natural-gas fired storage-tank hot water heater will be located in the community building mechanical room and will serve the kitchen and rest rooms. A residential hot water recirculation pump can be added to ensure instant hot water at showers and sinks and avoid running water excessively.

A separate natural-gas instantaneous type (non-storage) hot water heater will be located in the bunkhouse mechanical closet to serve the sinks and bathrooms in that building.

Alternative domestic hot water systems to be explored during design (but are not included in the cost plan) include the following:

- Instantaneous (non-storage type) natural gas fired hot water heater in the community building. Instantaneous (non-storage type) domestic water heaters reduce energy waste in systems that are idle for long periods of time because they do not keep a large reservoir of water hot.
- Domestic solar hot water system for one or both buildings

LIGHTING + ELECTRICAL SYSTEMS

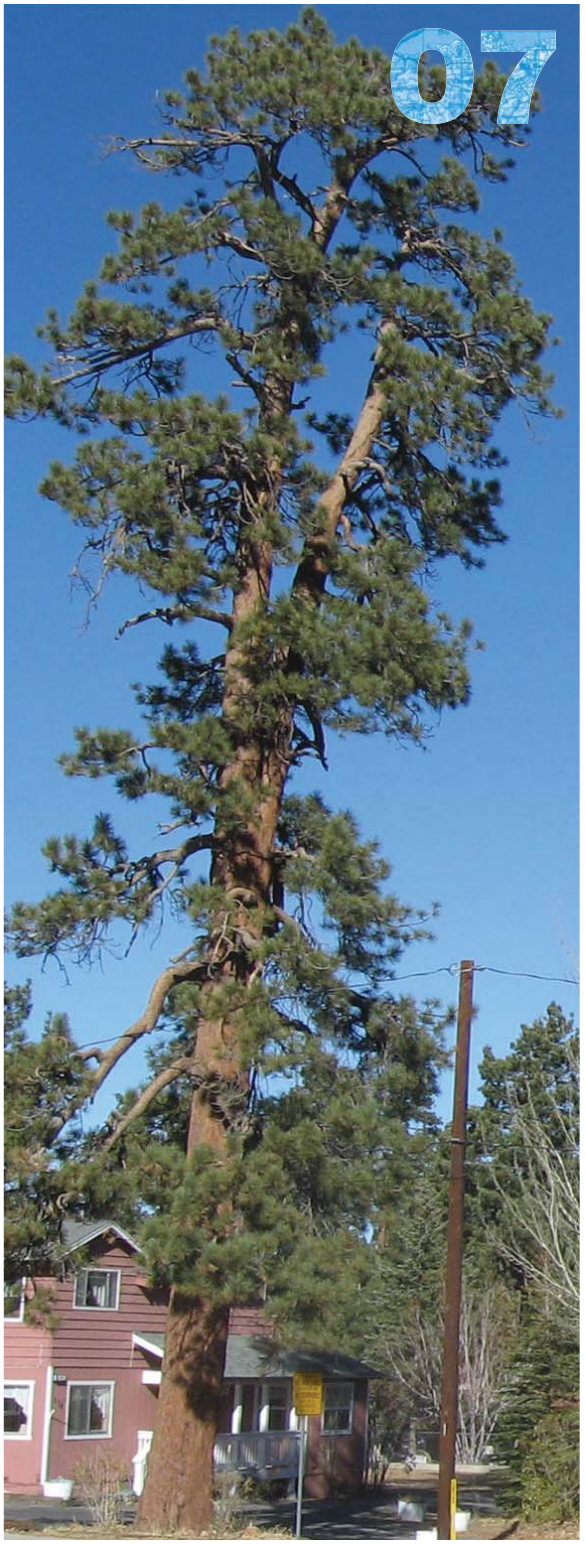
Lighting for the project will be installed with energy efficiency in mind. Lighting power densities and lighting fixture type will be consistent or below Title-24-2007 required levels. The lighting systems will be switched to allow maximum use of natural daylight during daytime hours.

Alternative electrical systems such as a photovoltaic panel array for on-site electricity generation may explored during design (though they are not included in the cost plan).

ENERGY EFFICIENCY + SUSTAINABLE DESIGN STRATEGIES

An integrated design approach will be used for the Big Bear Student Recreation Facility project. High-quality double-pane low-emissivity windows will be used to provide a high insulation value in order to reduce heat loss and the building will be oriented for passive solar gain. Natural daylight will be used throughout the buildings whenever possible and operable windows will provide ventilation to all areas.

High-efficiency HVAC and domestic hot water heating equipment will be specified for major system components. Although not included in the cost plan, solar-thermal domestic hot water systems can also be explored in design.



07 sustainability

SUSTAINABILITY GOALS + OPTIONS OVERVIEW

LEED CERTIFICATION PROCESS

LEED FOR HOMES CHECKLIST

INTRODUCTION

Reflecting UC Riverside's commitment to sustainability, the Student Recreation Facility at the City of Big Bear Lake will incorporate sustainable systems and strategies as integral aspects of the design. Decisions about sustainability are involved at every step of the design process, from large-scale decisions about building size and orientation and smaller-scale decisions about equipment and materials.

Instead of providing an exhaustive list of possible systems to implement, the DPP focuses on overarching principals such as building orientation, parking capacity, and water and energy use, which outline the main sustainable considerations for the SRF at Big Bear project. As the project advances, sustainability decisions will become increasingly detailed, and concrete approaches that are appropriate and realistic for the project will be developed.

Given the number of decisions involved, the LEED certification program is a critical tool for strategizing and implementing a coherent sustainable design. The LEED (Leadership in Energy and Environmental Design) program, overseen by the United States Green Building Council (USGBC), provides standards of measurement for "green" buildings and also serves as a useful framework for identifying and implementing sustainable strategies.

The goal of LEED Silver certification for the SRF at Big Bear Lake can be accomplished in many ways. One possible path is shown in the LEED for Homes checklist attached. The LEED certification process is described in greater detail on the following page.

SITE

The north-south orientation of the great room and Kitchen will allow for both morning and evening daylight in the dining, lounge and kitchen spaces. The south facing lounge in the great room will benefit from winter sun while window shades and existing trees will shade the summer sun. The Bunkhouse windows and porch face south to take advantage of the winter sun, as well. Operable windows and screen doors will allow natural ventilation to mitigate some of the effects of unwanted solar gain.

The Student Recreation Facility at Big Bear Lake also helps promote sustainability by increasing the density of the neighborhood it will be located in. Although the City only has one local bus route, it passes within two blocks of the property on nearby Big Bear Blvd (a minimum of two bus lines are required for a LEED Location and Linkages point). There is room on the property for bicycle parking, as well. A Transportation Plan for reducing individual car trips by using vanpools and carpools will save significant resources and money while decreasing the environmental impact of the facility.

WATER

High-efficiency water heaters for the Community Wing and tankless water heaters for the Bunkhouse wing will serve the hot-water demands of the facility. We recommend that reasonably clean non-potable water from roofs be re-used for irrigation and flushing. Whether or not the project registers for LEED, we recommend that it meet the possible LEED points in water efficiency, including non-potable water for irrigation and waterless urinals and dual-flush toilets.

The sitework should also comply with LEED requirements for erosion control and surface water management, slowing down run-off and increasing infiltration and evapotranspiration rather than hard-piping runoff.

ENERGY

The goal of passive energy-efficiency will require a well-sealed, well-insulated building envelope. Controlling direct daylight will be essential to maximize glare-free natural light year-round, while minimizing solar gain during hot days. The orientation of the building wings and covered porches are intended to shade windows and porches in the summer months and to allow more direct sunlight in during the winter months. The thermal mass of dark-colored concrete floor slabs will absorb the low-angled winter sun, radiating heat to help warm rooms.

The south-facing orientation and slope of the bunkhouse wing and porch roofs could accommodate a future photovoltaic array to harvest renewable energy, pending further study in the design phase. While harvesting renewable energy is an excellent goal, it is more economical for this residential-sized facility to optimize the energy performance of the building by investing more in the building envelope rather than large-scale photovoltaics.

High-efficiency residential water heating systems and furnaces, Energy Star appliances, and high-efficacy lighting will help keep energy loads low in a facility that will most likely be occupied on a part-time basis, over the course of the year.

MATERIALS

Construction materials have an environmental impact associated with their production and delivery as well as their final use. When possible, this project will use materials with recycled content. There may also be opportunities to harvest materials from the demolition of the existing house for re-use on this project. The existing storage shed is proposed to remain, as well. Concrete with a high percentage of fly-ash helps reduce the amount of fly-ash in landfills and produces a concrete that can achieve higher strengths (though less quickly), while saving on overall energy consumption.

The use of local and regional materials will greatly reduce the environmental impacts associated with material transportation while supporting the local economy. Use of sustainably-harvested wood also helps environmentally responsible forest management.

INDOOR ENVIRONMENT QUALITY

Occupant health and satisfaction are important components of the comfort and use of the facility, especially in winter. Good indoor environmental quality requires a degree of control over one's immediate environment, operable windows for ventilation in benign weather, and glare-free, indirect natural light.

Daylighting not only decreases the need for electricity but also increases occupant comfort. Paints, sealants and adhesives should be selected for low or no-VOC content to reduce odor and provide better indoor air quality. All materials will be selected to minimize off-gassing.

LEED CERTIFICATION PROCESS

One of the goals expressed for the SRF at Big Bear Lake is to achieve a minimum LEED Silver rating or equivalent (likely to require 67 points in the LEED rating system - refer to Scenario A, at right). A preliminary review of the points the project can earn indicates that LEED Silver is an achievable goal. Although most UCR projects apply LEED for New Construction guidelines, this project was reviewed with the LEED for Homes technical staff at the USGBC who determined that this project would be a good candidate for the LEED for Homes rating system. Owing largely to the residential-scale mechanical systems, as well as residential use and facilities, the LEED for Homes rating system is more applicable to the SRF at Big Bear Lake project.

With LEED for Homes, each project has a "Provider," a local organization selected by the USGBC with expertise in the application of the LEED rating system and with sustainable design and construction. The LEED Provider is a consultant to the project, and evaluates project performance in eight categories: Innovation and Design Process, Location and Linkages, Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, Indoor Environmental Quality, and Awareness and Education. Within each of these categories, points are assigned based on specific, detailed criteria; the number of points awarded in each category depends on the strategies or technologies that a project implements, and their effectiveness.

The point number threshold for each certification level depends on an initial Home Size Adjustment, which "compensates for the overarching effect of home size on resource consumption by adjusting the award level point thresholds…based on home size." The adjustment attempts to compensate for material and energy impacts of houses with larger footprints per occupant load.

Since most homes accommodate one person per bedroom, the SRF at Big Bear "bedroom-to-living area" makes it seem like a house with a generous footprint. Since Phase II has more bedrooms than Phase I, while the living area remains the same, the Home Size Adjustment ratio will be affected by the phasing of the project, outlined in the following scenarios:

Scenario A: Bunkhouse 1 with 5 bedrooms + Community Wing (3,729 GSF)

This scenario results in a Home Size Adjustment of +7 points per level of certification, i.e., the project will now need 67 points (in lieu of 60 points) to achieve LEED Silver certification. This same scenario will be repeated for each level of certification (add 7 points). If Bunkhouse II is added at a later date, it will not be included in the initial certification but can certify on its own.

Scenario B: Bunkhouse 1 + Bunkhouse 2 (10 bedrooms total) + Community Wing (4,744 GSF)

This scenario results in a Home Size Adjustment of +4 points per level of certification, i.e., the project will now need 64 points (in lieu of 60 points) to achieve LEED Silver certification.

Even though the facility will be intensively occupied at certain times, initial conversations with USGBC staff indicate that it is more realistic to assume that the standard Home Size Adjustment calculations apply. If it is not likely that Bunkhouse II will be built during Phase I, it is safer to assume that seven points will be added to the total points required.

Synergies, Trade-offs, and Costs

While the LEED system does involve a number of pre-requisite "required" items to achieve the base level of certification, beyond this level any combination of points adding up to 67 (assuming Scenario A, above) will result in LEED Silver certification. At this stage, some strategies stand out as good options, while others will need to be evaluated and weighed as the project develops.

For example, in the Materials and Resources category, it is reasonable to expect that Detailed Framing Documents, Detailed Cut List and Lumber Orders, and Framing Efficiency (MR 1.2-1.4) are achievable points, but the number of Environmentally Preferable Products (MR 2.2, with 1-8 possible points) depends on design decisions further in the process. As with all the LEED points, it may be determined that the cost of these products could be more effectively applied to other aspects of the sustainable design.

Sustainability strategies that have large budget implications, such as photovoltaic array systems, were not included in the project cost plan and were not counted on the LEED checklist, although they may still be considered for the project. Synergies between categories can make sustainable strategies more effective, such as when drought-tolerant landscaping that qualifies for points in Sustainable Sites point 2: Landscaping also reduces irrigation demand in Water Efficiency point 2: Irrigation System.

Some things to consider if the project intends to meet LEED Silver:

- The project will need to be 15% over current Title 24 energy performance standards energy. A preliminary energy model will be required to estimate how the building might perform as currently designed. To achieve LEED Silver, it is likely that the structure will need to perform well above the 15% target.
- The project will need to meet the whole-house and local ventilation requirements of ASHRAE 62.2.
- The project will need mandatory construction waste management planning. The waste management/recycling infrastructure around Big Bear Lake has not been determined.
- For the Location & Linkages category, the project will need to (1) have a water-efficient landscape plan for optimal performance in the Sustainable Sites category, (2) consider high-efficiency fixtures for the Water Efficiency category, (3) optimize energy performance in the EA and EQ categories, and (4) pay attention to material specifications to optimize performance in the MR category.

LEED certification process + LEED for Homes checklist

The LEED certification process includes, but is not limited to:

- Project review and project team meetings to define LEED objectives
- Energy modeling analysis for Title 24 and ENERGY STAR compliance
- Ongoing project management
- On-site field testing and verification (includes optional, but highly recommended trades training session
- LEED review and final certification
- The ballpark estimate at this time is between $15,000 and $20,000.

The LEED checklist is one set of criteria for evaluating and tracking the environmental impact of each aspect of the design. The attached draft checklist illustrates one possible path to achieve LEED Silver certification for the SRF at Big Bear. The complete manual describing each LEED point and its evaluation criteria is available on the USGBC's website. As mentioned above, the specific strategies used and points awarded will most likely change as the project develops and more detailed decisions are made.

for Homes

LEED for Homes Simplified Project Checklist

Builder Name:	UC Riverside/EHDD Architecture
Project Team Leader (if different):	EHDD Architecture
Home Address (Street/City/State):	Edgemoor Road, Big Bear Lake, CA

Project Description:

Building type:

# of bedrooms: *0*

Project type:

Floor area: *0*

Adjusted Certification Thresholds

Certified: *45.0* Gold: *75.0*

Silver: *60.0* Platinum: *90.0*

Project Point Total

Prelim: *50 + 37 maybe pts* Final: *70*

Certification Level

Prelim: *Certified* Final: *Silver*

Final Credit Category Total Points

ID: 5 SS: 10 EA: 20 EQ: 18

LL: 4 WE: 4 MR: 8 AE: 1

date last updated :

last updated by :

				Max Points	Project Points Preliminary Y/Pts	Maybe	No	Final Y/Pts
Innovation and Design Process (ID)		(No Minimum Points Required)		Max				
1. Integrated Project Planning	1.1	Preliminary Rating		Prereq				
	1.2	Integrated Project Team		1	1	0		1
	1.3	Professional Credentialed with Respect to LEED for Homes		1	0	1		0
	1.4	Design Charrette		1	1	0		1
	1.5	Building Orientation for Solar Design		1	0	0	1	0
2. Durability Management Process	2.1	Durability Planning		Prereq				
	2.2	Durability Management		Prereq				
	2.3	Third-Party Durability Management Verification		3	3	0		3
3.Innovative or Regional Design	3.1	Innovation #1		1	0	0		0
	3.2	Innovation #2		1	0	1		0
	3.3	Innovation #3		1	0	1		0
	3.4	Innovation #4		1	0	1		0
			Sub-Total for ID Category:	*11*	*5*	*4*		*5*
Location and Linkages (LL)		(No Minimum Points Required)	*OR*	Max	Y/Pts	Maybe	No	Y/Pts
1. LEED ND	1	LEED for Neighborhood Development	**LL2-6**	10	0	0	1	0
2. Site Selection	2	Site Selection		2	0	2		0
3. Preferred Locations	3.1	Edge Development	**LL 3.2**	1	0	0	1	0
	3.2	Infill		2	2	0		2
	3.3	Previously Developed		1	1	0		1
4. Infrastructure	4	Existing Infrastructure		1	1	0		1
5. Community Resources/ Transit	5.1	Basic Community Resources / Transit	**LL 5.2, 5.3**	1	0	1		0
	5.2	Extensive Community Resources / Transit	**LL 5.3**	2	0	0	1	0
	5.3	Outstanding Community Resources / Transit		3	0	0	1	0
6. Access to Open Space	6	Access to Open Space		1	0	1		0
			Sub-Total for LL Category:	*10*	*4*	*4*		*4*
Sustainable Sites (SS)		(Minimum of 5 SS Points Required)	*OR*	Max	Y/Pts	Maybe	No	Y/Pts
1. Site Stewardship	1.1	Erosion Controls During Construction		Prereq				
	1.2	Minimize Disturbed Area of Site		1	1	0		1
2. Landscaping	2.1	No Invasive Plants		Prereq				
	2.2	Basic Landscape Design	**SS 2.5**	2	2	0		2
	2.3	Limit Conventional Turf	**SS 2.5**	3	0	0	3	0
	2.4	Drought Tolerant Plants	**SS 2.5**	2	2	0		2
	2.5	Reduce Overall Irrigation Demand by at Least 20%		6	0	6		0
3. Local Heat Island Effects	3	Reduce Local Heat Island Effects		1	1	0		1
4. Surface Water Management	4.1	Permeable Lot		4	0	4		0
	4.2	Permanent Erosion Controls		1	1	0		1
	4.3	Management of Run-off from Roof		2	1	1		1
5. Nontoxic Pest Control	5	Pest Control Alternatives		2	2	0		2
6. Compact Development	6.1	Moderate Density	**SS 6.2, 6.3**	2	0	0	2	0
	6.2	High Density	**SS 6.3**	3	0	0	3	0
	6.3	Very High Density		4	0	0	4	0
			Sub-Total for SS Category:	*22*	*10*	*11*		*10*

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LEED for Homes checklist

LEED for Homes Simplified Project Checklist (continued)

					Max Points	Project Points Preliminary			Final
Water Efficiency (WE)			(Minimum of 3 WE Points Required)	*OR*	Max	Y/Pts	Maybe	No	Y/Pts
1. Water Reuse		1.1	Rainwater Harvesting System	**WE 1.3**	4	*0*	*2*		*0*
		1.2	Graywater Reuse System	**WE 1.3**	1	*0*	*1*		*0*
		1.3	Use of Municipal Recycled Water System		3	*0*	*0*	*3*	*0*
2. Irrigation System	✎	2.1	High Efficiency Irrigation System	**WE 2.3**	3	*1*	*0*		*1*
		2.2	Third Party Inspection	**WE 2.3**	1	*0*	*0*		*0*
	✎	2.3	Reduce Overall Irrigation Demand by at Least 45%		4	*0*	*4*		*0*
3. Indoor Water Use		3.1	High-Efficiency Fixtures and Fittings		3	*3*	*0*		*3*
		3.2	Very High Efficiency Fixtures and Fittings		6	*0*	*3*		*0*
			Sub-Total for WE Category:		***15***	*4*	*10*		***4***
Energy and Atmosphere (EA)			(Minimum of 0 EA Points Required)	*OR*	Max	Y/Pts	Maybe	No	Y/Pts
1. Optimize Energy Performance		1.1	Performance of ENERGY STAR for Homes		Prereq				
		1.2	Exceptional Energy Performance		34	*0*	*0*		***20***
7. Water Heating	✎	7.1	Efficient Hot Water Distribution		2	*0*	*0*		*0*
		7.2	Pipe Insulation		1	*0*	*0*		*0*
11. Residential Refrigerant Management		11.1	Refrigerant Charge Test		Prereq				
		11.2	Appropriate HVAC Refrigerants		1	*0*	*0*		*0*
			Sub-Total for EA Category:		***38***	*0*	*0*		***20***
Materials and Resources (MR)			(Minimum of 2 MR Points Required)	*OR*	Max	Y/Pts	Maybe	No	Y/Pts
1. Material-Efficient Framing		1.1	Framing Order Waste Factor Limit		Prereq				
		1.2	Detailed Framing Documents	**MR 1.5**	1	*1*	*0*		*1*
		1.3	Detailed Cut List and Lumber Order	**MR 1.5**	1	*1*	*0*		*1*
		1.4	Framing Efficiencies	**MR 1.5**	3	*3*	*0*		*3*
		1.5	Off-site Fabrication		4	*0*	*0*		*0*
2. Environmentally Preferable Products	✎	2.1	FSC Certified Tropical Wood		Prereq				
	✎	2.2	Environmentally Preferable Products		8	*3*	*5*		*3*
3. Waste Management		3.1	Construction Waste Management Planning		Prereq				
		3.2	Construction Waste Reduction		3	*0*	*0*	*3*	*0*
			Sub-Total for MR Category:		***16***	*8*	*5*		***8***
Indoor Environmental Quality (EQ)			(Minimum of 6 EQ Points Required)	*OR*	Max	Y/Pts	Maybe	No	Y/Pts
1. ENERGY STAR with IAP		1	ENERGY STAR with Indoor Air Package		13	*13*	*0*		***13***
2. Combustion Venting		2.1	Basic Combustion Venting Measures	**EQ 1**	Prereq				
		2.2	Enhanced Combustion Venting Measures	**EQ 1**	2	*0*	*0*		*0*
3. Moisture Control		3	Moisture Load Control	**EQ 1**	1	*0*	*0*		*0*
4. Outdoor Air Ventilation	✎	4.1	Basic Outdoor Air Ventilation	**EQ 1**	Prereq				
	✎	4.2	Enhanced Outdoor Air Ventilation		2	*2*	*0*		*2*
		4.3	Third-Party Performance Testing	**EQ 1**	1	*0*	*0*		*0*
5. Local Exhaust	✎	5.1	Basic Local Exhaust	**EQ 1**	Prereq				
		5.2	Enhanced Local Exhaust		1	*1*	*0*		*1*
		5.3	Third-Party Performance Testing		1	*0*	*0*		*0*
6. Distribution of Space Heating and Cooling	✎	6.1	Room-by-Room Load Calculations	**EQ 1**	Prereq				
		6.2	Return Air Flow / Room by Room Controls	**EQ 1**	1	*1*	*0*		*1*
		6.3	Third-Party Performance Test / Multiple Zones	**EQ 1**	2	*0*	*0*		*0*
7. Air Filtering		7.1	Good Filters	**EQ 1**	Prereq				
		7.2	Better Filters	**EQ 7.3**	1	*1*	*0*		*0*
		7.3	Best Filters		2	*2*	*0*		*2*
8. Contaminant Control	✎	8.1	Indoor Contaminant Control during Construction	**EQ 1**	1	*0*	*0*		*0*
		8.2	Indoor Contaminant Control		2	*0*	*0*	*1*	*0*
	✎	8.3	Preoccupancy Flush	**EQ 1**	1	*1*	*0*		*1*
9. Radon Protection	✎	9.1	Radon-Resistant Construction in High-Risk Areas	**EQ 1**	Prereq				
	✎	9.2	Radon-Resistant Construction in Moderate-Risk Areas	**EQ 1**	1	*0*	*1*		*0*
10. Garage Pollutant Protection		10.1	No HVAC in Garage	**EQ 1**	Prereq				
		10.2	Minimize Pollutants from Garage	**EQ 1, 10.4**	2	*0*	*0*	*1*	*0*
		10.3	Exhaust Fan in Garage	**EQ 1, 10.4**	1	*0*	*0*	*1*	*0*
		10.4	Detached Garage or No Garage	**EQ 1**	3	*0*	*0*	*1*	*0*
			Sub-Total for EQ Category:		***21***	*18*	*1*		***18***
Awareness and Education (AE)			(Minimum of 0 AE Points Required)		Max	Y/Pts	Maybe	No	Y/Pts
1. Education of the Homeowner or Tenant	✎	1.1	Basic Operations Training		Prereq				
	✎	1.2	Enhanced Training		1	*0*	*1*		*0*
		1.3	Public Awareness		1	*1*	*0*		*1*
2. Education of Building Manager	✎	2	Education of Building Manager		1	*0*	*1*		*0*
			Sub-Total for AE Category:		***3***	*1*	*2*		***1***

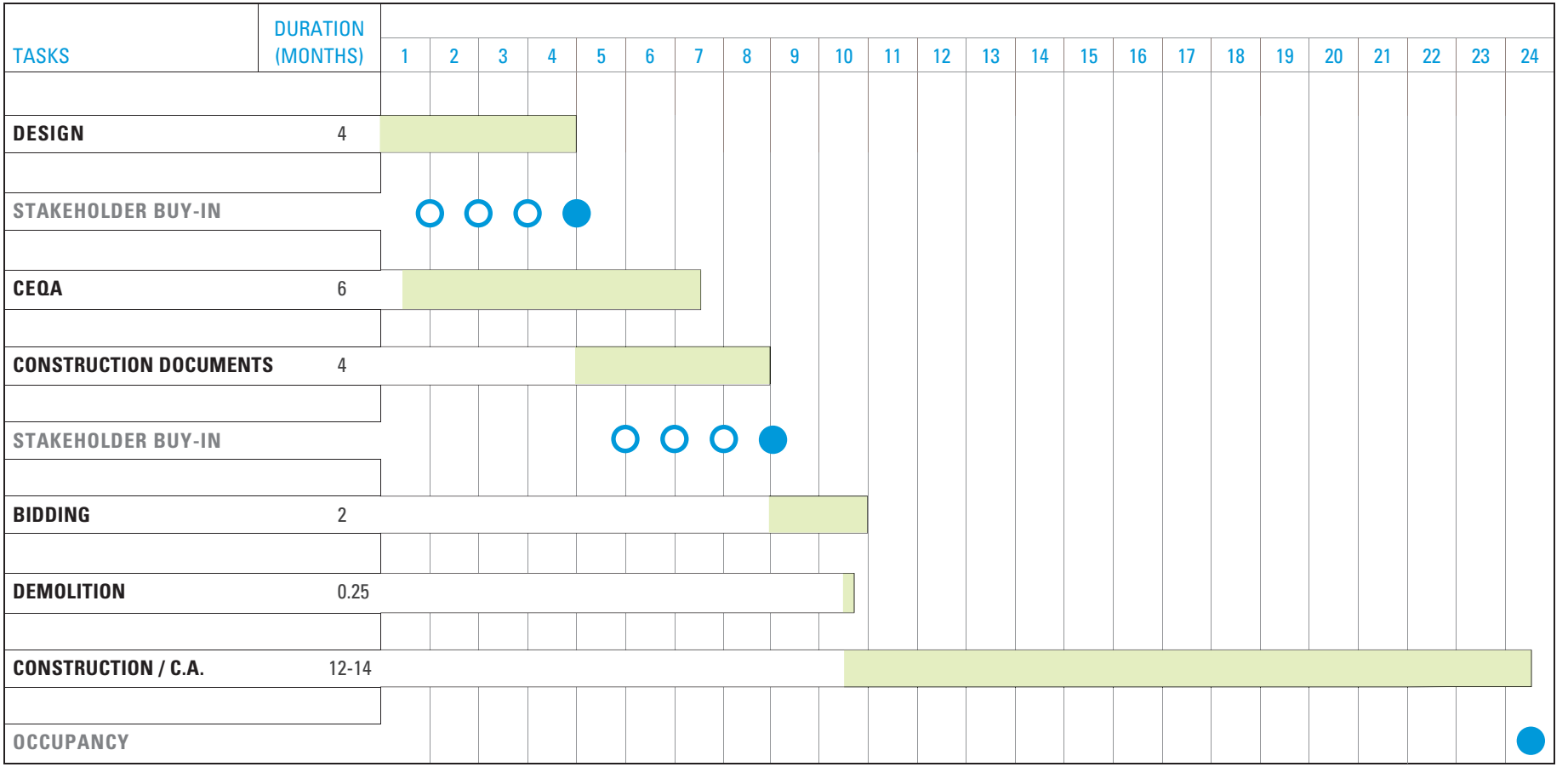
LEED for Homes Simplified Project Checklist

Addendum: Prescriptive Approach for Energy and Atmosphere (EA) Credits

Points cannot be earned in both the Prescriptive (below) and the Performance Approach (pg 2) of the EA section.

					Max Points	Project Points Preliminary			Final
Energy and Atmosphere (EA)			(No Minimum Points Required)	*OR*	Max	Y/Pts	Maybe	No	Y/Pts
2. Insulation		2.1	Basic Insulation		Prereq				
		2.2	Enhanced Insulation		2	*0*	*0*		*0*
3. Air Infiltration		3.1	Reduced Envelope Leakage		Prereq				
		3.2	Greatly Reduced Envelope Leakage		2	*0*	*0*		*0*
		3.3	Minimal Envelope Leakage	**EA 3.2**	3	*0*	*0*		*0*
4. Windows		4.1	Good Windows		Prereq				
		4.2	Enhanced Windows		2	*0*	*0*		*0*
		4.3	Exceptional Windows	**EA 4.2**	3	*0*	*0*		*0*
5. Heating and Cooling Distribution System		5.1	Reduced Distribution Losses		Prereq				
		5.2	Greatly Reduced Distribution Losses		2	*0*	*0*		*0*
		5.3	Minimal Distribution Losses	**EA 5.2**	3	*0*	*0*		*0*
6. Space Heating and Cooling Equipment	✎	6.1	Good HVAC Design and Installation		Prereq				
		6.2	High-Efficiency HVAC		2	*0*	*0*		*0*
		6.3	Very High Efficiency HVAC	**EA 6.2**	4	*0*	*0*		*0*
7. Water Heating	✎	7.1	Efficient Hot Water Distribution		2	*0*	*0*		*0*
		7.2	Pipe Insulation		1	*0*	*0*		*0*
		7.3	Efficient Domestic Hot Water Equipment		3	*0*	*0*		*0*
8. Lighting		8.1	ENERGY STAR Lights		Prereq				
		8.2	Improved Lighting		2	*0*	*0*		*0*
		8.3	Advanced Lighting Package	**EA 8.2**	3	*0*	*0*		*0*
9. Appliances		9.1	High-Efficiency Appliances		2	*0*	*0*		*0*
		9.2	Water-Efficient Clothes Washer		1	*0*	*0*		*0*
10. Renewable Energy	✎	10	Renewable Energy System		10	*0*	*0*		*0*
11. Residential Refrigerant Management		11.1	Refrigerant Charge Test		Prereq				
		11.2	Appropriate HVAC Refrigerants		1	*0*	*0*		*0*
			Sub-Total for EA Category:		***38***	*0*	*0*		***20***

08 proposed schedule



legend

- review
- milestone
- event duration

Total Project Duration (design to occupancy): 24 months

The proposed schedule is based on a conservative 12-14 month construction period. It is possible that the actual construction duration could be compressed depending on when construction begins, the contractor selection, the available workforce, and weather.

09

cost plan

BASIS OF COST PROGRAM

INCLUSIONS

EXCLUSIONS

OVERALL SUMMARY

OVERALL COMPONENT SUMMARY

PREFERRED SCHEME - COMMUNITY WING COMPONENT SUMMARY

PREFERRED SCHEME - BUNKHOUSE COMPONENT SUMMARY

COVERED PORCH COMPONENT SUMMARY

SITEWORK COMPONENT SUMMARY

PRIORITIZED PHASE I MINIMUM SITEWORK

ALTERNATES

BASIS OF COST PROGRAM

COST PROGRAM PREPARED FROM	DATED	RECEIVED
Site Concept - Preferred Scheme	06/30/10	06/30/10
Program Area Summary	06/30/10	06/30/10
Room Data Sheets	06/30/10	06/30/10
Architectural DPP Narrative	06/30/10	06/30/10

Discussions with the Project Architect and Engineers

Conditions of Construction

The pricing is based on the following general conditions of construction

- A start date of July 2011
- A construction period of 14 months
- The general contract will be competitively bid with qualified general and main
- There will not be small business set aside requirements
- The contractor will be required to pay prevailing wages
- There are no phasing requirements
- The general contractor will have full access to the site during normal business hours

INCLUSIONS

The project in Big Bear Lake, California consists of a new student recreation facility which occupied a gross floor area of 3,729 sf and its associated sitework.

The cost estimate is presented in four different sections; **Community Wing, Bunkhouse, Covered Porch and Sitework.** The cost estimate is based on the following building systems:

- **Foundation** includes overexcavation under building footprint, concrete pad footing and subsurface drainage.
- **Vertical structure** includes a combination of CMU shear wall and wood framing shear wall with sheathing.
- **Floor and roof structures** include concrete slab-on-grade and wood framing and plywood sheathing to pitch roof.
- **Exterior cladding** includes batt insulation in between wood shear wall framing, fire treated cedar shingles to exterior wall finish, gypsum board lining to interior face of exterior wall, wood framed windows, exterior doors and allowance for fascias, bands, sunscreens and trims.
- **Roofing** includes batt insulation in between wood roof framing, asphalt composition shingle roofing, flashings, metal copings, and miscellaneous caulking and sealants.
- **Interior partitions** include wood stud partitions with sound batt insulation and painted gypsum board lining and interior doors.
- **Floor finish** includes sealed concrete floor generally. Wall finish includes paint to gypsum board at most areas and ceramic wall tiles at restrooms. Ceiling finish includes gypsum board ceiling with paint finish.
- **Function equipment** includes toilet partitions and accessories, window shades, blinds and shutters, and interior signage, shelving and millwork, wall hung cabinets and countertops, fireplace, residential appliances and kitchen equipment.
- **Plumbing** includes sanitary fixtures, floor and roof drainage, domestic hot water heating, gas and kitchen/laundry connection service pipework.
- **HVAC** includes high-efficiency residential furnace for heating.
- **Electrical** includes 120 V main service, user convenience power, lighting, telephone/data, fire alarm and security.
- **Fire protection** includes automatic wet sprinklers system - complete.
- **Site preparation and development** include demolition of existing structure, general site clearing and grading, asphalt parking paving, paving to picnic / bbq area and porch, site furnishings, perimeter site fence, allowance for landscaping and allowance for renovating existing sport storage shed.
- **Utilities** include domestic and fire water, sewer, gas, electric mains power and telecommunications signals.

The LEED Certification process includes the following services:

- Project review and project team meeting participation to define LEED objectives.
- Energy modeling analysis for Title 24 and ENERGY STAR compliance.
- Ongoing project management.
- On-site field testing and verification (includes optional, but highly recommended trades training session.
- LEED review and final certification.

Bidding Process - Market Conditions

This document is based on the measurement and pricing of quantities wherever information is provided and/or reasonable assumptions for other work not covered in the drawings or specifications, as stated within this document. Unit rates have been obtained from historical records and/or discussion with contractors. The unit rates reflect current bid costs in the area. All unit rates relevant to subcontractor work include the subcontractors overhead and profit unless otherwise stated. The mark-ups cover the costs of field overhead, home office overhead and profit and range from 15% to 25% of the cost for a particular item of work.

Pricing reflects probable construction costs obtainable in the project locality on the date of this statement of probable costs. This estimate is a determination of fair market value for the construction of this project. It is not a prediction of low bid. Pricing assumes competitive bidding for every portion of the construction work for all subcontractors and general contractors, with a minimum of 4 bidders for all items of subcontracted work and 6-7 general contractor bids. Experience indicates that a fewer number of bidders may result in higher bids, conversely an increased number of bidders may result in more competitive bids.

Since Davis Langdon has no control over the cost of labor, material, equipment, or over the contractor's method of determining prices, or over the competitive bidding or market conditions at the time of bid, the statement of probable construction cost is based on industry practice, professional experience and qualifications, and represents Davis Langdon's best judgment as professional construction consultant familiar with the construction industry. However, Davis Langdon cannot and does not guarantee that the proposals, bids, or the construction cost will not vary from opinions of probable cost prepared by them.

EXCLUSIONS

- Owner supplied and installed furniture, fixtures and equipment
- Loose furniture and equipment except as specifically identified
- Hazardous material handling, disposal and abatement
- Compression of schedule, premium or shift work, and restrictions on the contractor's working hours
- Testing and inspection fees
- Architectural, design and construction management fees
- Scope change and post contract contingencies
- Assessments, taxes, finance, legal and development charges
- Environmental impact mitigation
- Builder's risk, project wrap-up and other owner provided insurance program
- Land and easement acquisition
- Cost escalation beyond a start date of June 2011
- Renewable power
- Specialty kitchen grease waste and hood exhaust
- Specialty hood fire suppression systems
- Utility connection charges and fees
- Off-site work

OVERALL SUMMARY

	Gross Floor Area	$ / SF	$x1,000
Preferred Scheme - Community Wing	2,714 SF	307.19	834
Preferred Scheme - Bunkhouse	1,015 SF	259.07	263
Covered Porch	1,732 SF	65.21	113
TOTAL Building Construction	5,461 SF	221.50	1,210
Sitework - Preferred Scheme			306
TOTAL Building & Sitework Construction	***February 2012***		***1,516***
LEED Silver Certification Process			20
TOTAL Building & Sitework Construction with LEED	***February 2012***		***1,536***

Alternates

Alternate 1: Standing seam metal roof in lieu of shingle roofing	53
Alternate 2: Corrugated metal roofing in lieu of shingle roofing	37
Alternate 3: Minimal emergency back -up system	8
Alternate 4: Removable wood snowscreen	10
Alternate 5: Kitchen range hood	10
Alternate 6: Free-standing fireplace in lieu of built-in fireplace	(3)
Alternate 7: Decorative pendant lights and wall sconces	10
Alternate 8: Decorative architectural wood ceiling beams	14
Alternate 9: Stormwater retention system	25
Alternate 10: Premium floor finish to Great Room	19

NOTE:
- The cost above includes escalation form today's date to midpoint of construction. The escalation rate is calculated based on 3% per annum for the first year and 4% per annum for the second year thereafter.

Please refer to the Inclusions and Exclusions sections of this report

OVERALL COMPONENT SUMMARY

	Community Wing		Bunkhouse		Covered Porch		Sub-Total (Building)		Sitework		TOTAL	
	2,714 SF		1,015 SF		1,732 SF		3,729 SF		37,440 SF		3,729 SF	
	$/SF	$x1,000	$/SF	$x1,000	$/SF	$x1,000	$/SF	$x1,000	$/SF	$x1,000	$/SF	$x1,000
1. Foundations	6.87	19	6.88	7	7.50	13	10.36	39	0.00	0	10.36	39
2. Vertical Structure	20.76	56	13.30	14	5.77	10	21.41	80	0.00	0	21.41	80
3. Floor & Roof Structures	30.62	83	29.21	30	35.00	61	46.49	173	0.00	0	46.49	173
4. Exterior Cladding	30.97	84	18.52	19	0.00	0	27.58	103	0.00	0	27.58	103
5. Roofing & Waterproofing	14.44	39	14.44	15	0.00	0	14.44	54	0.00	0	14.44	54
Shell (1-5)	103.66	281	82.35	84	48.27	84	120.28	449	0.00	0	120.28	449
6. Interior Partitions, Doors & Glazing	10.00	27	26.73	27	0.00	0	14.55	54	0.00	0	14.55	54
7. Floor, Wall & Ceiling Finishes	23.73	64	31.00	31	0.00	0	25.71	96	0.00	0	25.71	96
Interiors (6-7)	33.73	92	57.73	59	0.00	0	40.26	150	0.00	0	40.26	150
8. Function Equipment & Specialties	31.28	85	7.31	7	0.00	0	24.76	92	0.00	0	24.76	92
9. Stairs & Vertical Transportation	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Equipment & Vertical Transportation (8-9)	31.28	85	7.31	7	0.00	0	24.76	92	0.00	0	24.76	92
10. Plumbing Systems	29.82	81	20.52	21	0.00	0	27.29	102	0.00	0	27.29	102
11. Heating, Ventilating & Air Conditioning	13.50	37	13.50	14	0.00	0	13.50	50	0.00	0	13.50	50
12. Electric Lighting, Power & Communications	24.14	66	17.50	18	2.50	4	23.49	88	0.00	0	23.49	88
13. Fire Protection Systems	4.00	11	4.00	4	0.00	0	4.00	15	0.00	0	4.00	15
Mechanical & Electrical (10-13)	71.45	194	55.52	56	2.50	4	68.28	255	0.00	0	68.28	255
Total Building Construction (1-13)	**240.13**	**652**	**202.91**	**206**	**50.77**	**88**	**253.58**	**946**	**0.00**	**0**	**253.58**	**946**
14. Site Preparation & Demolition	0.00	0	0.00	0	0.00	0	0.00	0	1.29	48	12.94	48
15. Site Paving, Structures & Landscaping	0.00	0	0.00	0	0.00	0	0.00	0	4.11	154	41.22	154
16. Utilities on Site	0.00	0	0.00	0	0.00	0	0.00	0	1.00	37	10.04	37
Total Site Construction (14-16)	**0.00**	**0**	**0.00**	**0**	**0.00**	**0**	**0.00**	**0**	**6.39**	**239**	**64.20**	**239**
TOTAL BUILDING & SITE (1-16)	**240.13**	**652**	**202.91**	**206**	**50.77**	**88**	**253.58**	**946**	**6.39**	**239**	**317.78**	**1,185**
General Conditions	16.95	46	13.79	14	3.46	6	17.70	66	0.45	17	22.26	83
Contractor's Overhead & Profit or Fee	7.74	21	6.90	7	1.73	3	8.31	31	0.21	8	10.46	39
PLANNED CONSTRUCTION COST	**264.81**	**719**	**223.60**	**227**	**55.97**	**97**	**279.59**	**1,043**	**7.06**	**264**	**350.49**	**1,307**
Contingency for Design Development	26.53	72	22.66	23	5.77	10	28.16	105	0.69	26	35.13	131
Allowance for Rising Costs	15.84	43	12.81	13	3.46	6	16.63	62	0.43	16	20.92	78
RECOMMENDED BUDGET	**307.19**	**834**	**259.07**	**263**	**65.21**	**113**	**324.38**	**1,210**	**8.18**	**306**	**406.54**	**1,516**
LEED Silver Certification Process												20
RECOMMENDED BUDGET with LEED												**1,536**

cost plan . **Scheme 3 - Community Wing Component Summary**

PREFERRED SCHEME - COMMUNITY WING AREAS & CONTROL QUANTITIES

Areas

	SF	SF	SF
Enclosed Areas			
Community Wing	2,714		
SUBTOTAL, Enclosed Area		2,714	
Covered area			
SUBTOTAL, Covered Area @ ½ Value			
TOTAL GROSS FLOOR AREA			2,714

Control Quantities

				Ratio to Gross Area
Number of stories (x1,000)		1	EA	0.368
Gross Area		2,714	SF	1.000
Enclosed Area		2,714	SF	1.000
Footprint Area		2,714	SF	1.000
Volume		40,710	CF	15.000
Gross Wall Area		4,406	SF	1.623
Windows or Glazing Area	3.72%	164	SF	0.060
Roof Area - Sloping		3,040	SF	1.120
Roof Area - Total		3,040	SF	1.120
Interior Partition Length		119	LF	0.044
Finished Area		2,714	SF	1.000
Plumbing Fixtures (x1,000)		28	EA	10.317
Electrical Load		35	kVA	12.896

PREFERRED SCHEME - COMMUNITY WING COMPONENT SUMMARY

		Gross Area: 2,714 SF	
		$/SF	$x1,000
1. Foundations		6.87	19
2. Vertical Structure		20.76	56
3. Floor & Roof Structures		30.62	83
4. Exterior Cladding		30.97	84
5. Roofing, Waterproofing & Skylights		14.44	39
Shell (1-5)		103.66	281
6. Interior Partitions, Doors & Glazing		10.00	27
7. Floor, Wall & Ceiling Finishes		23.73	64
Interiors (6-7)		33.73	92
8. Function Equipment & Specialties		31.28	85
9. Stairs & Vertical Transportation		0.00	0
Equipment & Vertical Transportation (8-9)		31.28	85
10 Plumbing Systems		29.82	81
11 Heating, Ventilating & Air Conditioning		13.50	37
12 Electric Lighting, Power & Communications		24.14	66
13 Fire Protection Systems		4.00	11
Mechanical & Electrical (10-13)		71.45	194
Total Building Construction (1-13)		**240.13**	**652**
14 Site Preparation & Demolition		0.00	0
15 Site Paving, Structures & Landscaping		0.00	0
16 Utilities on Site		0.00	0
Total Site Construction (14-16)		**0.00**	**0**
TOTAL BUILDING & SITE (1-16)		**240.13**	**652**
General Conditions	7.00%	16.95	46
Contractor's Overhead & Profit or Fee	3.00%	7.74	21
PLANNED CONSTRUCTION COST	***July 2010***	**264.81**	**719**
Contingency for Development of Design	10.00%	26.53	72
Escalation to Midpoint (February 2012)	5.38%	15.84	43
RECOMMENDED BUDGET	***February 2012***	**307.19**	**834**

cost plan . **Scheme 3 - Community Wing Component Summary**

Item Description	*Quantity*	*Unit*	*Rate*	*Total*
1. Foundations				
Excavation				
Overexcavation, remove and backfill - allow 1.5' deep	151	CY	12.00	1,812
Reinforced concrete including excavation				
Reinforced concrete foundation including excavation - allowance	2,714	SF	5.00	13,570
Sub surface drainage				
Subsurface drainage	409	LF	8.00	3,272
				18,654
2. Vertical Structure				
Shear bracing				
CMU wall	1,023	SF	22.00	22,495
Wall framing, AVP, exterior sheathing, etc	3,384	SF	10.00	33,835
				56,330
3. Floor and Roof Structure				
Floors at lowest level				
Reinforced concrete slab on grade, including excavation, reinforcement, sub-grade, insulation, cure and finish	2,714	SF	8.00	21,712
Concrete turn down slab - allow	371	LF	18.00	6,678
Pitched roofs				
Wood framed roof structure including wood joist, truss, plywood sheathing.	3,040	SF	18.00	54,720
				83,110
4. Exterior Cladding				
Insulation				
Insulation	3,384	SF	0.75	2,538
Applied exterior finishes				
Fire treated cedar shingle siding	3,384	SF	11.00	37,219
Interior lining and finish to exterior walls				
Gypsum board, painted	3,384	SF	3.75	12,688
Windows, glazing and louvers				
Windows, wood frame double hung with insulated low e coating	164	SF	50.00	8,200
Exterior doors, frames and hardware				
Single leaf	8	EA	1,400.00	11,200
Double leaf	3	EA	2,600.00	7,800
Fascias, bands, sunscreens and trim				
Fascias, bands, sunscreens and trim	4,406	SF	1.00	4,406
				84,050
5. Roofing, Waterproofing & Skylights				
Insulation				
Insulation	3,040	SF	1.00	3,040
Roof covering				
3 tab composition shingle roofing	3,040	SF	10.00	30,400
Roofing, upstands and sheet metal				
Roofing, upstands and sheet metal	3,040	SF	1.00	3,040
Caulking and sealants				
Caulking and sealants	2,715	SF	1.00	2,715
				39,195
6. Interior Partitions, Doors & Glazing				
Partition, framing and cores				
Metal stud partitions, 4"	1,785	SF	4.00	7,140
Partition surfacing				
Gypsum board, painted	3,570	SF	3.75	13,388
Sound insulation				
Insulation	1,785	SF	0.90	1,607

Item Description	*Quantity*	*Unit*	*Rate*	*Total*
Interior doors, frames and hardware				
Single leaf	5	EA	1,000.00	5,000
				27,134
7. Floor, Wall & Ceiling Finishes				
Floors				
Sealed concrete - Lounge and Great Room	1,542	SF	1.50	2,313
Sealed concrete - Kitchen	275	SF	1.50	413
Sealed concrete - M/W rest room	628	SF	1.50	942
Sealed concrete - laundry, mechanical and	269	SF	1.50	404
Walls				
Ceramic wall tiles, 6' high	2,220	SF	13.00	28,860
Wood paneling - allowance	600	SF	14.00	8,400
Ceilings				
Gypsum board, painted	2,714	SF	8.50	23,069
				64,400
8. Function Equipment & Specialties				
Prefabricated compartment and accessories				
Toilet partitions	5	EA	800.00	4,000
Toilet accessories	18	EA	500.00	9,000
Shower doors	6	EA	300.00	1,800
Shelving and millwork				
Shelving	34	LF	120.00	4,080
Cabinets and countertops				
Base cabinets	43	LF	185.00	7,955
Wall mounted cabinet	43	LF	160.00	6,880
Tall cabinets	15	LF	300.00	4,500
Kitchen countertop	43	LF	90.00	3,870
Lavatory countertop	20	LF	100.00	2,000
Light control and vision equipment				
Window blinds	164	SF	5.00	820

Item Description	*Quantity*	*Unit*	*Rate*	*Total*
Amenities and convenience items				
Fire place	1	EA	5,000.00	5,000
Residential appliances - allowance	1	LS	15,000.00	15,000
Kitchen equipment - allowance	1	LS	20,000.00	20,000
				84,905
9. Stairs & Vertical Transportation				
				0
10. Plumbing Systems				
Sanitary fixtures and local connection pipework - motion activated flushing valves	28	Fx)		
Water closets	7	EA	1,350.00	9,450
Urinals	1	EA	1,275.00	1,275
Lavatories	8	EA	1,225.00	9,800
Sinks				
Counter-top, refuse disposal unit	3	EA	1,175.00	3,525
Service type	1	EA	1,750.00	1,750
Showers	8	EA	1,350.00	10,800
Sanitary waste, vent and service pipework				
Floor drains and sinks, < = 6", complete with	4	EA	1,250.00	5,000
Hose bibs, 3/4"	1	LS	1,000.00	1,000
Rough-in sanitary fixtures, including waste, vent and domestic service pipework	28	EA	1,000.00	28,000
Laundry connections				
Washer/dryer	1	LS	1,250.00	1,250
Water treatment, storage and circulation				
Domestic hot water heater, instantaneous	1	EA	1,250.00	1,250
Natural gas				
Including pipework, fittings, seismic protection and valved hook-ups, < 3"	1	LS	3,750.00	3,750
Surface water drainage				
Roof & overflow drains, < = 6"	2,714	SF	1.50	4,071
				80,921

cost plan . Scheme 3 - Community Wing Component Summary

Item Description	*Quantity*	*Unit*	*Rate*	*Total*
11. Heating, Ventilation & Air Conditioning				
High-efficiency residential furnace for heating	2,714	SF	13.50	36,639
				36,639
12. Electrical Lighting, Power & Communication				
Main service and distribution				
Including 120/208 V switchgear, distribution panelboards and feeders	1	LS	10,000.00	10,000
Machine and equipment power				
Connections and switches, including conduit and cable				
Miscellaneous connections, < 100 AM - including mechanical, kitchen, fire and security systems	1	LS	1,750.00	1,750
User convenience power				
Receptacles, including conduit and cable	2,714	SF	4.00	10,856
Lighting				
Fixtures/switches, including conduit and cable	2,714	SF	7.50	20,355
Telephone and communications				
Telephone/data - including conduit and cable	2,714	SF	3.75	10,178
Alarm and security				
Fire alarm systems	2,714	SF	3.50	9,499
Security - keyed access and intercom	1	LS	2,875.00	2,875
				65,513
13. Fire Protection Systems				
Fire protection				
Fire protection	2,714	SF	4.00	10,856
				10,856

cost plan . Scheme 3 - Bunkhouse Component Summary

PREFERRED SCHEME - BUNKHOUSE AREAS & CONTROL QUANTITIES

Areas

	SF	SF	SF
Enclosed Areas			
Bunkhouse	1,015		
SUBTOTAL, Enclosed Area		1,015	
Covered area			
SUBTOTAL, Covered Area @ ½ Value			
TOTAL GROSS FLOOR AREA			1,015

Control Quantities

				Ratio to Gross Area
Functional Units		26	Beds	25.616
Number of stories (x1,000)		1	EA	0.985
Gross Area		1,015	SF	1.000
Enclosed Area		1,015	SF	1.000
Footprint Area		1,015	SF	1.000
Volume		15,225	CF	15.000
Gross Wall Area		885	SF	0.872
Windows or Glazing Area	7.23%	64	SF	0.063
Roof Area - Sloping		1,137	SF	1.120
Roof Area - Total		1,137	SF	1.120
Interior Partition Length		86	LF	0.085
Finished Area		1,015	SF	1.000
Plumbing Fixtures (x1,000)		2	EA	1.970

PREFERRED SCHEME - BUNKHOUSE COMPONENT SUMMARY

		Gross Area: 1,015 SF $/SF	$x1,000
1. Foundations		6.88	7
2. Vertical Structure		13.30	14
3. Floor & Roof Structures		29.21	30
4. Exterior Cladding		18.52	19
5. Roofing, Waterproofing & Skylights		14.44	15
Shell (1-5)		82.35	84
6. Interior Partitions, Doors & Glazing		26.73	27
7. Floor, Wall & Ceiling Finishes		31.00	31
Interiors (6-7)		57.73	59
8. Function Equipment & Specialties		7.31	7
9. Stairs & Vertical Transportation		0.00	0
Equipment & Vertical Transportation (8-9)		7.31	7
10. Plumbing Systems		20.52	21
11. Heating, Ventilating & Air Conditioning		13.50	14
12. Electric Lighting, Power & Communications		17.50	18
13. Fire Protection Systems		4.00	4
Mechanical & Electrical (10-13)		55.52	56
Total Building Construction (1-13)		**202.91**	**206**
14. Site Preparation & Demolition		0.00	0
15. Site Paving, Structures & Landscaping		0.00	0
16. Utilities on Site		0.00	0
Total Site Construction (14-16)		**0.00**	**0**
TOTAL BUILDING & SITE (1-16)		**202.91**	**206**
General Conditions	7.00%	13.79	14
Contractor's Overhead & Profit or Fee	3.00%	6.90	7
PLANNED CONSTRUCTION COST	***July 2010***	**223.60**	**227**
Contingency for Development of Design	10.00%	22.66	23
Escalation to Midpoint (February 2012)	5.38%	12.81	13
RECOMMENDED BUDGET	***February 2012***	**259.07**	**263**

cost plan . Scheme 3 - Bunkhouse Component Summary

Item Description	*Quantity*	*Unit*	*Rate*	*Total*
1. Foundations				
Excavation				
Overexcavation, remove and backfill - allow 1.5' deep	56	CY	12.00	672
Reinforced concrete including excavation				
Reinforced concrete foundation including excavation - allowance	1,015	SF	5.00	5,075
Sub surface drainage				
Subsurface drainage	155	LF	8.00	1,240
				6,987
2. Vertical Structure				
Shear bracing				
CMU wall	388	SF	22.00	8,525
Wall framing, AVP, exterior sheathing, etc	498	SF	10.00	4,975
				13,500
3. Floor and Roof Structure				
Floors at lowest level				
Reinforced concrete slab on grade, including excavation, reinforcement, sub-grade, insulation, cure and finish	1,015	SF	8.00	8,120
Concrete turn down slab - allow	59	LF	18.00	1,062
Pitched roofs				
Wood framed roof structure including wood joist, truss, plywood sheathing.	1,137	SF	18.00	20,466
				29,648
4. Exterior Cladding				
Insulation				
Insulation	498	SF	0.75	373
Applied exterior finishes				
Fire treated cedar shingle siding	498	SF	11.00	5,473
Interior lining and finish to exterior walls				
Gypsum board, painted	498	SF	3.75	1,866
Windows, glazing and louvers				
Windows, wood frame double hung with insulated low e coating	64	SF	50.00	3,200
Exterior doors, frames and hardware				
Single leaf	5	EA	1,400.00	7,000
Fascias, bands, sunscreens and trim				
Fascias, bands, sunscreens and trim	885	SF	1.00	885
				18,796
5. Roofing, Waterproofing & Skylights				
Insulation				
Insulation	1,137	SF	1.00	1,137
Roof covering				
3 tab composition shingle roofing	1,137	SF	10.00	11,370
Roofing, upstands and sheet metal				
Roofing, upstands and sheet metal	1,137	SF	1.00	1,137
Caulking and sealants				
Caulking and sealants	1,015	SF	1.00	1,015
				14,659
6. Interior Partitions, Doors & Glazing				
Partition, framing and cores				
Metal stud partitions, 4"	1,785	SF	4.00	7,140
Partition surfacing				
Gypsum board, painted	3,570	SF	3.75	13,388
Sound insulation				
Insulation	1,785	SF	0.90	1,607

Item Description	*Quantity*	*Unit*	*Rate*	*Total*
Interior doors, frames and hardware				
Single leaf	5	EA	1,000.00	5,000
				27,134
7. Floor, Wall & Ceiling Finishes				
Floors				
Carpet - Sleeping area	917	SF	4.50	4,127
Sealed concrete - Restroom	98	SF	1.50	147
Walls				
Ceramic wall tiles, 6' high	1,040	SF	13.00	13,520
Wood paneling - allowance	360	SF	14.00	5,040
Ceilings				
Gypsum board, painted	1,015	SF	8.50	8,628
				31,461
8. Function Equipment & Specialties				
Prefabricated compartment and accessories				
Toilet accessories	2	EA	500.00	1,000
Cabinets and countertops				
Tall cabinets	15	LF	300.00	4,500
Lavatory countertop	6	LF	100.00	600
Light control and vision equipment				
Window blinds	64	SF	5.00	320
Amenities and convenience items				
General building specialties - allowance	1	LS	1,000.00	1,000
				7,420
9. Stairs & Vertical Transportation				
				0

Item Description	*Quantity*	*Unit*	*Rate*	*Total*
10. Plumbing Systems				
Sanitary fixtures and local connection pipework - motion activated flushing valves	6	Fx	)	
Water closets	3	EA	1,350.00	4,050
Lavatories	3	EA	1,225.00	3,675
Showers	1	EA	1,350.00	1,350
Sanitary waste, vent and service pipework				
Floor drains and sinks, < = 6", complete with	3	EA	1,250.00	3,750
Rough-in sanitary fixtures, including waste, vent and domestic service pipework	6	EA	1,000.00	6,000
Roof drainage systems only	1	LS	2,000.00	2,000
				20,825
11. Heating, Ventilation & Air Conditioning				
High-efficiency residential furnace for heating	1,015	SF	13.50	13,703
				13,703
12. Electrical Lighting, Power & Communication				
Including power, lights, telephone/data and fire alarms	1,015	SF	17.50	17,763
				17,763
13. Fire Protection Systems				
Fire protection				
Fire protection	1,015	SF	4.00	4,060
				4,060

cost plan . **Covered Porch Component Summary**

COVERED PORCH AREAS & CONTROL QUANTITIES

Areas

	SF	SF	SF
Enclosed Areas			
Covered Porch	1,732		
SUBTOTAL, Enclosed Area		1,732	
Covered area			
SUBTOTAL, Covered Area @ ½ Value			
TOTAL GROSS FLOOR AREA			1,732

COVERED PORCH COMPONENT SUMMARY

Gross Area: 1,732 SF

		$/SF	$x1,000
1. Foundations		7.50	13
2. Vertical Structure		5.77	10
3. Floor & Roof Structures		35.00	61
4. Exterior Cladding		0.00	0
5. Roofing, Waterproofing & Skylights		0.00	0
Shell (1-5)		48.27	84
6. Interior Partitions, Doors & Glazing		0.00	0
7. Floor, Wall & Ceiling Finishes		0.00	0
Interiors (6-7)		0.00	0
8. Function Equipment & Specialties		0.00	0
9. Stairs & Vertical Transportation		0.00	0
Equipment & Vertical Transportation (8-9)		0.00	0
10. Plumbing Systems		0.00	0
11. Heating, Ventilating & Air Conditioning		0.00	0
12. Electric Lighting, Power & Communications		2.50	4
13. Fire Protection Systems		0.00	0
Mechanical & Electrical (10-13)		2.50	4
Total Building Construction (1-13)		**50.77**	**88**
14. Site Preparation & Demolition		0.00	0
15. Site Paving, Structures & Landscaping		0.00	0
16. Utilities on Site		0.00	0
Total Site Construction (14-16)		**0.00**	**0**
TOTAL BUILDING & SITE (1-16)		**50.77**	**88**
General Conditions	7.00%	3.46	6
Contractor's Overhead & Profit or Fee	3.00%	1.73	3
PLANNED CONSTRUCTION COST	***June 2010***	**55.97**	**97**
Contingency for Development of Design	10.00%	5.77	10
Escalation to Midpoint (February 2012)	5.40%	3.46	6
RECOMMENDED BUDGET	***February 2012***	**65.21**	**113**

Item Description	*Quantity*	*Unit*	*Rate*	*Total*
1. Foundations				
Foundation and paving				
Covered porched, concrete	1,732	SF	7.50	12,990
				12,990
2. Vertical Structure				
Covered porch				
Columns and pilasters, 15' high	20	EA	500.00	10,000
				10,000
3. Floor and Roof Structure				
Covered porch				
Horizontal framing and finish including soffits to covered porched	1,732	SF	35.00	60,620
				60,620
4. Exterior Cladding				
Not applicable				
				0
5. Roofing, Waterproofing & Skylights				
Not applicable				
				0
6. Interior Partitions, Doors & Glazing				
Not applicable				
				0

Item Description	*Quantity*	*Unit*	*Rate*	*Total*
7. Floor, Wall & Ceiling Finishes				
Not applicable				
				0
8. Function Equipment & Specialties				
Not applicable				
				0
9. Stairs & Vertical Transportation				
Not applicable				
				0
10. Plumbing Systems				
Not applicable				
				0
11. Heating, Ventilation & Air Conditioning				
Not applicable				
				0
12. Electrical Lighting, Power & Communication				
Porch lighting	1,732	SF	2.50	4,330
				4,330
13. Fire Protection Systems				
Not applicable				
				0

SITEWORK - PREFERRED SCHEME COMPONENT SUMMARY

		Gross Area:	37,440 SF	
			$/SF	$x1,000
14 Site Preparation & Demolition			1.29	48
15 Site Paving, Structures & Landscaping			4.11	154
16 Utilities on Site			1.00	37
TOTAL BUILDING & SITE (1-16)			**6.39**	**239**
General Conditions	7.00%		0.45	17
Contractor's Overhead & Profit or Fee	3.00%		0.21	8
PLANNED CONSTRUCTION COST	***July 2010***		**7.06**	**264**
Contingency for Development of Design	10.00%		0.69	26
Escalation to Midpoint (February 2012)	5.38%		0.43	16
RECOMMENDED BUDGET	***February 2012***		**8.18**	**306**

Item Description	*Quantity*	*Unit*	*Rate*	*Total*
14. Site Preparation & Building Demolition				
Site demolition				
Demolition of existing structure	3,604	SF	3.00	10,812
Site clearing and grading				
Site clearing and grading	37,440	SF	1.00	37,440
				48,252
15. Site Paving, Structures & Landscaping				
Site paving				
Vehicular paving				
Asphalt paving, parking area (11 vehicles)	3,792	SF	3.75	14,220
Asphalt paving, service	640	SF	3.75	2,400
Pedestrian paving				
Permeable paving - pathway - allowance	1,442	SF	10.00	14,420
Concrete paving - picnic / bbq	1,500	SF	7.50	11,250
Games and sports surfacing				
Basketball (assume same as parking area)				
Site furnishing				
Basketball, volleyball, badminton court	1	LS	1,500.00	1,500
Tables and chairs	6	EA	800.00	4,800
BBQ stand	3	EA	300.00	900
Signage	1	LS	500.00	500
Site structure				
Repair existing shed storage	697	SF	10.00	6,970
Fence and gates				
Perimeter fence, 48" high split rail	492	LF	22.00	10,824
Premium for gate				
Single leaf	1	EA	1,300.00	1,300
Double leaf	2	EA	2,500.00	5,000
Landscaping				
Site preparation including top-soil - allow	10,000	SF	1.00	10,000
Trees, allowance	26	EA	350.00	9,100
Lawn, turf to multi - purpose	3,648	SF	1.25	4,560
Shrubs, 1 gal - allow	100	EA	10.00	1,000
Ground covers - allow	5,000	SF	3.00	15,000
Irrigation system				
Irrigation system	10,000	SF	1.00	10,000
Site drainage				
Site drainage	37,440	SF	0.30	11,232
Site lighting				
Site lighting	37,440	SF	0.50	18,720
				153,696
16. Utilities on Site				
Site utilities	37,440	SF	1.00	37,440
				37,440

PRIORITIZED PHASE I MINIMUM SITEWORK

SITEWORK	
ITEM	**ESTIMATED COST**
Parking lot (10 spaces)	$ 15,000
Lawn (includes 5,000 sf of soil prep., irrigation and groundcover/turf)	$ 25,000
Limited pathways	$ 5,000
Hydroseed all other disturbed areas	$ 5,000
Sub-total minimum sitework	*$50,000*

DEMOLITION + REPAIR TO EQUIPMENT SHED	
ITEM	**ESTIMATED COST**
Site Demolition	$10,812
Site Clearing and Grading	$37,440
Repair exisiting storage shed	$6,970
Sub-total demolition	*$55,222*

TOTAL	**$105,222**

Note: Demolition and Shed Repair calculations are included in the Cost Plan estimates.

	Quantity	Unit	Rate	Total
Alternate 1: Standing seam metal roof in lieu of shingle roofing				
Deduct:				
3 tab composition shingle roofing - community wing	3,040	SF	(10.00)	(30,400)
3 tab composition shingle roofing - bunkhouse	1,137	SF	(10.00)	(11,370)
Add:				
Standing seam metal roofing - community wing	3,040	SF	20.00	60,800
Standing seam metal roofing - bunkhouse	1,137	SF	20.00	22,740
Markups:				
General Conditions	7.00	%		
Contractor's Overhead & Profit or Fee	3.00	%		
Contingency for Development of Design	10.00	%		
Escalation to Midpoint (April 2012)	5.38	%		
Total Markups	27.76	%	41,770.00	11,594
				53,364
Alternate 2: Corrugated metal roofing in lieu of shingle roofing				
Deduct:				
3 tab composition shingle roofing - community wing	3,040	SF	(10.00)	(30,400)
3 tab composition shingle roofing - bunkhouse	1,137	SF	(10.00)	(11,370)
Add:				
Corrugated metal roofing - community wing	3,040	SF	17.00	51,680
Corrugated metal roofing - bunkhouse	1,137	SF	17.00	19,329
Markups	27.76	%	29,239.00	8,116
				37,355

	Quantity	Unit	Rate	Total
Alternate 3: Minimal emergency back -up system				
Emergency power back - up system (heat only) for kitchen lighting and appliances	5	kVA	1,250.00	6,250
Markups	27.76	%	6,250.00	1,735
				7,985
Alternate 4: Removable wood snowscreen				
Removable snowscreen, wood 2 x 6	128	LF	60.00	7,680
Markups	27.76	%	7,680.00	2,132
				9,812
Alternate 5: Kitchen range hood				
Kitchen (type 1) range hood (Ansul system)	1	LS	7,750.00	7,750
Markups	27.76	%	7,750.00	2,151
				9,901
Alternate 6: Free-standing fireplace in lieu of built-in fireplace				
Freestanding fire place	1	EA	(2,500.00)	(2,500)
Markups	27.76	%	(2,500.00)	(694)
				(3,194)

	Quantity	*Unit*	*Rate*	*Total*
Alternate 7: Decorative pendant lights and wall sconces				
Lighting				
Decorative pendant lights	7	EA	875.00	6,125
Wall scones	4	EA	475.00	1,900
Markups	27.76	%	8,025.00	2,228
				10,253
Alternate 8: Decorative architectural wood ceiling beams				
Deduct:				
Gypsum board ceiling, painted	975	SF	(8.50)	(8,288)
Add:				
Decorative architectural wood ceiling beams at Great Room	975	SF	20.00	19,500
Markups	27.76	%	11,212.50	3,112
				14,325
Alternate 9: Stormwater retention system				
Stormwater retention				
Stormwater system to use at toilets	8	EA	1,350.00	10,800
Stormwater system for irrigation system	1	LS	8,750.00	8,750
Markups	27.76	%	19,550.00	5,427
				24,977
Alternate 10: Premium floor finish to Great Room				
Wood flooring, reclaimed douglas fir	975	SF	15.00	14,625
Markups	27.76	%	14,625.00	4,060
				18,685

10 appendix

STUDENT RECREATION FACILITY GOALS

PLANNING CODE SUMMARY

MEETING NOTES

Workshop 1, PMT
Workshop 1, Project Committee Meeting
Conference Call 1
Workshop 2, PMT
Workshop 2, Project Committee Meeting
Fire Marshall Meeting

CHRONOLOGY OF DRAFT SCHEMES + DRAFT ROOM LAYOUTS

UCR STUDENT ORGANIZATIONS

student recreation facility goals

Project goals are statements that identify project intentions (purpose), and present a desired state that describes a direction or presents a future image (what the project will achieve once completed). It answers the questions, why the project is necessary, and provides measures to evaluate the facility during the building delivery process.

Project Goals

Plan, design and construct a facility that:

1. Establish a home base for Outdoor Excursions in the Big Bear area that will allow for expanded programs.
2. Maximize facility utilization by giving priority to Outdoor Excursions and student use, followed by providing opportunities for other campus uses.
3. Create a safe and versatile venue for all season recreation programs includes camping, water and snow related activities, etc.
4. Serves Outdoor Excursions seasonal equipment storage requirements.
5. Devise realistic and responsive outdoor facility that accommodates recreation program requirements, student group activities (team building, events) and formal instruction (camping, wilderness cooking).
6. Establish a recreational program that supports a challenge course (spider's web, group wall, whale watch) and sports (sand volleyball, basketball).
7. Integrate an outdoor area that contains a barbeque grill and seating area able to support occupancy.
8. Design a people-oriented environment with an intimate feel of a bed and breakfast or mountain cabin retreat while addressing programmatic requirements.
9. Develop a flexible multi-purpose room and support spaces (e.g. storage) that can accommodate a variety of activities such as formal meetings, dining, instruction, trip or project staging area, etc.
10. Contains a Great Room with a relaxing mountain retreat atmosphere that is inviting, friendly, encourages individual reflection, informal small group activities, and promotes community building.
11. Provide a kitchen that can support multiple food preparation levels that include self supported / individual cooking, organized group meals, and catered events.

Student Recreation Facility at Big Bear **Preliminary**
Revised: November 16, 2009

12. Expand the existing facility capacity to host groups of two general sizes: 1) overnight groups of up to 50 people, minimum 25 people; and 2) seminar/instruction/day-use groups of up to 100 people.
13. Incorporate various sleeping room sizes and accompanying washrooms which provide different levels of privacy, addresses accessibility, and are comfortable while encouraging participants to spend time in program spaces.
14. Achieve a minimum of LEED Silver or equivalent in a fiscally responsible way while balancing long-term operating costs.
15. Construct a facility to maximize the use of limited resources
16. Establish an attractive UCR presence as a good neighbor in the City of Big Bear Lake
17. Design a well-organized facility that is secure and easy to operate with minimal staff supervision.

planning code summary

Intent: Designates areas for visitor services such as lodging, dining, entertainment and supporting uses.

Use Category: To be determined by Preliminary Development Review with City of Big Bear Lake Planning Dept. "Lodging" definition would be the most flexible category for this project

General Development Standards:

Minimum Lot Area:	20,000 sf
Maximum FAR (floor area ratio):	0.5
Maximum Building Height:	35'
Accessory Structures:	20'

Minimum Setbacks:

Front and Street Side Yard:	15'
Interior Side Yard:	0'
Rear Yard:	0'
Landscaping (% of lot area):	20% (1/2 to be in front yard)
Tree Conservation:	Trees over 6" DBH cannot be removed without approval

Parking: To be determined by Preliminary Development Review with City of Big Bear Lake Planning Dept.

- If there are at least 6 parking spaces, an area the size of 5% of the total parking area must be landscaped
- An area the size of 5% of uncovered parking and driveway area must be provided for snow storage

EHDD | ARCHITECTURE **meeting report**

Project:	UCR Student Recreation Facility, Big Bear Lake	**Report Date:**	4/22/10
Job No.	10-005	**Meeting Date:**	4/20/10
Location:	UCR, Bannockburn F-101	**Subject:**	Workshop #1 **PMT Meeting**
Attendance:	UCR: Jon Harvey, Jacqueline Norman, Kieron Brumelle (partial), Richard Racicot (partial) EHDD: Marc L'Italien, Kevin Killen		

I. Introductions/Planning Process & Issues

A. Recreation Governing Board is the main User Group for planned facility, Tim Ralston & Don Caskey will provide project oversight.

B. Jon Harvey is the single point of contact/Project Manager for EHDD during DPP process and vice-versa for all UCR stakeholders. Jacqueline Norman will be the point of contact/Project Manager if project moves ahead.

C. Project Committee:
1. Susan Allen Ortega, Dean of Students (Committee Co-Chair)
2. Lindy Fenex, Director, Recreation Programs
3. Richard Zapp, Chair Recreation Facilities Governing Board (Committee Co-Chair), UCR student
4. Arash Adami, Graduate Student Association
5. Professor John Rotenberry, Academic Senate

D. Planning Issues & Concerns for project:
1. Look at planning building for possible expansion in future
2. Review of preliminary Project Goals suggests the program is larger than the site. The review of the Program during the Workshop will address this issue.
3. UCR wants to be a good neighbor to Town and neighborhood
4. Reflect the stature of the institution of UCR
5. Should be a "stand alone" facility for at least 20 years, easy to maintain, etc.
6. Make it beautiful!
7. EHDD will keep Code & Budget discussions (for the most part) within the PMT meetings.
8. Final construction estimate to be presented in DPP report.
9. Traffic Impacts: How and students get to the site (and number & size of vehicles is a significant issue. Sustainability goals (and being a good neighbor to the Town) should encourage car/van pools to limit traffic and parking needs.
10. Use assignable square footage for programming calculations.

E. Issues for Workshop #1:
1. Clarify Desired Program: Project is over-programmed, and team should limit choices for outdoor program—EHDD to work out best fit layouts.
2. Available Land: Investigate use of adjacent Church Conference Grounds (parking, waterfront access, outdoor space).
3. What is the Business Plan for this facility?

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Graphic Design

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EHDD | ARCHITECTURE **meeting report**

F. Construction Budget
1. Big Bear Lake property was purchased in 2008.
2. The $1.3 million total project budget assumed replacing the existing facility.
3. The proposed construction budget is $850,000 = demolition + new building construction + new sitework. $850,000 - $65,000 (site clearance) - $50,000 (site work/development) = $735,000 (new building)
4. $735,000/3700sf = $198/sf for new building construction
5. Project funding coming from Recreation Program, via student fees, no state money for construction.
6. Needs to be competitively bid, as it is a state project.
7. Recognizing state bidding requirements, EHDD recommends getting a local GC on board early to be a part of team with goal of helping to proactively deal with budget and construction issues during design phase.
8. UCR to pre-qualify local builders, EHDD to participate in that process. UCR will advertise for builders in Big Bear area, UCR wants to do Design/Bid/Build process.

G. Entitlement Process:
1. EHDD asked if there any issue with relationship between UCR and a religious organization—this issue needs to be vetted, even though the Recreation programs already have an informal relationship with the church conference center and use of their grounds.
2. DSA review probably not required, may be just an accessibility peer review (UCR to confirm).
3. UCR will handle Environmental Impact Classification (EIC) and Environmental Impact Review (EIR)
4. UCR authorized EHDD to contact Town of Big Bear Lake to obtain planning and other information needed to complete the planning process. If the project moves forward, the Campus will meet with the City to review the project. One potential issue are the proposed parking requirements and how that will satisfy the needs of the facility.
5. Jon Harvey to set up a Conference Call with UCR Fire Marshall, who will ultimately be coordinating with Big Bear Fire Marshall to meet requirements.
6. No Town of Big Bear Lake permits will be required because project is UCR land, but UCR is sensitive to being a good neighbor and would prefer to comply wherever possible.

H. Marc L'Italien (EHDD) has a conflict with the date for Workshop #2 (May 11th), and proposed sending Phoebe Schenker to assist Kevin Killen at Workshop #2. Kevin and Phoebe will be leading the Workshop and Phoebe will be taking the notes.

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.

EHDD | **ARCHITECTURE** meeting report

Project:	UCR Student Recreation Facility, Big Bear Lake	**Report Date:**	4/22/10
Job No.	10-003	**Meeting Date:**	4/20/10
Location:	UC Riverside, Bannockburn J-102	**Subject:**	Workshop #1 **Programming**
Attendance:	UCR Project Committee: Susan Allen Ortega, Dean of Students (Committee Co-Chair) Lindy Fenex, Director, Recreation Programs Richard Zapp, Chair Recreation Facilities Governing Board (Committee Co-Chair), UCR student Arash Adami, Graduate Student Association, UCR graduate student Professor John Rotenberry, Academic Senate Kacey Kim, Associated Students UCR, Student UCR PMT: Jon Harvey, CPP Jacqueline Norman, ODC Kieron Brunelle, CPP (partial) Richard Racicot, ODC (partial) EHDD Architecture: Marc L'Italien, Kevin Killen		
Distribution:	All attendees and		

Introductions
EHDD asked to get the vision, goals and program issues, and listen to what everyone has to say. The Programming discussion is the most important session for Workshop #1 (ML).

Session 1: Define Project Vision & Goals

A. Project Background: House bought by Recreation Center for Excursion Programs (closed escrow in June, 2008).
   1. Current house is not ADA compliant, building is too expensive to renovate (would have cost more than was paid for property).
   2. Property is smaller than what was anticipated, and if one was to do all over again, another location would have been selected (Susan).
   3. Need to maximize use for campus, given the investment required.
   4. How to grow and expand beyond current Outdoor Excursions, serve student group needs, maximize revenue uses, be a good neighbor with Town of Big Bear Lake.
   5. Look for opportunities to maximize use with Town as well. (Susan)
   6. The Recreation Center and Recreation programs are student-funded. The project has to accommodate student use as first priority. (Susan)
   7. The Project Committee and Campus will need to make choices about what can get done there since the property is small, build relationships (Susan)

B. Workshop #1 Goals: Shared understanding of Vision, Goals and anticipated use for the Student Recreation Facility at Big Bear Lake. The EHDD questionnaire distributed to PMT and Project Committee Groups brought some good discussion points up for Vision and Goals.

   1. Student/Recreation Group Vision: Focus on students, student uses, interested in looking at options including:

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   a. Students first, others as opportunities allow
   b. Staff interested in looking at individual bedroom(s) as option
   c. Want large common areas, flexible space for 25—50 people
   d. Need Kitchen that can accommodate caterers, but is not a catering kitchen
   e. Need flexible sleeping accommodations, 25 minimum, shared rooms OK.
   f. Look at possibility of a Caretaker for facility as an option
   g. Need two types of storage: for facility and for sporting/outdoor equipment

2. Define Vision for Project:
   a. Susan: Home away from home for excursions, a retreat center for students, a good out of class experience, a coveted getaway. An extension of campus-based recreation programs, a place for team building and bonding.
   b. Arash: Student groups have little money for retreats—team building experiences are few and not so organized, and a venue would be great for getaways. Graduate academic departments have different programs for engagement with each other and would love to use venue as an academic extension (field lab, etc.). A great opportunity for the student social and academic lives to interact.
   c. Jon: Maximize use of limited budget.
   d. Richard Z.: Maximize both house and outdoor uses, be a good neighbor.
   e. John: The proposed Student Recreation Facility is similar to the James Reserve: (http://www.jamesreserve.edu/visitor_info/facilities.html) The College of Natural Sciences (CNAS) is evaluating 250 acres of Federal Land that the US Forest Services offered to the Campus for research purposes (Moonridge).
   f. Jacqueline: Be the hybrid of Recreation and University experience, a rich and vibrant experience, community outreach, sustainable building example.
   g. Richard R. : Use UCR brick to relate to main campus, have some identity with main campus, practicality for structure and design. Comfortable. Not a maintenance risk.
   h. Kacey: Fun, outdoor activities, ropes course, retreat activities that students can't do on campus.
   i. Lindy: Supports a wide range of activities and groups (don't all have to happen on this site) it is a home base in the mountains.

Session 2: Review and Clarify programming

A. Marc showed some Powerpoint images related to Vision, use and program issues. Questions posed to the group included:
   1. What is the degree of casualness of being outdoors versus a room up in the mountains?
   2. What are some opportunities on site and in the building for community and group building?
   3. Why do you want to go up there?
   4. How does it work as a group setting for activities, how does it behave differently day and night, or summer and winter? How to celebrate the differences? Programming will inform those opportunities.
   5. What is the degree of seasonal use? What is the different perception of the property in different seasons? We want to design an optimum facility to take advantage of the setting and opportunities.

B. Possible User Groups & Programs (current and proposed):
   1. Outdoor Excursions groups/excursions (Lindy) including:
      a. Kayaking, wilderness classes, Skiing, Mountain Biking, Hiking, etc.
      b. Study weekends, wellness weekends, etc.
   2. Mainly students, but also staff, faculty, at a tier-pricing:
      a. Trips function mainly at cost. A 4 student minimum for trips, usually.
      b. Usually go on weekends. May also use for breaks and summers.
   3. Weekday use may be good time for youth use during the week, as well as summers and off-weekends.
   4. May be an academic use during the week.

5. Winter activities are the most popular. Usually one group at a time uses the Big Bear facility. Using the existing house now for excursions. Sometimes travel in carpools, sometimes in vans. Imagine a group transportation plan for new facility.
6. Church Conference Grounds (Lindy): We have a relationship with Church for lake access, overflow parking, and challenge course. Church camp counselors stayed in existing house, and they also keep an eye on it when UCR groups are not there. Their little hill is used for sledding and is right behind the back of property.
7. Church uses their conference grounds year round, but summer is the peak season. Some UCR groups have used their conference facility. A good in-kind relationship exists now. Church may want to use Student Recreation Facility in summer. UCR uses church overflow parking behind rear fence all the time. Church keeps the back drive and parking lot cleared of snow in the winter.
8. Ancillary Users: Student organizations, groups only. Summer campus conferencing could be done at Big Bear Lake Student Recreation Facility, such as middle and high school student groups. UCR programs would be given a higher priority when scheduling these activities.
9. Have a local housekeeping service currently for cleaning, linens, Firewood, etc. at current house.
10. Meal preparation would be a group activity, in general, on site. Some groups may go in to town to eat. May contract someone to do meals as an option for groups. Want a friendly kitchen for catering set up.
11. Set up interior spaces to expand eating to outdoors for larger crowd when weather is good.
12. Overnight goals: 25 for sleeping and accommodating up to 50 during the day. Let that drive the kitchen size and use.
13. Mostly overnight trips right now, but would like to look towards an expansion, maybe on different property. Some daytrips in future, but mostly overnights. Current users are student organizations, most of which are in the 25—50 range. 91% of student groups are under 50 people.
    a. Recreation Governing Board to provide data from recent Campus survey.
14. Need to make facility not feel empty when you bring up a small group.
15. Explore creating a room that could be a future Caretaker's Room—try and accommodate. Maybe the RA model for a student supervisor will work in lieu of a full-time Caretaker. Could be a bedroom and bath with a separate entrance—like a studio apartment.
    a. Campus to consider options for Caretaker. May not need on-site living space.
16. A Caretaker can maintain relationships with community, facilitate groups, do some maintenance work. Program an option for a flexible space for future Caretaker or RA.

C. Interior spaces:
1. Great Room/Multi-purpose Room—Big room for dining, lounge, multi-purpose uses like talks, lectures.
2. Would be nice to have a separate room as lounge with "comfy" furniture.
3. Would prefer separate lounge and multi-purpose room if budget and space allows. Areas within larger room may function as a lounge (Lindy).
4. Fireplace in Great Room—"rustic" mountain feel
5. Extension to outside space is very desirable (Richard Z.)
6. Maximize indoor space and extend to outside where possible (Marc)
7. Don't want to be constrained by layout—there may be day uses that just use multi-purpose and dining area, i.e.; Big Bear Rotary as a weekday use (Susan and Lindy).
8. Groups usually bring their food from Riverside. They get directions and a key and head up. The local service turns on the heat, etc.
9. Locked Pantry for some kitchen staples would be good.
10. Meal prep and sharing is very important part of group experience. There is a local grocery delivery service that could be utilized.
11. Chair and table storage room is recommended for multi-purpose room (Kevin).
12. Meals and seating should be flexible for small or large seating groups.
13. Want a fireplace (in Great Room or multi-purpose room) that works—wood-burning looks like it may still be allowed. Will look at with Fire Marshall to see if OK. Outdoor FP probably not allowed. Outdoor BBQ should be natural gas (Kieron).
14. Stage of some kind in Great Room/multi-purpose room. Could also be where lounge area (or piano) is located. Yoga on wood floor.

EHDD | ARCHITECTURE meeting report

15. Window treatments for AV use in daytime?
16. Sleeping for 25 minimum for overnight goal. The existing house can sleep 16.
17. Bunkrooms may be a good option because of budget (Kevin).
18. A mix of sizes would be preferable for scaling up and down as well as for families. Separation of gender—need flexibility of room size. Big and small rooms.
19. Room size mixes: EHDD will make recommendations for mix of sizes.
20. Arash: 28 people with mix of 2, 4, 6 people. 4 rooms for 2 people only is a lot of walls and space. 2-person rooms could be used for ADA, a weekend RA and a Caretaker room. ADA room can be a group room.
21. Flexibility for Bathrooms:
    More people on day and overnight groups would suggest a bath house arrangement for maximum flexibility. Access to bath house could be an outside link and/or internal link. Group dynamic might work well for the separate bath house, but it should have a nice degree of privacy and a dry place for clothes at showers.
22. Storage/Parking/Access:
    1600sf for sporting equipment: space needed for equipment for repair. Kayaks, canoes, etc. may live there all the time. Skis are rented at UCR and students bring them up. Lock skis and boards at shed or outside during winter trips? Storage room or racks for student gear?
23. Laundry Room is desirable.
24. Drying room for equipment should be looked into.

Session 3: Conceptual Site Analysis:

A. Marc Reviewed Powerpoint of site photos and aerial images of town and neighborhood. Looked at site and trees, access, neighborhood context, weather data, etc. Issues discussed included:
1. Degree of fencing and openness of site will perhaps reveal itself in site design.
2. May not want to block out neighbor to north with large structure on property line.
3. UCR may want to look into a long-term lease for church parking in back.
4. Look into parking lease at empty lot across street.
5. Use existing shed for equipment storage and/or repair shop.

Session 4: Conceptual Test-Fits on Property:

A. Foot prints: The Group looked at outdoor program footprints with scale footprints of proposed indoor and outdoor program on site plan
1. Forget challenge course and tent set-up for 50—takes up too much space.
2. Parking: most trips in carpools or vans. Need to put together a parking proposal for Town.
3. Multi-use outdoor spaces desired for sports, eating, volleyball, etc.
4. Lindy asked about the loft space as an bonus sleeping space, as well as something that gives building some character. Loft space may not work with desire for flexibility and privacy in sleeping areas.
5. Looked at image of 3700sf footprint over map of UCR Student Recreation center for scale comparison.
6. Could be grass volleyball, instead of sand.
7. Storage for sports equipment. Project to consider how much is needed and for what, and to also consider retaining the existing shed for equipment storage.
8. Bike storage: need to store student bikes overnight
9. Snow storage: dedicated space and drainage (Landscape consultant to confirm). Look at use for graywater on site.
10. Design for trash and recycling for peak loads.
11. Flexible kitchen to feed up to 50 people = about 500sf. Needs to be durable and easy to clean.
12. Need to study possible options for on-site facility expansion.
13. Need to study requirements for snow storage (and drainage) on site.

B. Kevin showed scale footprints & Powerpoint images of similar projects & program spaces including, Great Room, Kitchen, Bunkhouse, Bath house, sleeping cabins and covered porches from camp and ranch projects

C. Reviewed courtyard building type imagery as possible organizing type SRF program.

Session 5: Sustainability Strategies

EHDD | ARCHITECTURE

meeting report

A. LEED Silver or equivalent is the goal for this project—various options and strategies were discussed:
   1. Demolition waste –look into options for spirit of LEED.
   2. Use common-sense building practices
   3. Study siting of structure to take advantage of daylighting & natural ventilation.
   4. Renewable Energy—may not be budget now for PV array, but look into setting up to add in future. There are programs to finance through third-party groups.
   5. Look into solar hot water system for domestic water.
   6. Look at a radiant heat/cooling system might.
   7. Look at a heat-only system as one option, without all the "bells & whistles."
   8. Graywater collection for toilet use.
   9. Look at Passive solar drying room for sports equipment.
   10. Look at ways to store site and/or snow run-off on site.
   11. Look at Regional points for LEED.

B. EHDD to come back with some specific ideas for Workshop #2

Session 6: Summary & Next Steps

1. The Project Committee reached a consensus on a direction for the space programming priorities and what outdoor activities to be considered in the space planning.
2. EHDD will develop some test fits of program on site for WS #2, based on the Project Committee's consensus that was reached on indoor & outdoor programmatic elements at WS #1.
3. Connection between sleeping rooms and toilet/shower rooms, and the degree of comfort along that path, is important—EHDD will look at options.
4. SRF to be served by a Caretaker or a service? EHDD will look at both options as they effect spaces needed and layout.
5. EHDD will bring some preliminary cost information to Workshop #2.
6. UCR will schedule a conference call with UCR Fire Marshall—EHDD will provide some questions for discussion prior to call.

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.

EHDD | ARCHITECTURE

phone memo

Project	UCR Student Recreation Facility, Big Bear Lake	**Date**	May 11, 2010
Job No.	10-003	**Time**	2:15pm – 3:30pm
Location	Go-to-meeting	**Subject**	Preliminary Concepts Review
Participants	UCR: Susan Allen Ortega, Richard Zapp, Arash Adami, Kacey Kim, Lindy Fenex, Jacqueline Norman, Kieron Brunelle, Jon Harvey. EHDD: Kevin Killen, Phoebe Schenker. WRT: Kathy Garcia, Josh Langham		
Distribution	All Participants		

Notes

Conference Call #1 was conducted using Go-to-Meeting and Site Design Concept diagrams (dated 05.06.10) and Preliminary Room Diagrams (dated 05.07.10) were discussed on screen. Comments from UCR on the diagrams (dated 05.06.10) were also discussed. Notes below in [brackets] are additional clarifications made to the notes after the phone call.

EHDD and WRT described the schemes and thinking behind them, and there was discussion of the schemes and clarification of the comments. Jon Harvey asked that EHDD issue phone notes just summarizing the conclusions reached (not documenting all the discussion).

Conclusions reached:

1. Outdoor BBQ area should be close to kitchen (configuration to be discussed further at Workshop # 2)
2. Only the ADA parking spaces will be striped to facilitate reconfiguration of parking for basketball.
3. Water closets (toilet and sink) desired in the bunkhouse (bunkroom b) separate showers are acceptable.
4. Communal showers need more room and privacy (Susan) for changing clothes. People will enter and exit clothed (Lindy).
5. Need 1,600 sf of equipment storage (Lindy) [existing shed is appx. 750 sf]
6. Bunk beds are acceptable for Phase I (configuration of beds and variety of room sizes to be discussed in Workshop # 2)
7. Additional program spaces beyond 3,700sf still desired - quiet nook off great room and great room storage space.
8. Although their preference is for Scheme I, they still want EHDD to look at more than one scheme.
9. EHDD to pursue a scheme similar to Scheme one but with the building flipped to the East side of the lot (see comment 43) to provide privacy for outdoor space (and screen noise of outdoor activities)
10. Schemes assume minimal parking on-site for ADA required and maintenance. UCR asked the design team to show a scheme showing parking for 25 overnight and 50 day use on site. [per WRT: parking area on the schemes as shown was for 8 to 10 cars (32'x114'=3,648sf). To accommodate 18 to 20 cars you would need 6,000sf.]

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EHDD | ARCHITECTURE **meeting report**

Project:	UCR Student Recreation Facility, Big Bear Lake	**Report Date:**	6/7/10
Job No.	10-005	**Meeting Date:**	6/2/10
Location:	UC Riverside, Capital Planning	**Subject:**	PMT Meeting
Attendance:	UCR: Jon Harvey, Jacqueline Norman, Kieron Brunelle (partial), Don Caskey (partial) EHDD: Marc L'Italien, Kevin Killen		
Distribution:	All attendees and		

Review Workshop #2 Meeting Goals

1. Confirm Phase 1 Building Program & Scope, including space allocations.

2. Confirm Phase 1 Outdoor Program & Scope, including space allocations.

3. Confirm Transportation strategy for Student Recreation Facility for Phase 1 & 2, and parking:
   a. The ultimate categorization of the Student Recreation Facility can lead to vastly different on-site parking requirements.
   b. EHDD has had preliminary conversations with the City of Big Bear Lake Planning Dept., and they understand the intent of the use of the project.
   c. Big Bear Planning could consider the proposed use as Lodging, but because it would not be open to the public, it could fall under a more parking-heavy requirement associated with a public assembly facility (would require around 50 spaces on site).

4. Big Bear Lake City Planning recommends that UCR make a case for their ideal use of site and facility with a Transportation Plan for a Preliminary Design Review submittal, when ready.
   a. UCR will assume there will be carpools and vans to minimize individual cars and traffic to the Student Recreation Facility (SRF). The Transportation Plan should make sure that students don't park on the street.
   b. UCR will discuss parking requirements with the City of Big Bear Lake, but also make sure that on-site parking will still work with the future loads of the facility.

5. Confirm assumptions for Building Materials & Systems, and Sustainability Options.
   a. The desire is for a "50-year" building, and not to value engineer the project.
   b. Don Caskey requested that EHDD consider alternative and "innovative" building envelopes that could still provide a well-insulated shell.
   c. Sweat Equity from student construction labor was discussed, but deemed not practical.
   d. Wintertime use and practicality is very important, as winter will most likely be the most intensive time of use for this facility.
   e. Strategies were discussed to address large snowfalls and wind-driven snow accumulating on the covered porches.
   f. All agreed to repairing the existing shed to use for equipment storage for Phase 1.

6. Confirm Construction Budgets.

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EHDD | ARCHITECTURE **meeting report**

   a. The Project Committee needs to be presented with accurate building costs today.
   b. The original budget presented prior to Workshop #1 was just a budget to replace the existing structure.
   c. Long term wear on facility will be an issue at $200/sf for new building construction.

7. Sustainability Options
   a. Don Caskey would like to consider the project to be an innovative structure for energy use.
   b. Simple, efficient building and energy systems, with low operating costs are paramount.
   c. UCR to investigate an exemption from the UC-requirement for LEED status due to the small size of the project. Costs associated with commissioning, energy modeling, etc., for LEED tracking could cost upwards of $50,000, when all said and done.

EHDD | ARCHITECTURE meeting report

Project:	UCR Student Recreation Center, Big Bear Lake	**Report Date:**	6/8/10
Job No.	10-005	**Meeting Date:**	6/2/10
Location:	UC Riverside, Capital Planning	**Subject:**	Project Committee Meeting, Workshop #2
Attendance:	UCR Project Committee: Susan Allen Ortega, Dean of Students (Committee Co-Chair) Lindy Fenex, Director, Recreation Programs Richard Zapp, Chair Recreation Facilities Governing Board (Committee Co-Chair), UCR student Arash Adami, Graduate Student Association, UCR graduate student Kacey Kim, Associated Students UCR, Student (partial) UCR PMT: Jon Harvey, CPP Jacqueline Norman, ODC Kieron Brunelle, CPP EHDD Architecture: Marc L'Italien, Kevin Killen		
Distribution:	All attendees and		

Session 1: Review Site Design Concepts

A. Scheme 1 with future build-out and parking spaces: No comments

B. Scheme 3 with future build-out and parking spaces
1. There was a comment about moving Bunkhouse 1 from north to south – it was done to address earlier concerns about privacy for outdoor activities and parking access.
2. The group consensus was to locate Bunkhouse 1 on the north side of the lawn. DPP site diagram will reflect this.
3. Widening of the covered porch along the Great Room allows more indoor-outdoor functions and more usable outdoor program space.
4. The group had concern over cross traffic from bunkhouse to bathrooms causing porch disruption – moving bunkhouse back to north would solve this, and also would screen (e) neighbor to north. Although the gateway entry would be more difficult with Bunkhouse 1 on north side, creating a "front door" from the parking lot will be possible.
5. There was concern over the capacity of Phase 1 Shower rooms when Phase 2 is built, and also the location of ADA showers. Concluded that unisex restrooms with a shower be provided that could also serve ADA requirements. The need for more shelf or cubby storage in the shower rooms where a bench was identified.
6. Site Diagram Decisions:
   a. Move Bunkhouse 1 to the north and equipment storage remains in (e) shed.
   b. Final build-out for equipment storage will be 1,600asf in Phase 2.
   c. The Group was comfortable with current Phase 2 build-out shown in diagram.
   d. It was requested that EHDD look at making shower rooms larger in Phase 1 to accommodate two more showers/toilet room (unisex), and verify shower stall size and vestibule size for compliance.
   e. Provide (2) outdoor showers for summer use in Phase 1.

C. Confirm transportation strategy and identify minimum and maximum on-site parking:

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EHDD | ARCHITECTURE meeting report

1. The University is exploring off-site parking options.
2. The SRF Phase 1 parking in Scheme 3 will be 10 spaces (including an ADA space) in the new parking area, plus one spot in the service driveway for 11 total spaces. Phase 2 future parking in Scheme 3 will expand the parking area and add an additional 10 spaces, for 21 spaces total. 21 parking spaces would most likely be the maximum number that would fit on the property with the future build-out.
3. The Big Bear Planning Department has indicated that there may be different interpretations of the parking requirements for this property and proposed use. The University will take this under advisement during design.
4. Snow storage is preferred along Edgemoor Rd.
5. The idea of demolishing the (e) shed and rebuilding only 900sf of storage on north or south side of multi-purpose lawn to pick up more parking spaces at southwest corner of lot was mentioned.

Session 2: Review Space/Program Summary – Great Room Bldg:

A. Review Community Wing Space Allocations
1. Susan mentioned that Prof. Rottenberry has advocated a more full time caretaker – EHDD has not assumed this but the RA Studio allows for this without a kitchen. Local motel to the north could be used for this purpose.
2. Kevin noted that outdoor lawn area is actually about 4,000sf in size.
3. There was a request to consider the indoor (gas) fireplace to use as a heat source and consider placing it in large room with circulation around it, but make sure we don't lose table seating.
4. No gas heating at porches will be needed.
5. There was a request to consider doors to close off the Great Room Lounges in winter when group size doesn't require all the space.
6. EHDD recommends a high-efficiency Residential forced air furnace and domestic hot water systems.
7. Susan wondered if it was more efficient to have full-service caretaker's suite to not have to heat whole building for caretaker.
8. Radiant heat was considered but ruled out due to sporadic use patterns—would not be very efficient.
9. EHDD will look at adding more kitchen counter space.
10. There was a request to look at ability to close off Kitchen from Great Room (with sliding doors).
11. The kitchen needs to be able to cook and serve 50 people. Marc said that during Schematic Design we could work with a consultant, but at first glance it appears to have the capacity.
12. Incorporate walls in the trash room to enclose the separate Mechanical Room and Storage Room.
13. The question was asked: Where do people shake off their boots and dry them off?
14. Laundry maybe not large enough for 50. EHDD will eliminate door between laundry and kitchen, add counter space, and look at using space from trash room for more kitchen storage.
15. Toilet fixture count maybe not enough for Great Room assembly space (may not want to open the bunk rooms for all events). EHDD will look at plumbing fixture calculations to confirm.

B. Review Bunkhouse Space Allocations
1. Pegs outside and inside bunk rooms can be used to hang stuff.
2. There was a discussion of additional snow screening at covered porches, but it is not included in the budget. Costs for the screening will be placed in the Cost Plan below the line.
3. EHDD will look at spaces for duffels in tall shelf between bunks, in lieu of low tables.

C. Program Opportunities (breakout and lounge space)
1. Great Room Lounges shown were added to Community Wing without adding square footage to overall wing.

EHDD | ARCHITECTURE meeting report

Session 3: Review revised Concept Room Data Sheets

A. Room data sheets in DPP should equal base program

B. Finishes & Furnishings:
1. Reviewed palette of proposed interior and exterior finishes, as listed on the Room Data Sheets.
2. Reviewed proposed furnishings as shown on Room Data Sheets.

C. It was requested to carry several program upgrades below the line in the cost estimate:
1. Basic emergency power system (for heat only and minimal lighting in kitchen).
2. Type-I kitchen range hood w/Ansul (fire protection) system.
3. Allowance for 2-3 monumental light pendants in great room.
4. Freestanding wood-burning fireplace in great room
5. Ceiling beams in great room
6. Removable snow screens at covered porches
7. Metal roofing in lieu of composition shingle roofing.
8. Stormwater management system.

D. Identify project/program priorities
1. Need to provide power and data in great room
2. Provide Wireless system for entire property
3. Land line phone outlets in Kitchen, RA Studio, and for alarm system.
4. Over design shower rooms to accommodate future phases with (2) ADA unisex showers accessible off of porch
5. Assume keyed locks at doors (no key cards) and master keyed for staff.
6. Include honeycomb shade in base package.
7. EHDD to provide quantities for furnishings.
8. Civil narrative to address Site drainage provisions.
9. Buildings to be fully sprinklered. Additional Fire site hydrants required may not be required, pending Fire Marshall review. There is an existing hydrant on corner across the street from project site.
10. EHDD will confirm direction of prevailing winds/weather at site.

Session 4: Construction Estimates/Building Systems/Sustainability Options

A. Estimate for Scheme 1, Phase 1 was presented.
1. Architectural assumptions for cost estimate were reviewed.
2. The order of magnitude cost of $261/gsf results in a construction cost of roughly $1.0 million for the Phase 1 Community Wing and Bunkhouse Wing. Shower room/Restroom expansion is an additional cost.
3. The current building budget can build about 3,200gsf.
4. The estimated cost is higher than the original budget to replace the existing house. The new concept provides more usable program space.
5. Sitework is an additional cost. Current budget of $50,000 can provide parking (10 spaces), lawn area, limited pathways and hydro-seed for disturbed areas.
6. There was a request to add a projection screen and projector in FF/E.
7. Put additional site program below the line as separate line items.
8. Kitchen equipment will be included in the budget.

B. Building Systems & Sustainability options were presented, which included:
1. Slab on grade foundations and stick-framed walls and roofs, using certified lumber.
2. Recycled content in building materials
3. Daylighting and optimizing orientation and glazing for passive solar heating.
4. Residential type high-efficiency forced air furnaces and water heaters.
5. A super-insulated building envelope for thermal comfort and energy efficiency

EHDD | ARCHITECTURE meeting report

6. Construction waste management
7. Water use reduction
8. Water efficient landscaping
9. Energy Star appliances
10. Using regional materials
11. Stormwater runoff control.

C. Schedule:
1. June 7-8: updated room data sheets showing requested new unisex showers, kitchen revisions, Shower room revisions, FF/E quantities.
2. June 11: Draft report from EHDD in PDF file (comments back from UCR 6/23)
3. Final Report Due June 30 in PDF file and 15 hard copies at UCR
4. Recreation Board will review report and provide a go/no go decision by July 9th.
5. Want to start construction soon after snow melt 2011.
6. UCR would want to start CEQA process ASAP.
7. It is anticipated that design and construction would take approximately 20 months.

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.

EHDD | ARCHITECTURE **meeting report**

UCR Fire Marshall Meeting Notes, Workshop #2
UCR Student Recreation Facility, Big Bear Lake

1. Reviewed Town of Big Bear Lake Fire Redcuction Measures for New Construction
   a. Scott recommends non-combustible materials for durability and fire-resistance. Scott thinks that Type V, 1-hour construction will still need a lot of maintenance.
2. Reviewed fire-sprinkler/automatic alarm systems in context of proposed use of Student Recreation Facility:
   a. A wet-pipe sprinkler system could be $4.50/sf
   b. May be a 13R (residential system), but could be a commercial system, pending review.
   c. Attic spaces may need to be sprinklered.
   d. 13R system provides 10 minutes of protection and a NFPA 13 system provides 30 minutes of protection.
   e. Covered Porches should be sprinklered and they may need to be dry pendant heads on the exterior of the building.
3. Scott recommended planning on emergency power and/or other considerations for sheltering in place at the SRF due to inclement weather.
4. Drought-resistant ground cover landscaping and low ground covers help to create a defensible space around the structure.
5. Scott recommended getting an arborist to check out health of existing trees to remain on property.
6. Scott thought that the existing non-conforming shed should be OK to remain.
7. Even if an outdoor firepit is allowed, it is probably too much of a liability.
8. Scott recommended that UCR check in to flame-spread compliance that may be required for furniture at this facility.
9. The South Coast Air Quality District will regulate requirements for a wood-burning fireplace at this property.
10. Additional on-site hydrants not likely to be required—there is an existing one across the street on the corner.
11. Scott recommended using a Type 1 range hood for the kitchen (Ansul type system).
12. Scott requested that the project be reviewed with UCR Fire Marshall prior to submitting to Town of Big Bear Lake for Planning review.
13. Reviewed Chapter 7A building requirements for fire resistance. This project needs to respect the local codes.

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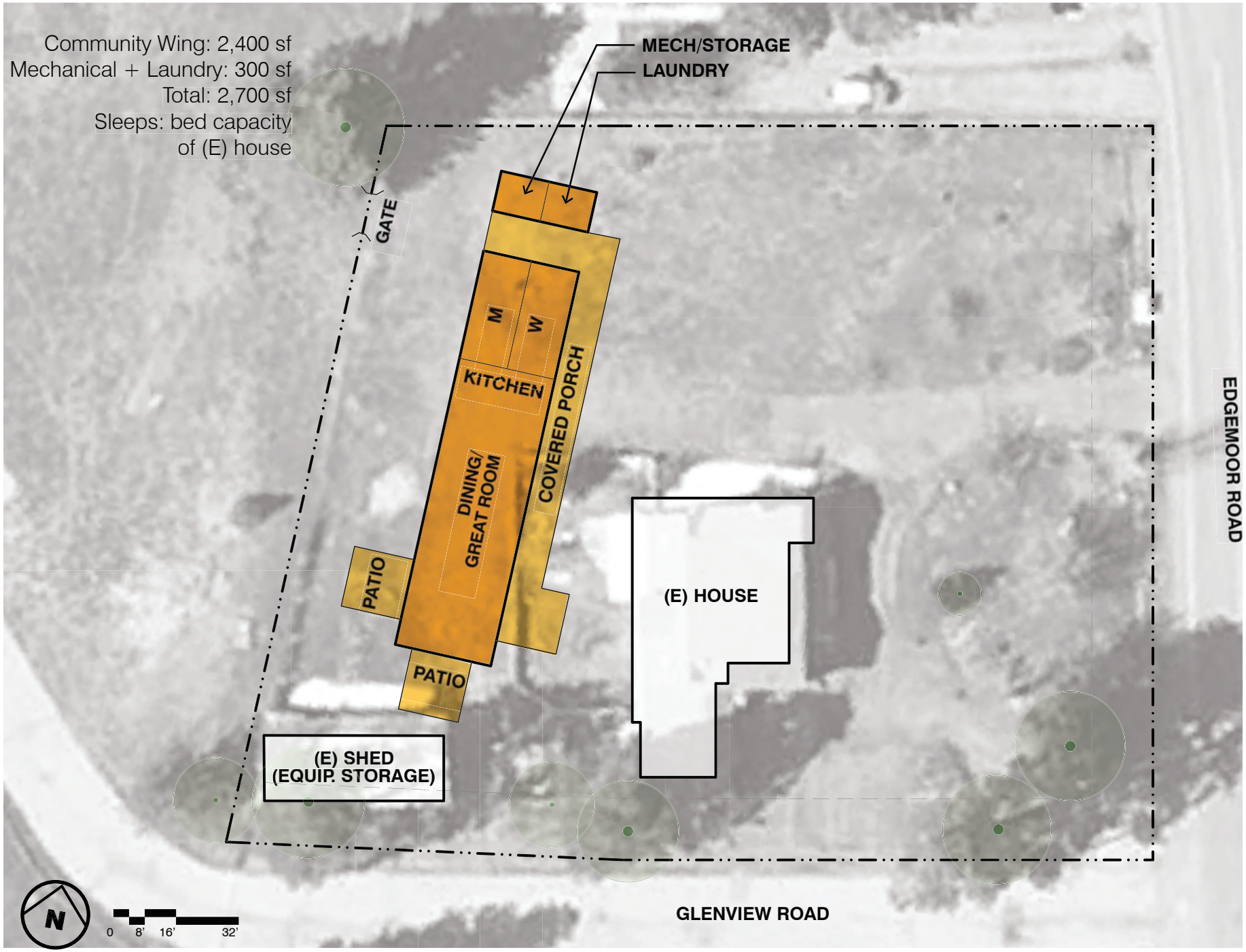
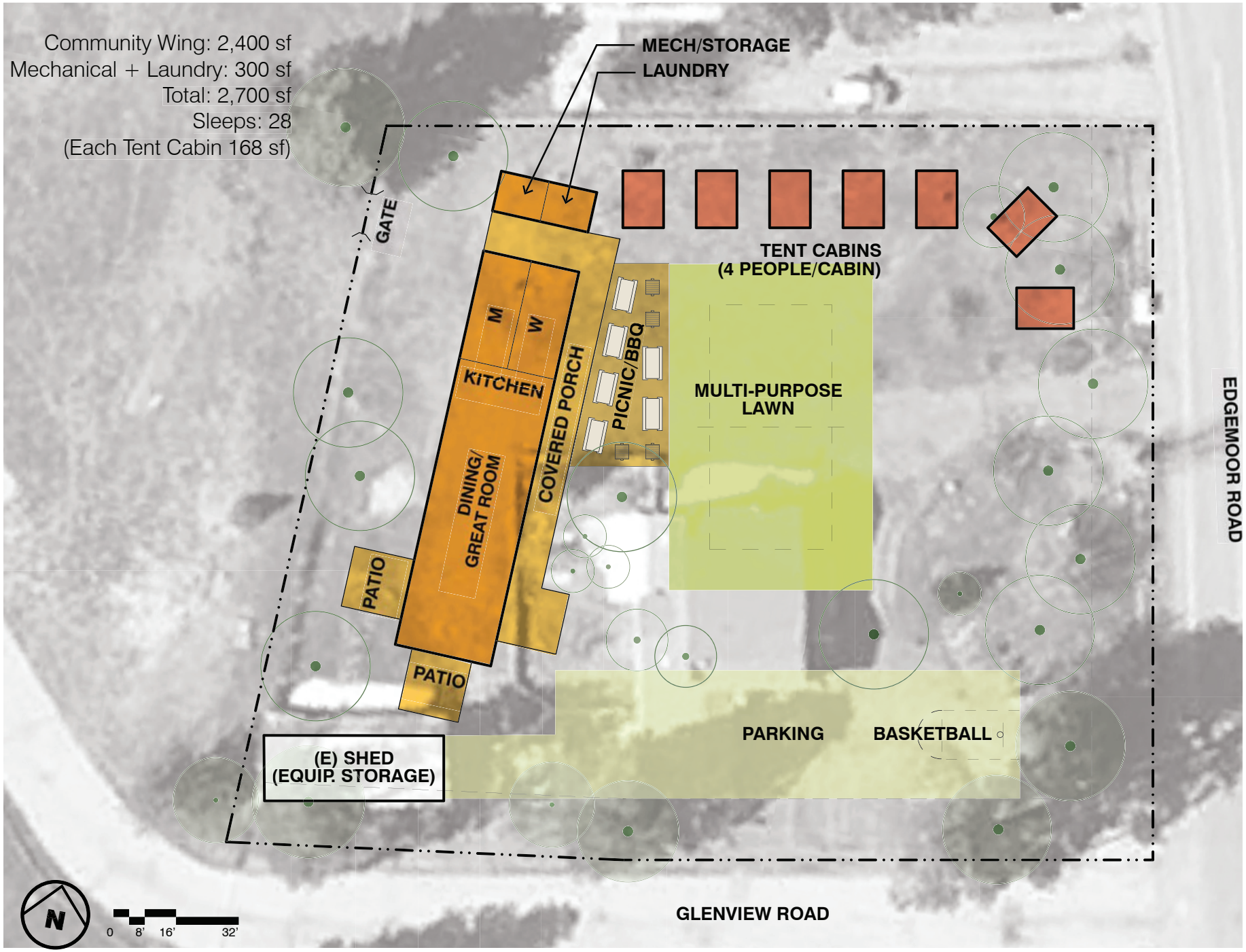
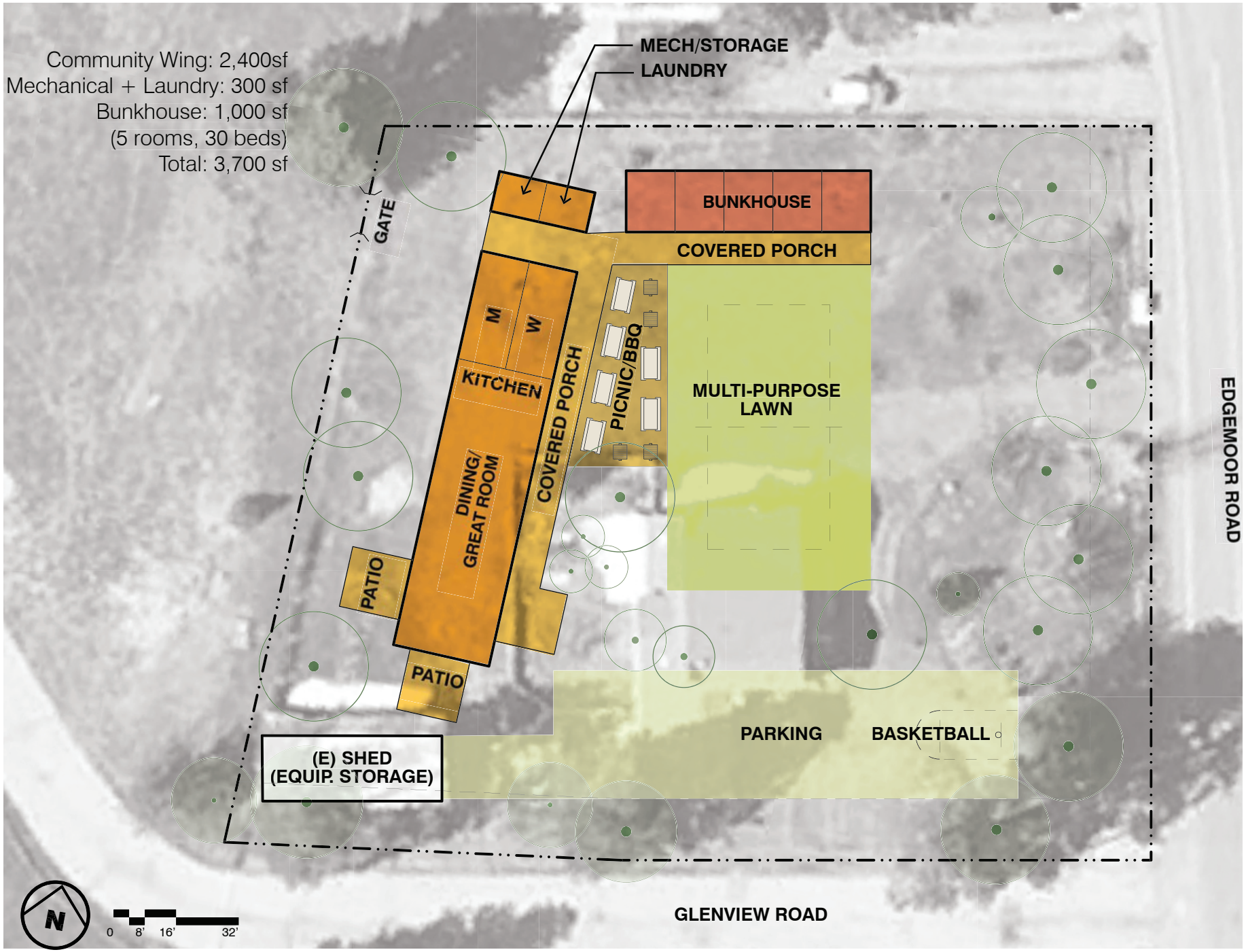

Community Wing: 2,400 sf
Mechanical + Laundry: 300 sf
Total: 2,700 sf
Sleeps: bed capacity
of (E) house
MECH/STORAGE
LAUNDRY
GATE
M
W
KITCHEN
DINING/
GREAT ROOM
COVERED PORCH
PATIO
PATIO
(E) HOUSE
(E) SHED
(EQUIP. STORAGE)
EDGEMOOR ROAD
GLENVIEW ROAD
N
0
8'
16'
32'

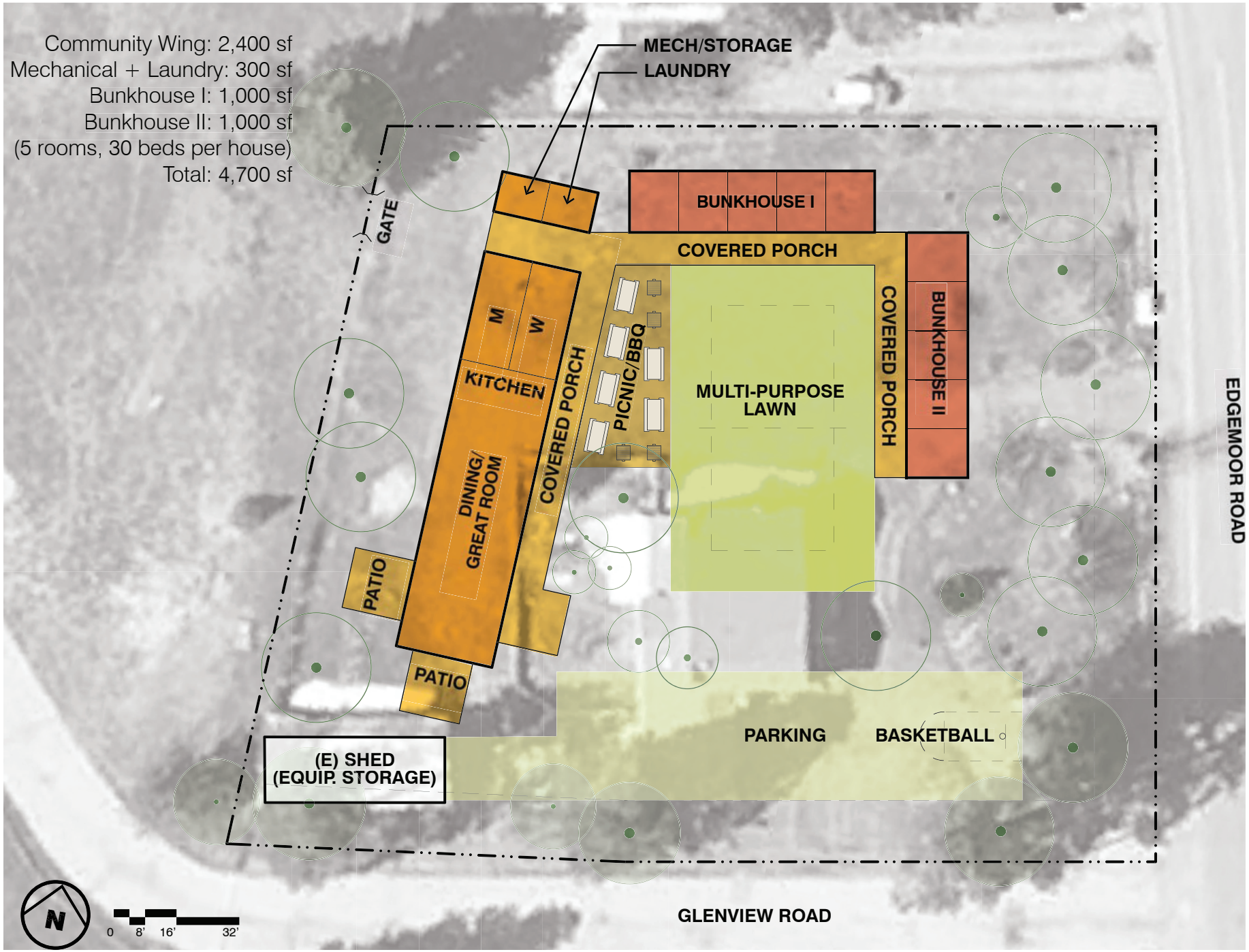

Community Wing: 2,400 sf
Mechanical + Laundry: 300 sf
Total: 2,700 sf
Sleeps: 25+ (cots)
MECH/STORAGE
LAUNDRY
GATE
M
W
KITCHEN
DINING/
GREAT ROOM
COVERED PORCH
PATIO
PATIO
(E) HOUSE
(E) SHED
(EQUIP. STORAGE)
EDGEMOOR ROAD
GLENVIEW ROAD
N
0
8'
16'
32'


Community Wing: 2,400 sf
Mechanical + Laundry: 300 sf
Total: 2,700 sf
Sleeps: 28
(Each Tent Cabin 168 sf)
MECH/STORAGE
LAUNDRY
GATE
TENT CABINS
(4 PEOPLE/CABIN)
M
W
KITCHEN
DINING/
GREAT ROOM
COVERED PORCH
PICNIC/BBQ
MULTI-PURPOSE
LAWN
PATIO
PATIO
EDGEMOOR ROAD
PARKING
BASKETBALL
(E) SHED
(EQUIP. STORAGE)
N
0
8'
16'
32'
GLENVIEW ROAD

draft site concept + phasing diagrams . **Scheme 1 Phase II b**

PRESENTED MAY 11, 2010
TELECONFERENCE




Community Wing: 2,400 sf
Mechanical + Laundry: 300 sf
Bunkhouse I: 1,000 sf
Bunkhouse II: 1,000 sf
(5 rooms, 30 beds per house)
Total: 4,700 sf
MECH/STORAGE
LAUNDRY
BUNKHOUSE I
COVERED PORCH
GATE
M
W
KITCHEN
DINING/ GREAT ROOM
COVERED PORCH
PICNIC/BBQ
MULTI-PURPOSE LAWN
COVERED PORCH
BUNKHOUSE II
EDGEMOOR ROAD
PATIO
PATIO
PARKING
BASKETBALL
(E) SHED (EQUIP. STORAGE)
N
0 8' 16' 32'
GLENVIEW ROAD

draft site concept + phasing diagrams . **Scheme 2 Phase I**

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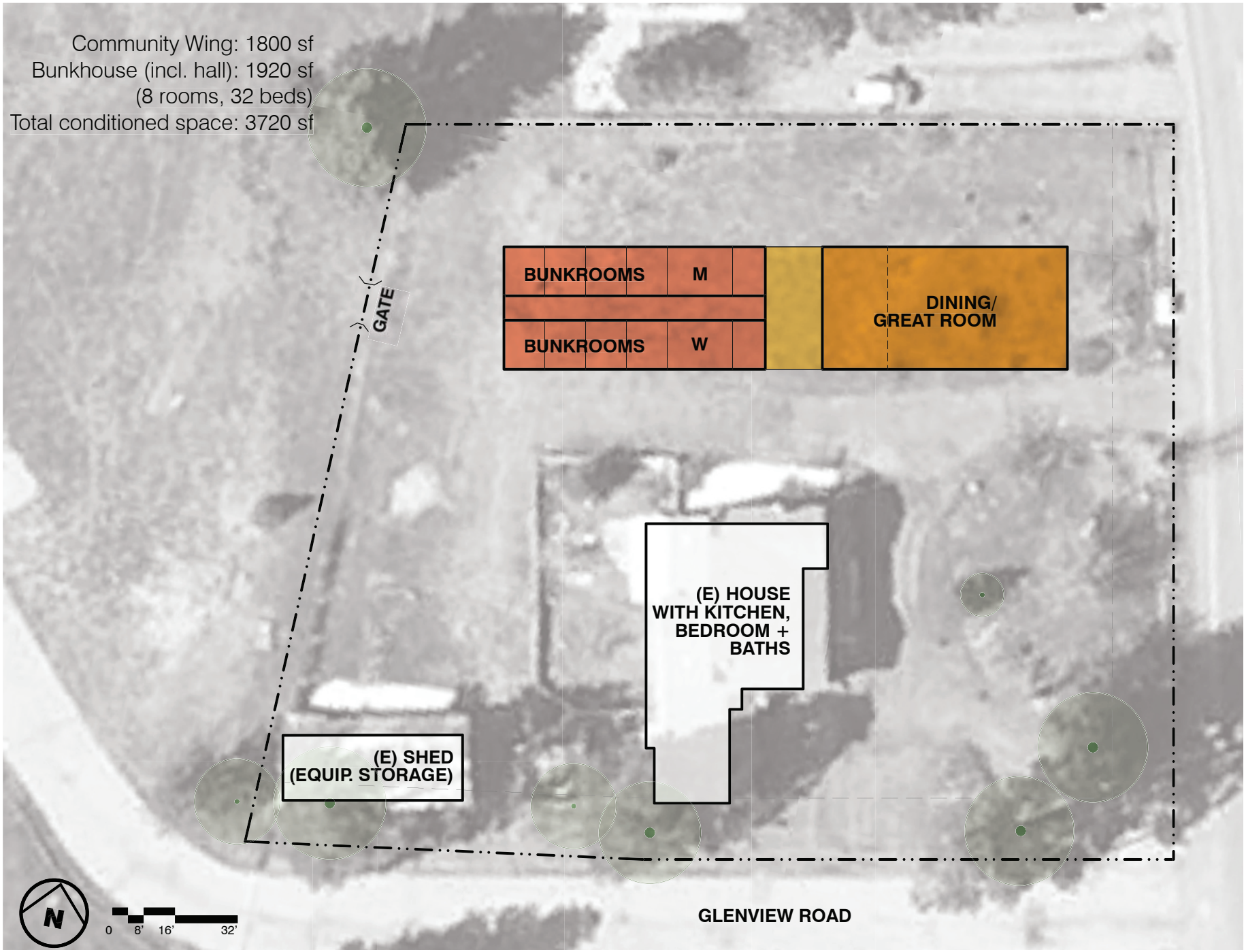

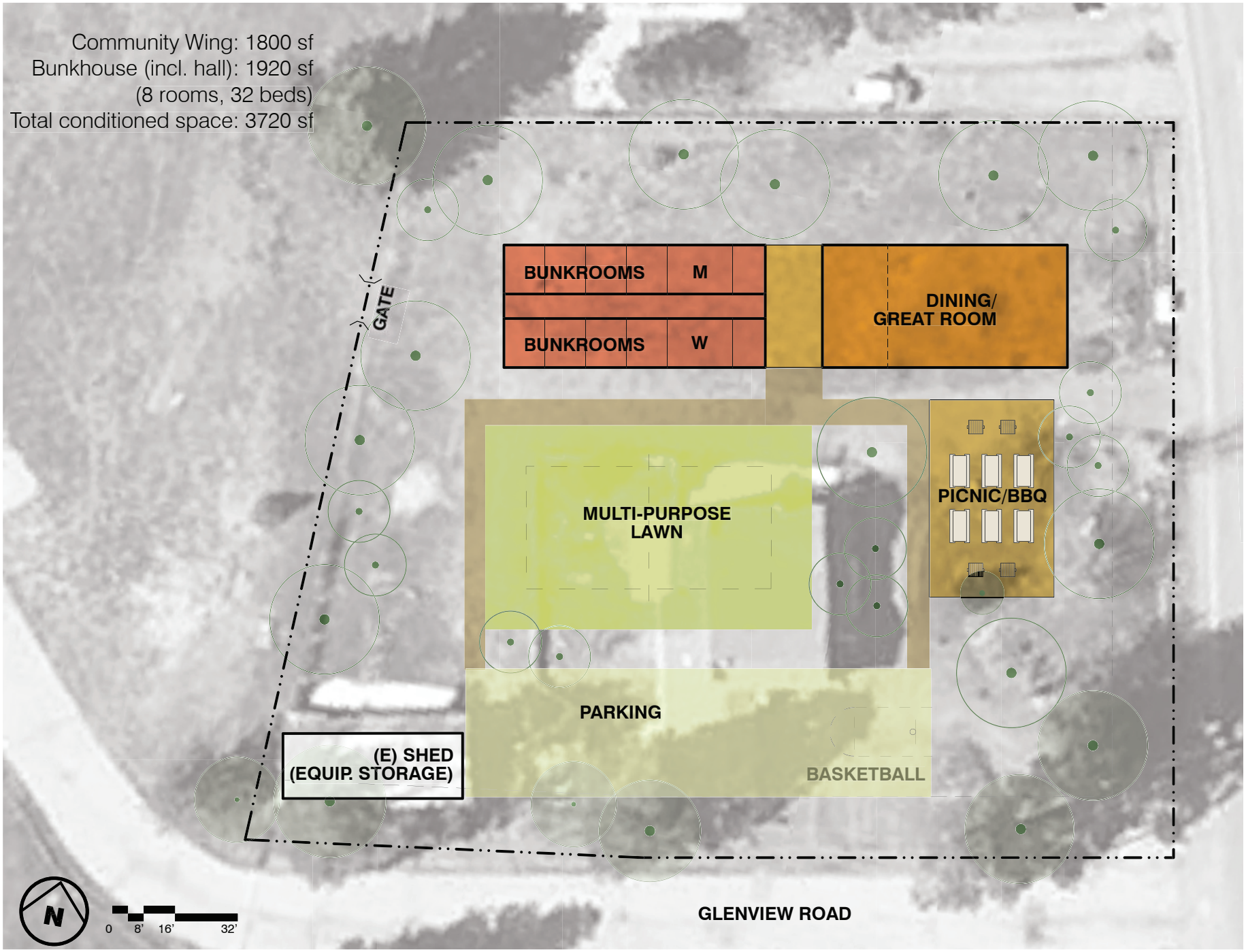
Community Wing: 1800 sf
Bunkhouse (incl. hall): 1920 sf
(8 rooms, 32 beds)
Total conditioned space: 3720 sf
GATE
BUNKROOMS M
BUNKROOMS W
DINING/
GREAT ROOM
MULTI-PURPOSE
LAWN
PICNIC/BBQ
PARKING
BASKETBALL
(E) SHED
(EQUIP. STORAGE)
N
0 8' 16' 32'
GLENVIEW ROAD

draft room layout . **bunkroom a**

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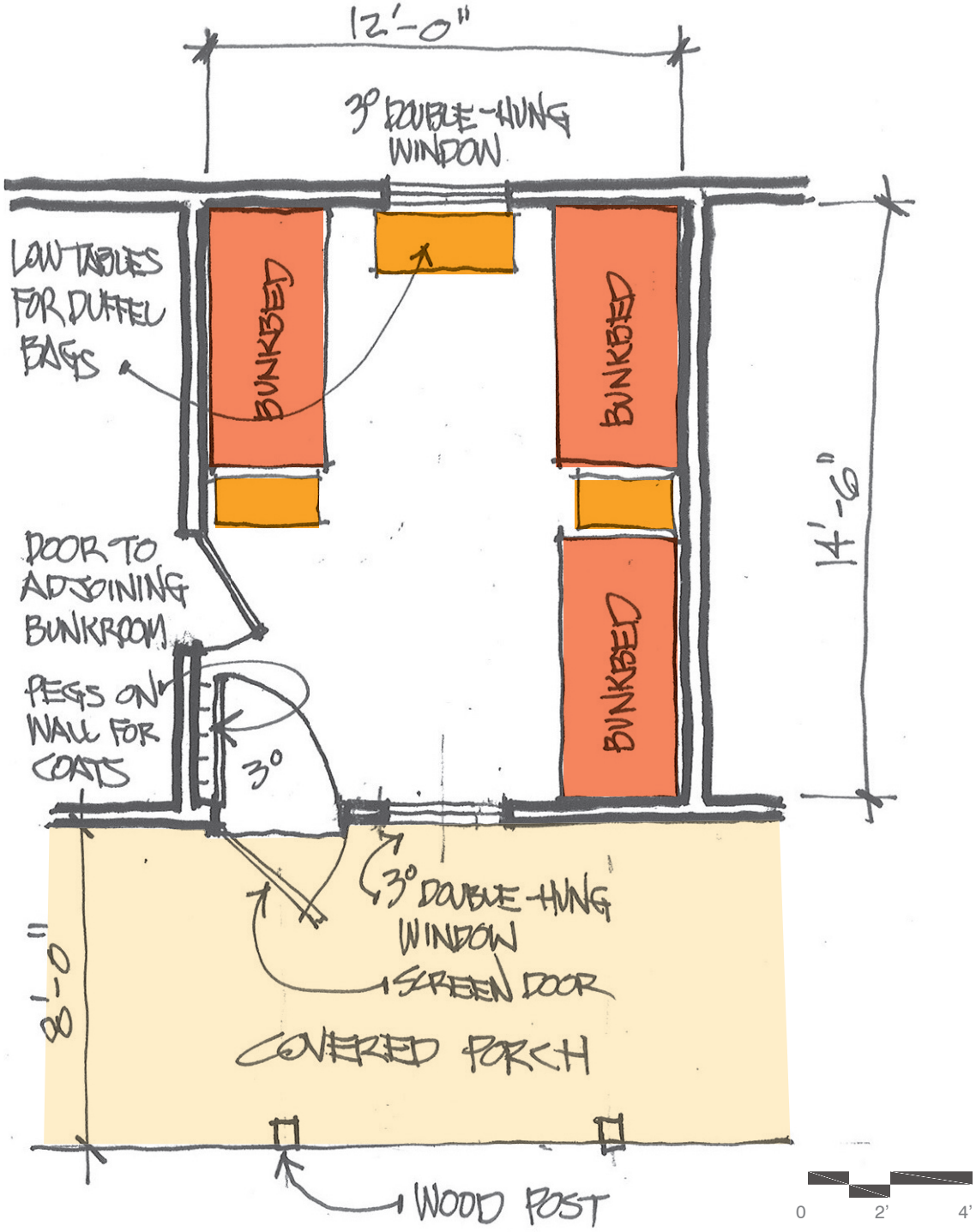
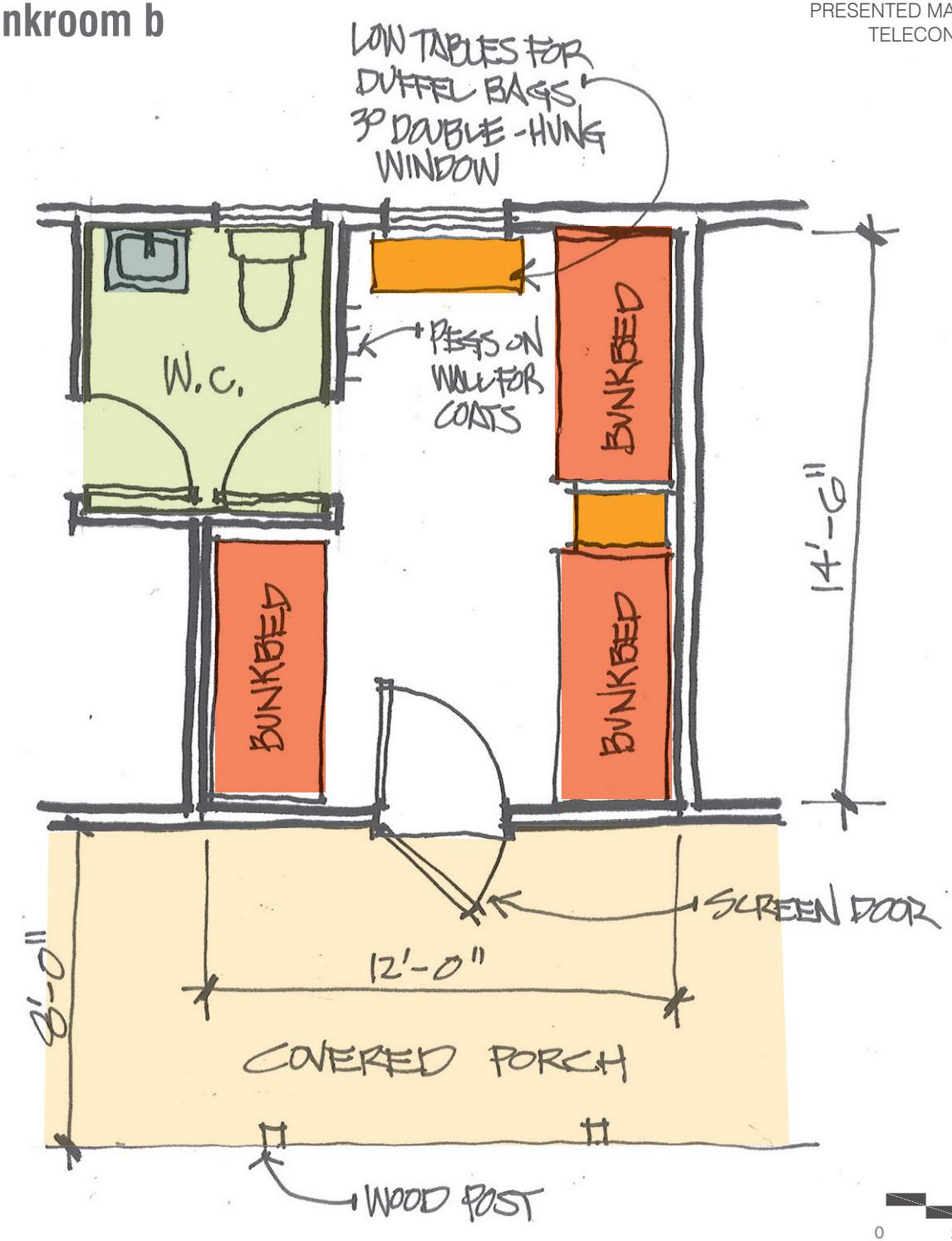


draft room layout . **bunkroom b**



draft room layout . **bunkroom c**

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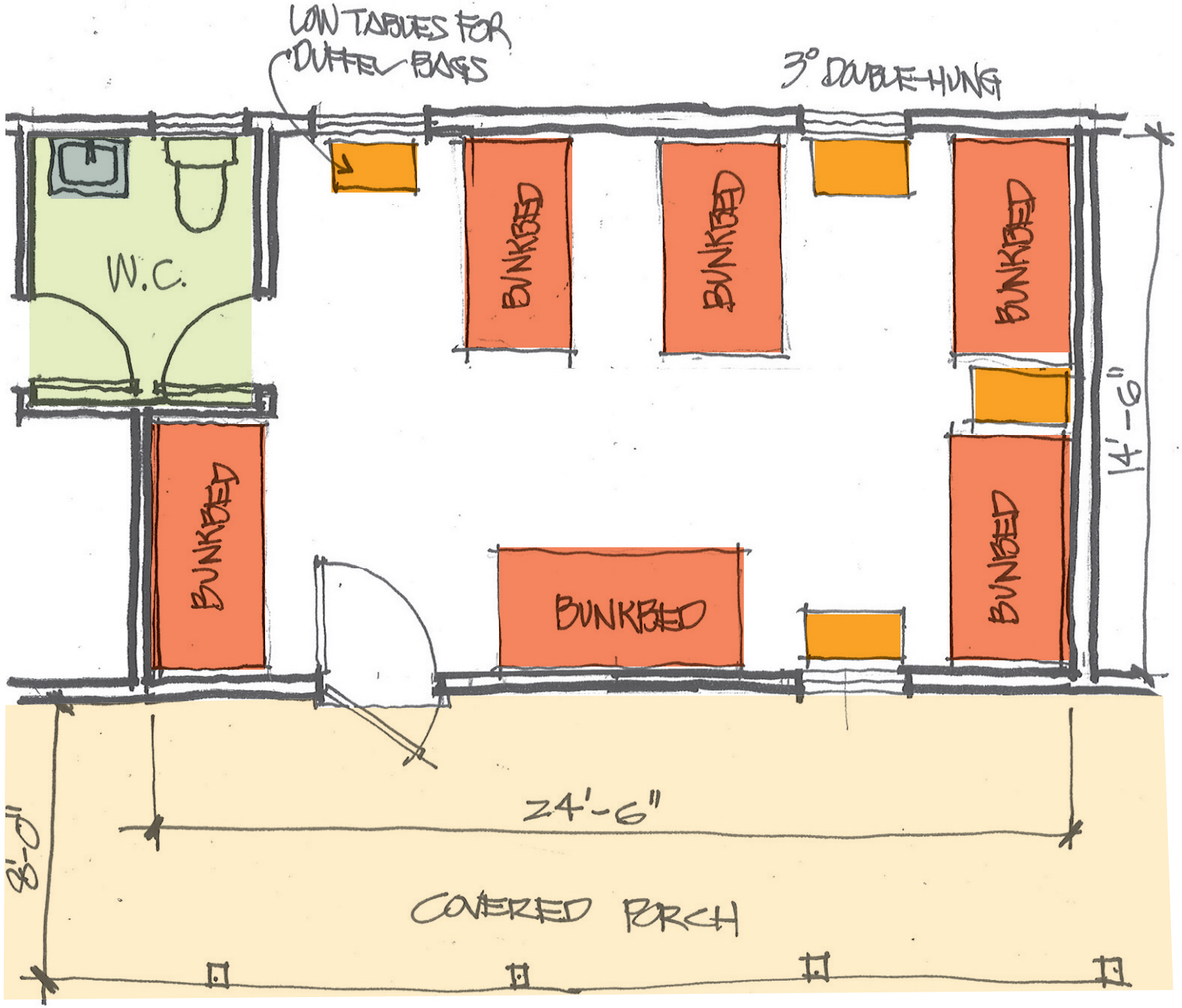
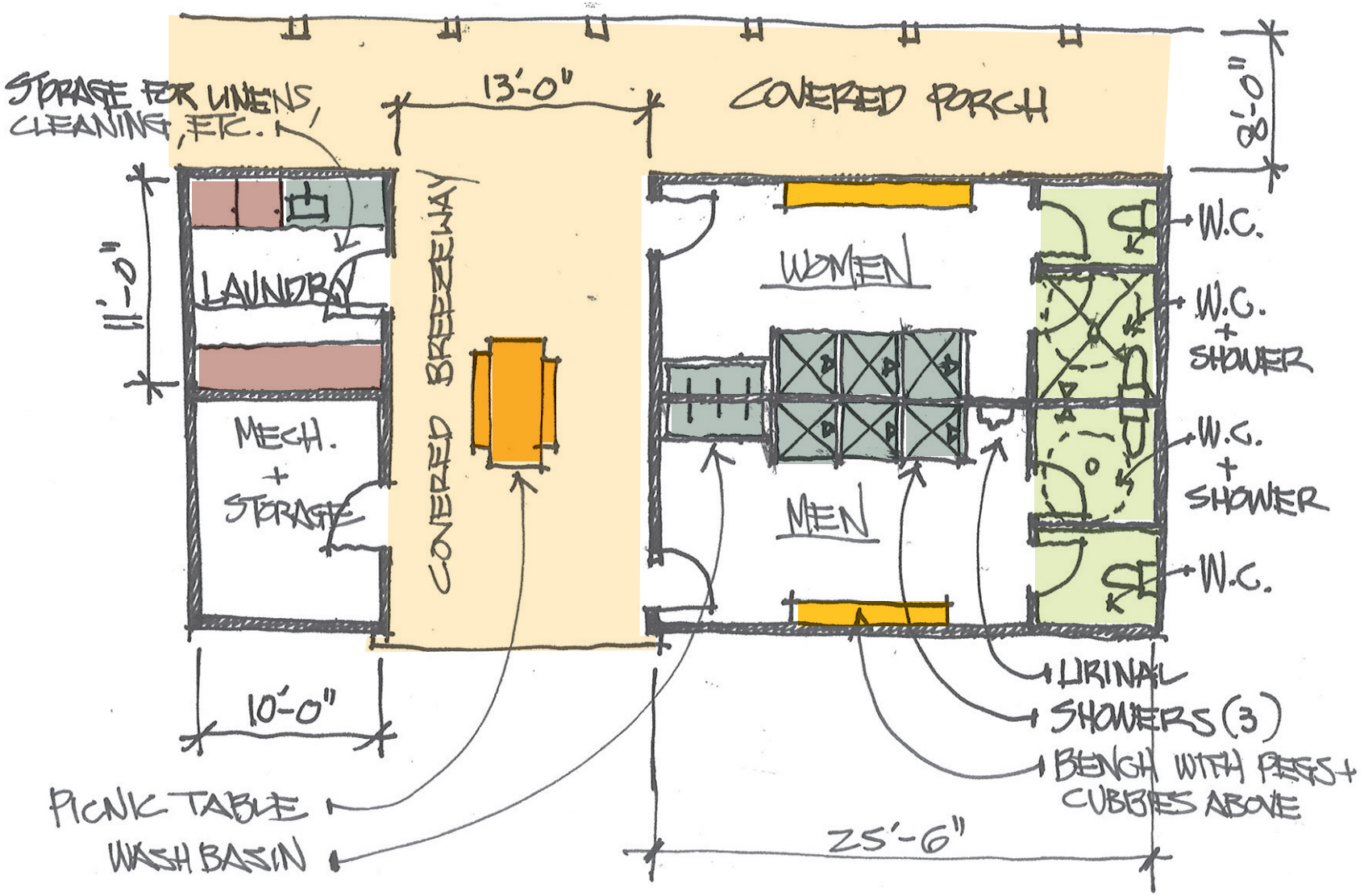


0 2' 4'


STORAGE FOR LINENS, CLEANING, ETC.
13'-0"
COVERED PORCH
8'-0"
11'-0"
LAUNDRY
MECH. + STORAGE
COVERED BREEZEWAY
WOMEN
MEN
W.C.
W.C. + SHOWER
W.C. + SHOWER
W.C.
URINAL
SHOWERS (3)
BENCH WITH PEGS + CUBBIES ABOVE
10'-0"
25'-6"
PICNIC TABLE
WASH BASIN

0 4' 8'

draft room layout . **multi-purpose room**

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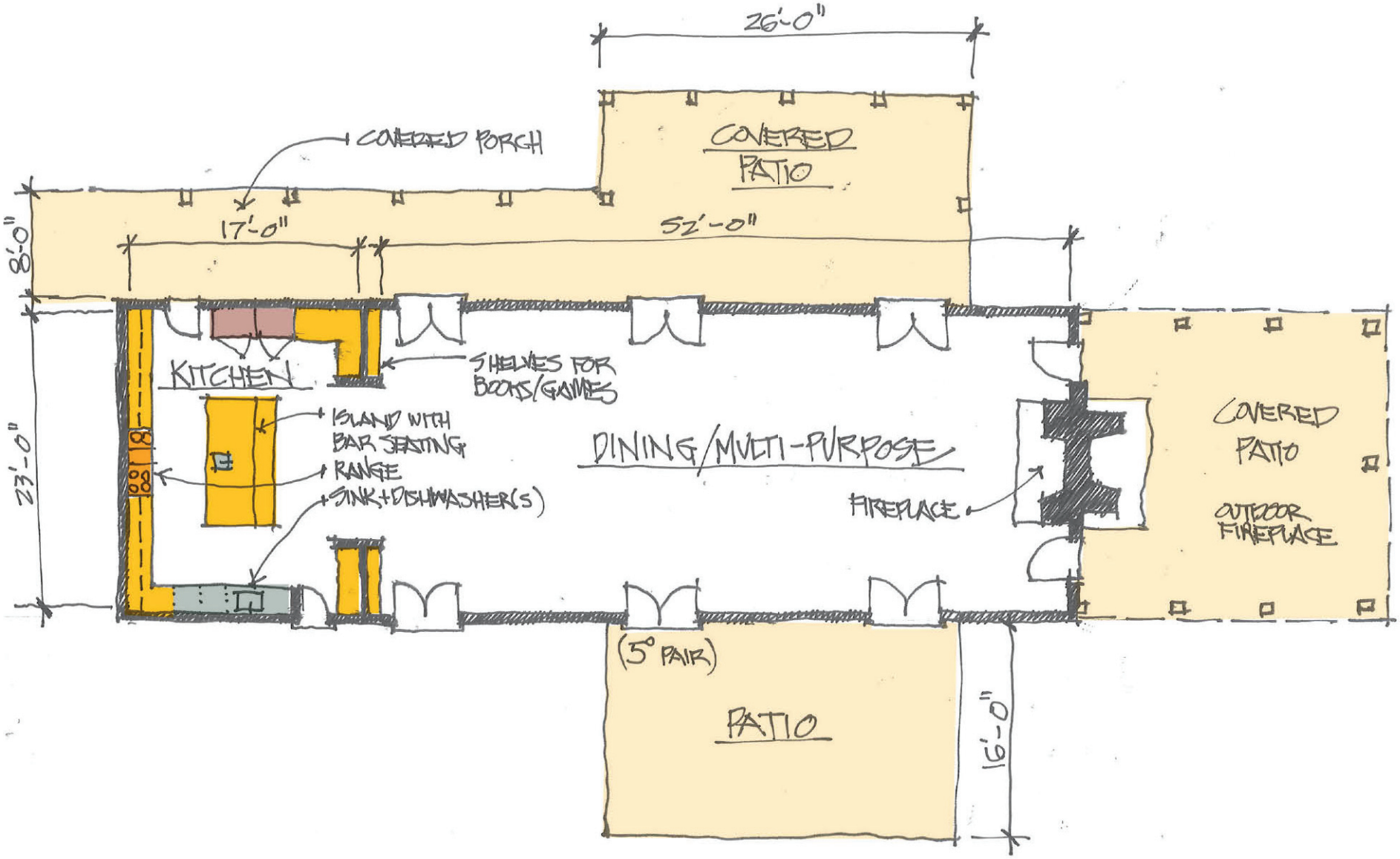
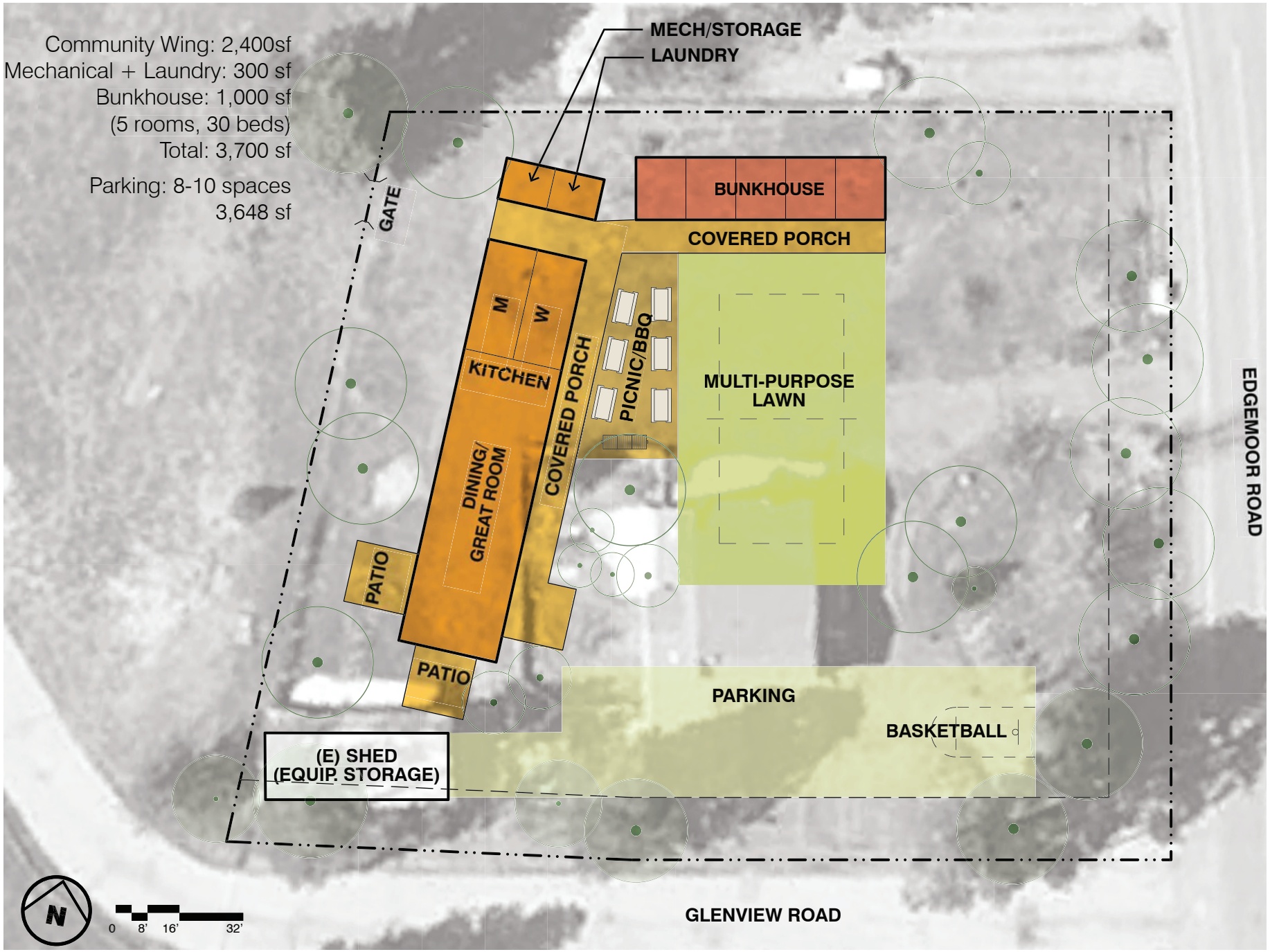


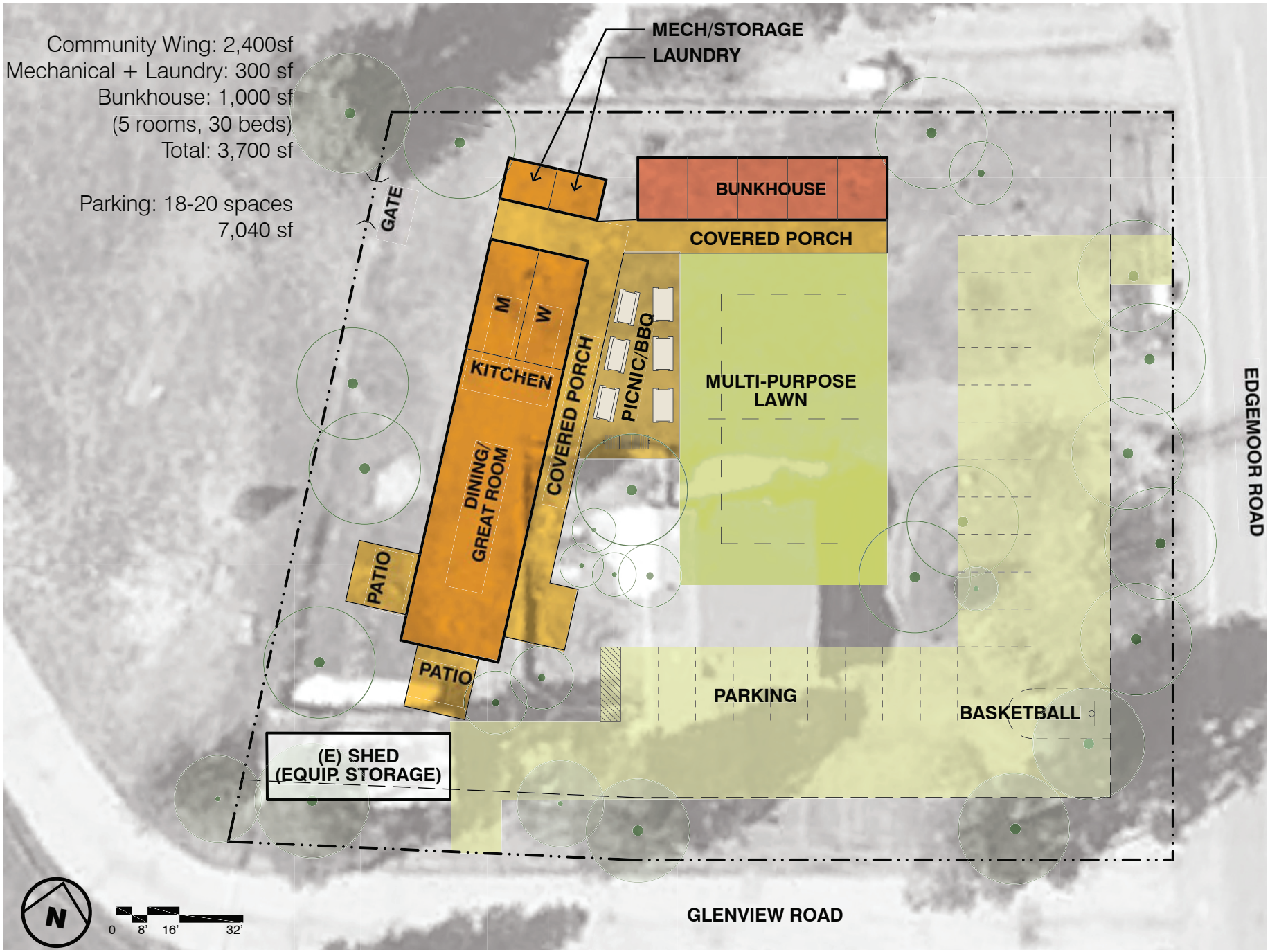
draft site concept + phasing diagrams .

Scheme I Parking Option 1



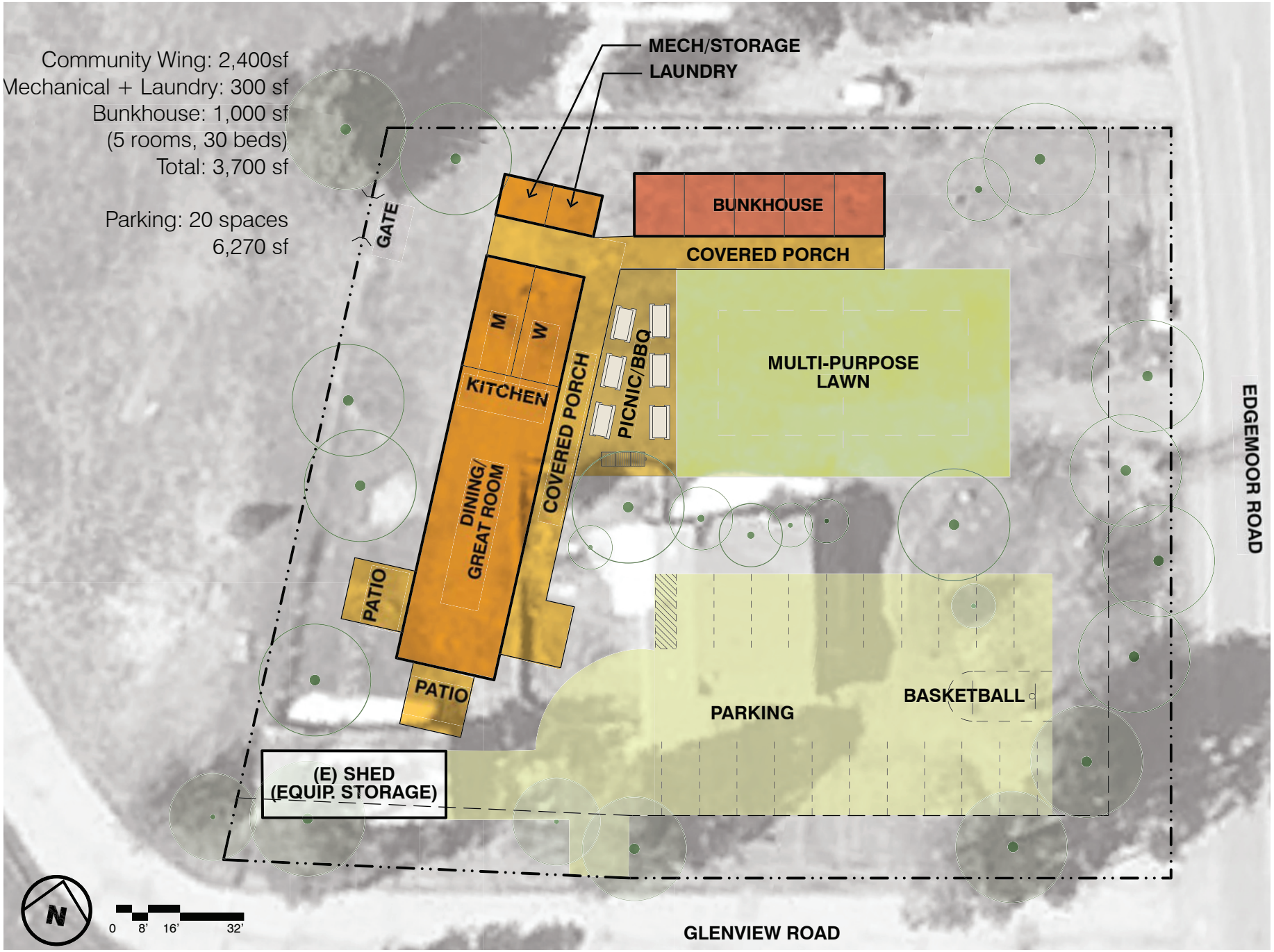
draft site concept + phasing diagrams .

Scheme I Parking Option 2



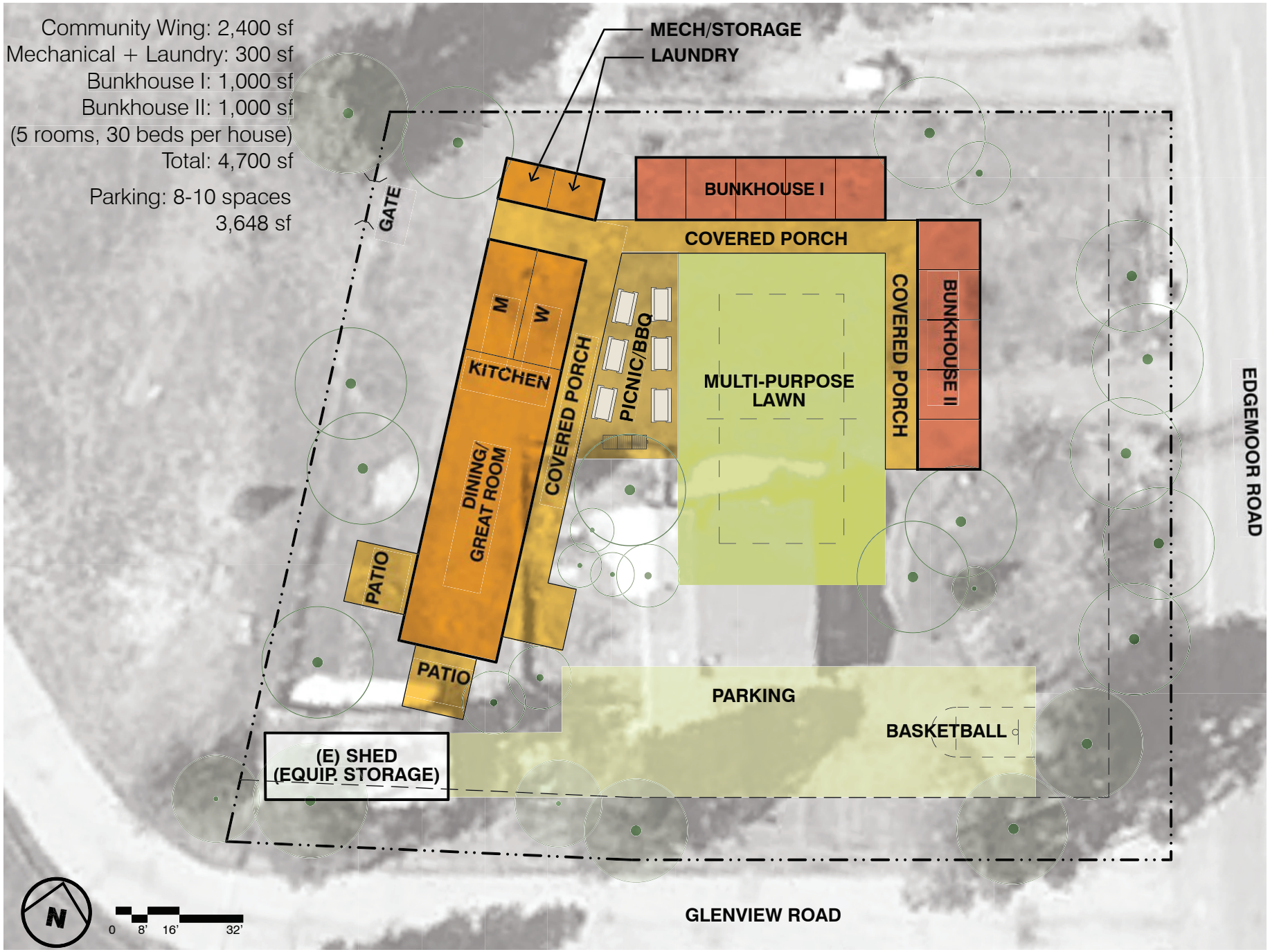
draft site concept + phasing diagrams .

Scheme I Parking Option 3



draft site concept + phasing diagrams .

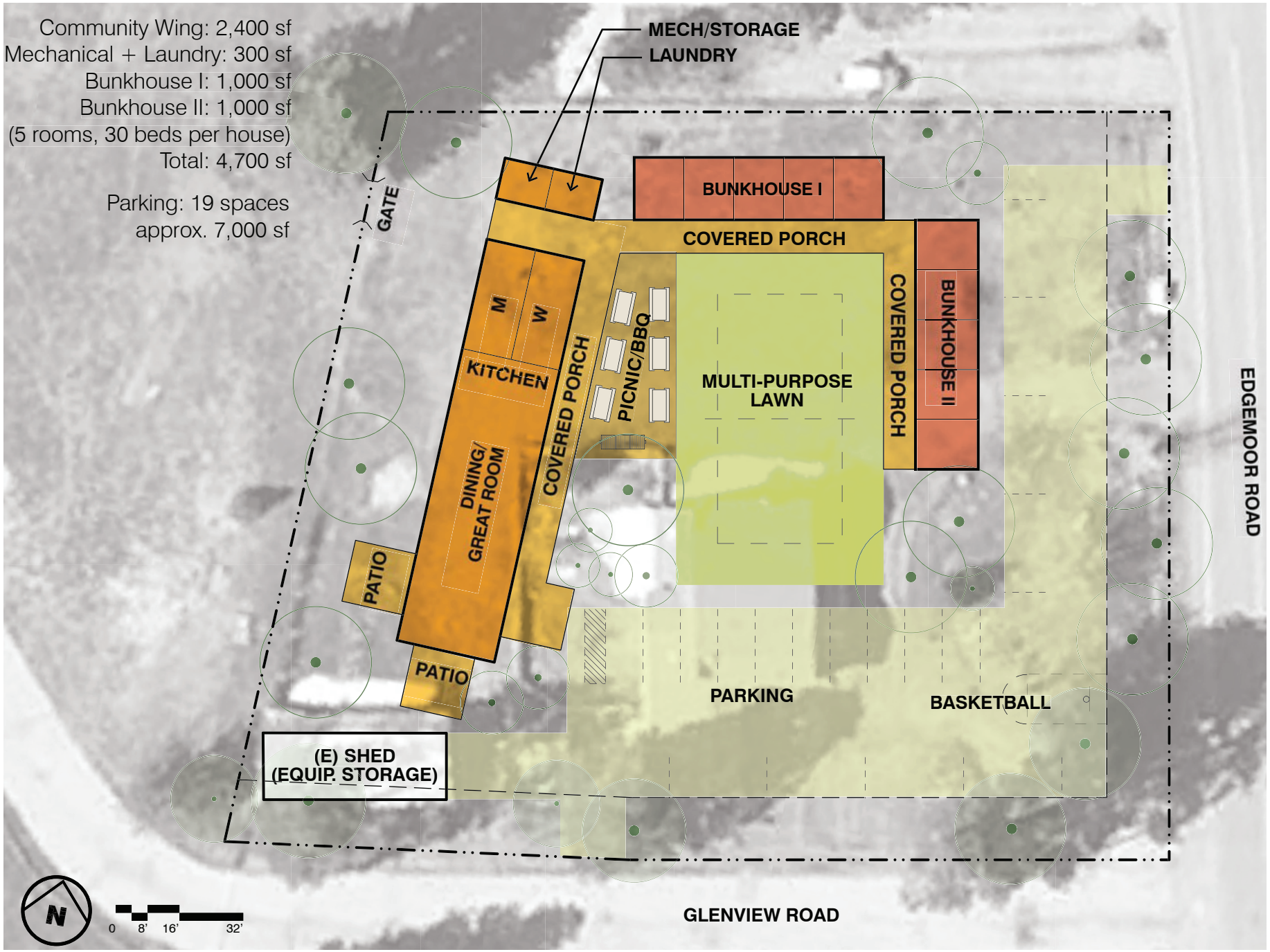
Scheme I (Future) Parking Option 1



Scheme I (Future) Parking Option 2

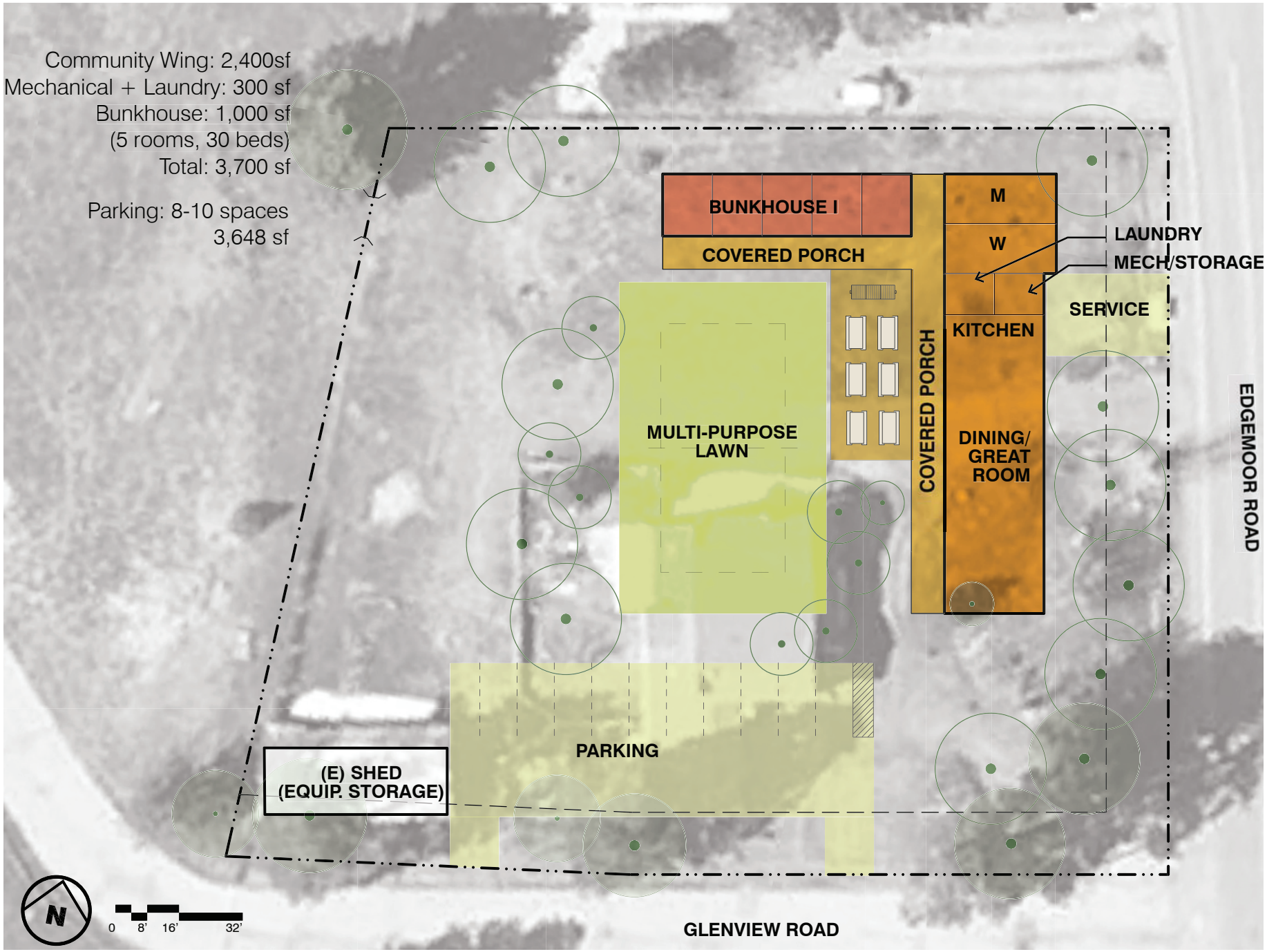
Community Wing: 2,400 sf
Mechanical + Laundry: 300 sf
Bunkhouse I: 1,000 sf
Bunkhouse II: 1,000 sf
(5 rooms, 30 beds per house)
Total: 4,700 sf

Parking: 19 spaces
approx. 7,000 sf

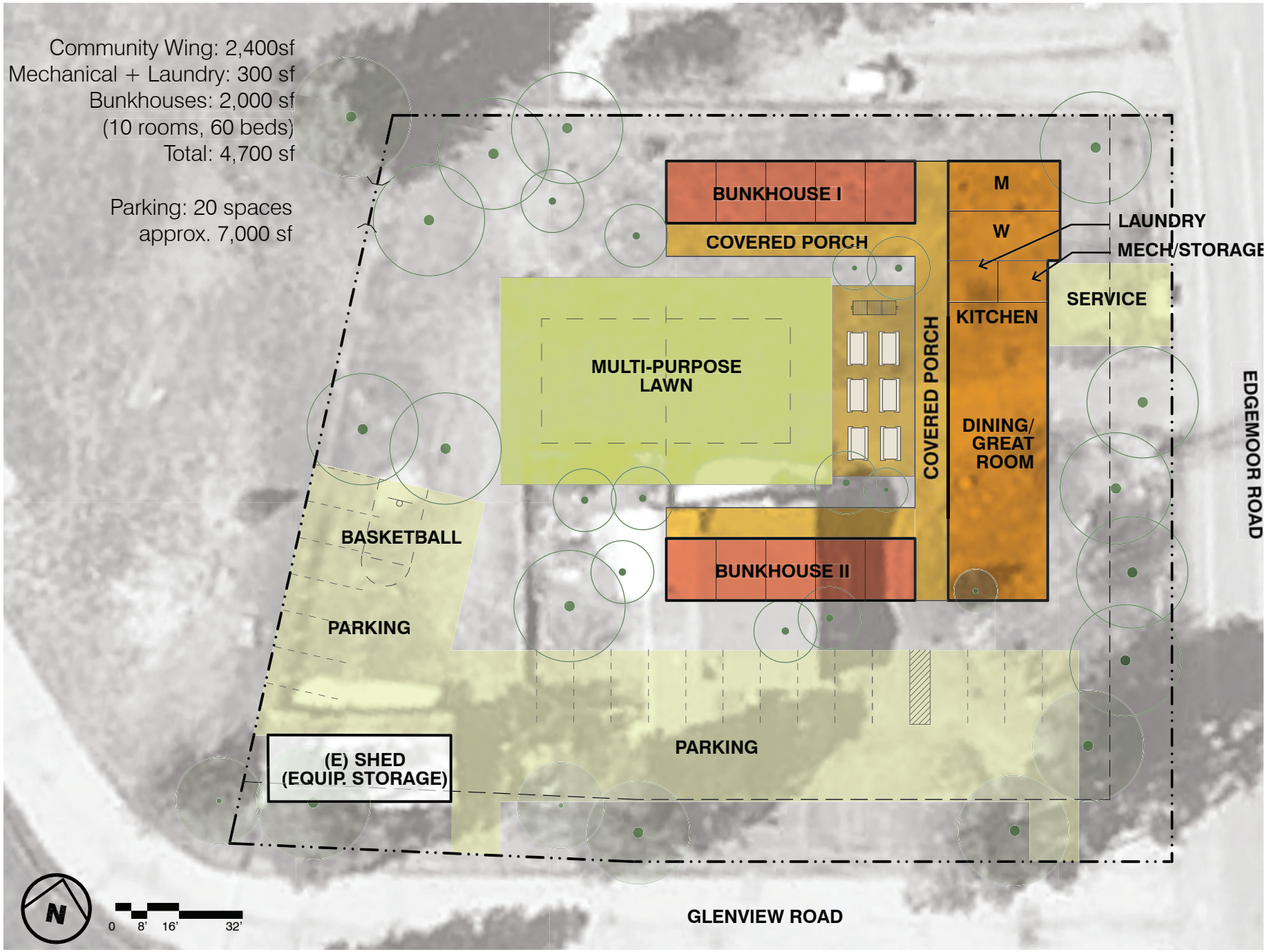


draft site concept + phasing diagrams .

Scheme 3 Parking Option 1

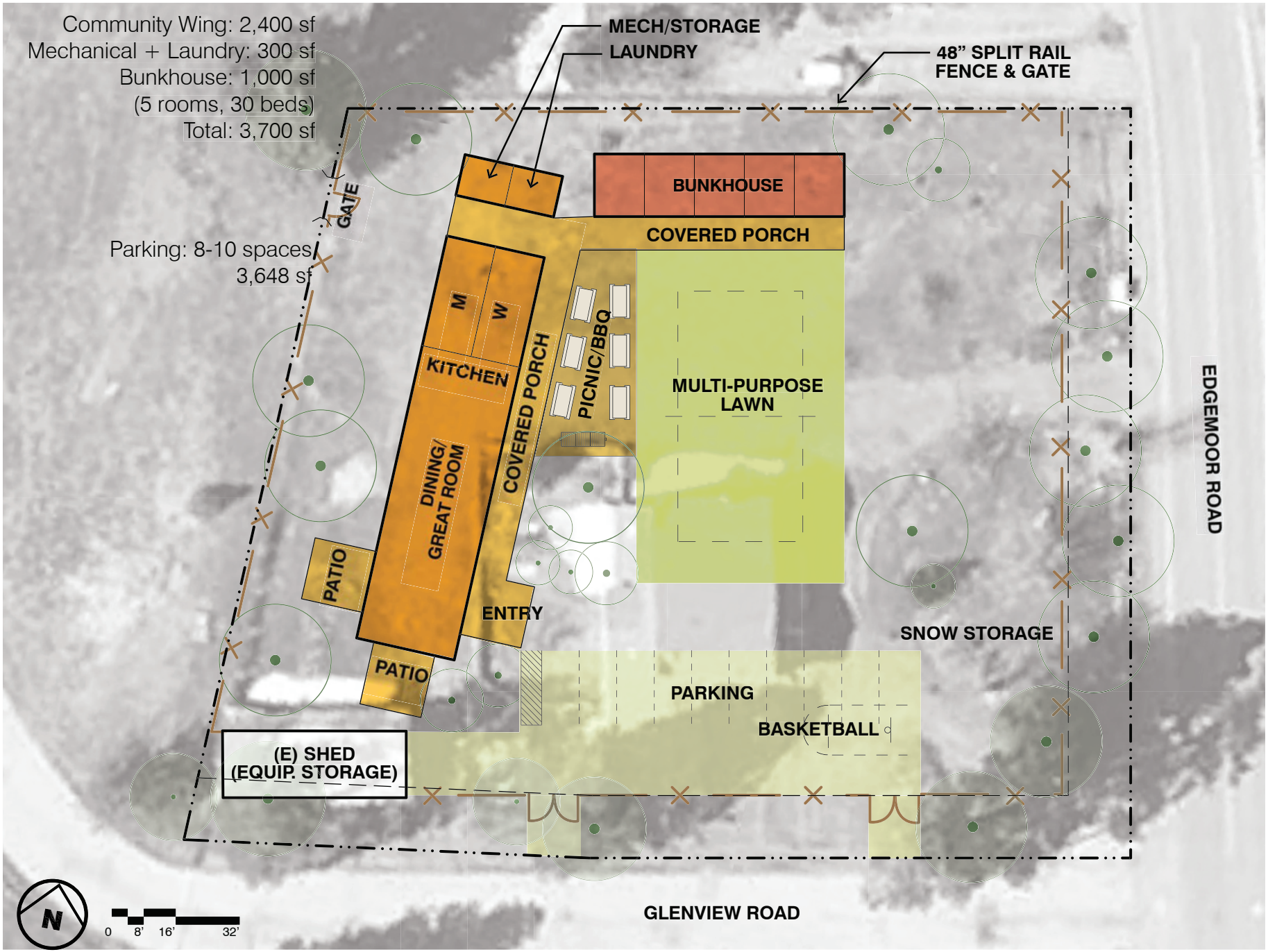


Scheme 3b Parking Option 2

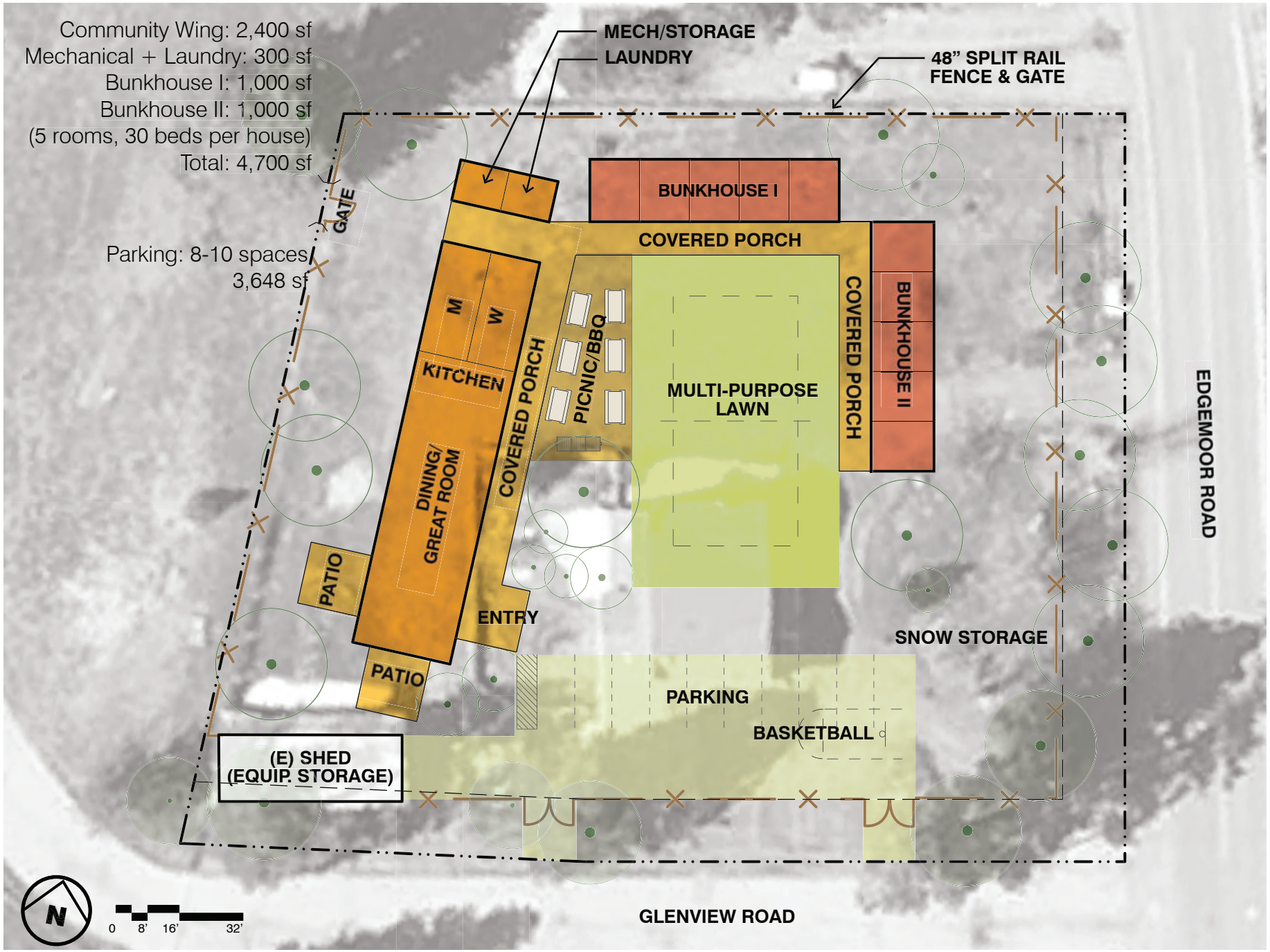


draft site concept + phasing diagrams .

Scheme I Parking Option 1

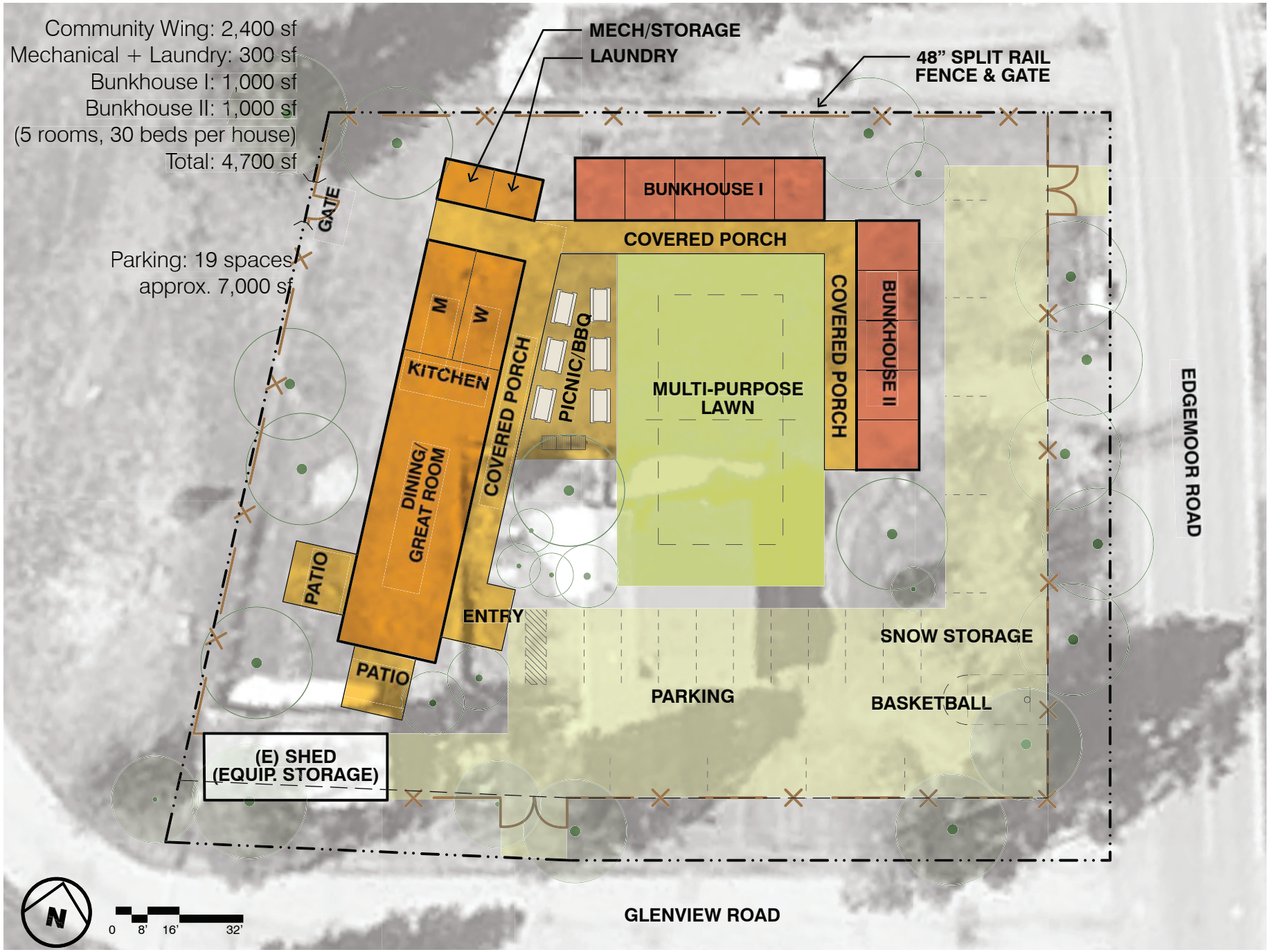


Scheme I (Future) Parking Option 1

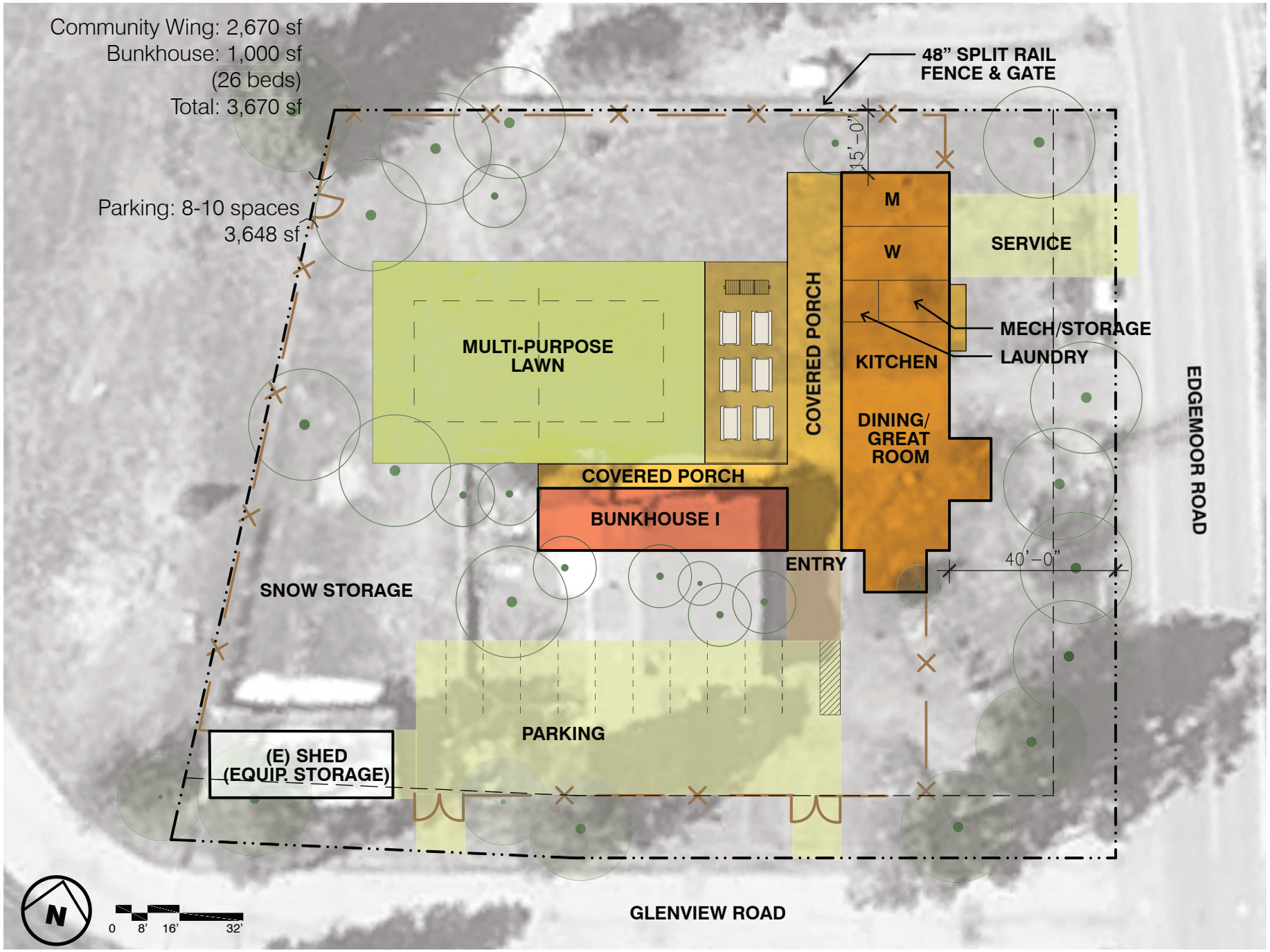


draft site concept + phasing diagrams .

Scheme I (Future) Parking Option 2

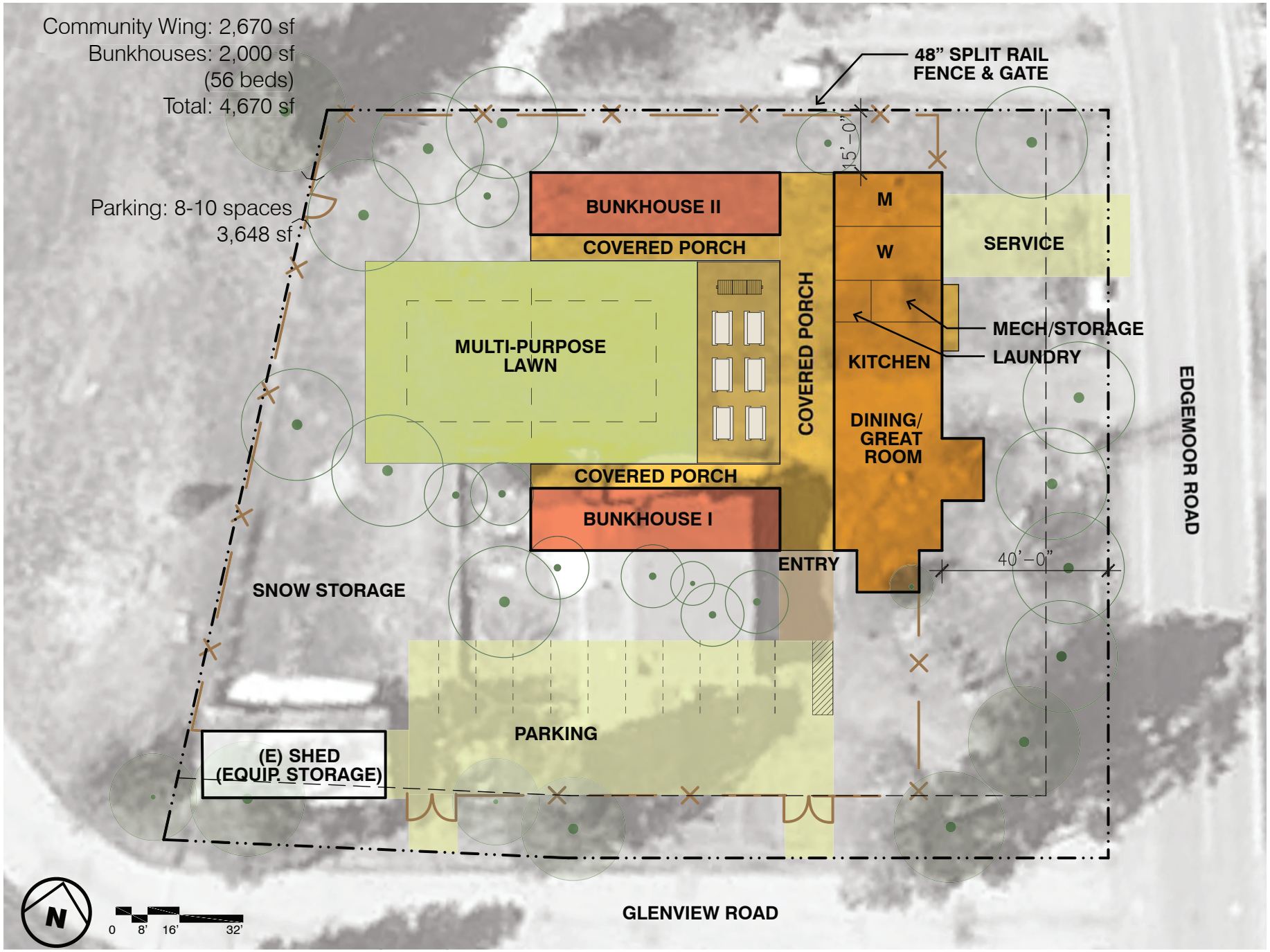


Scheme 3 Parking Option 1

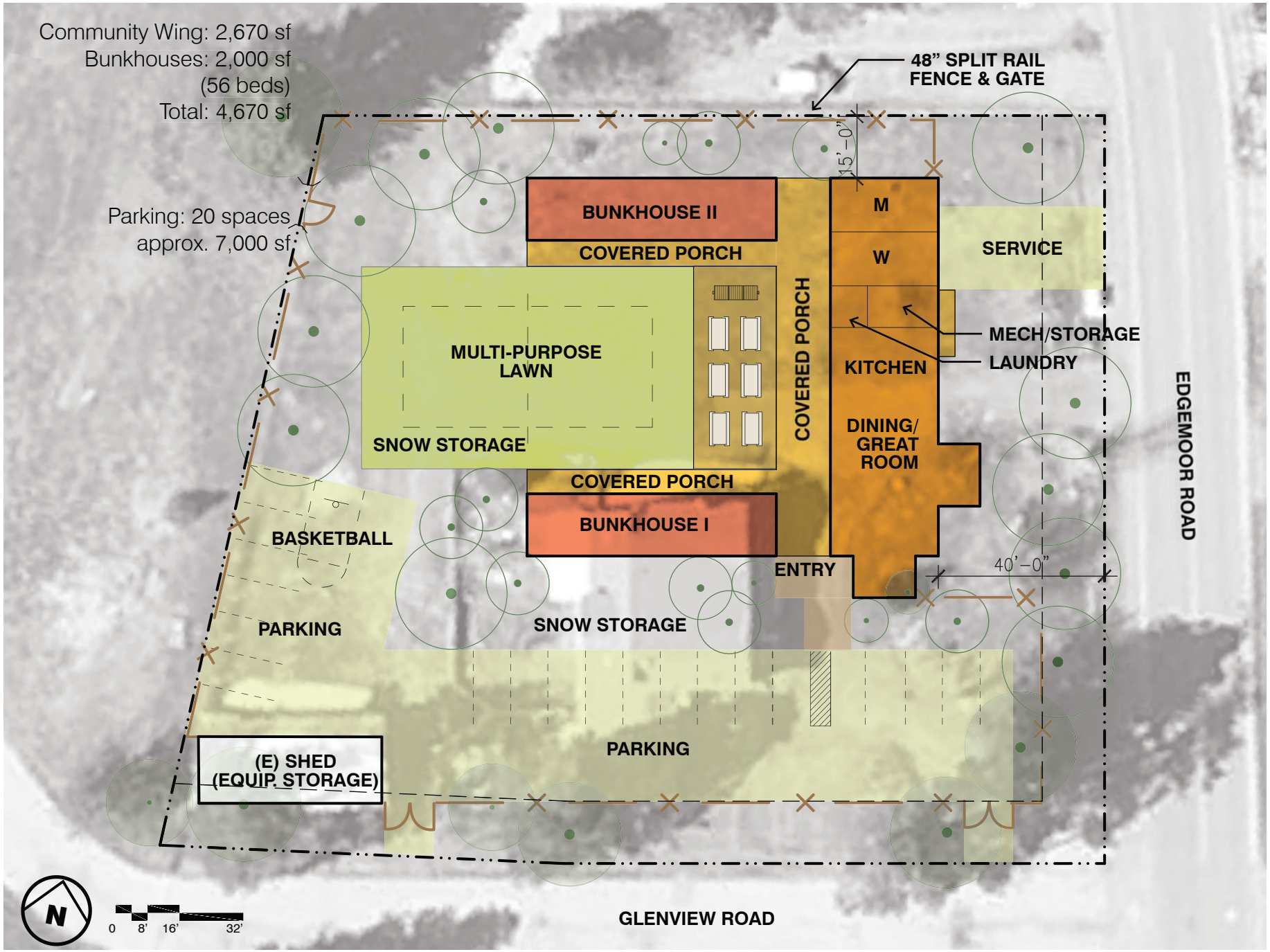


draft site concept + phasing diagrams .

Scheme 3 (Future) Parking Option 1

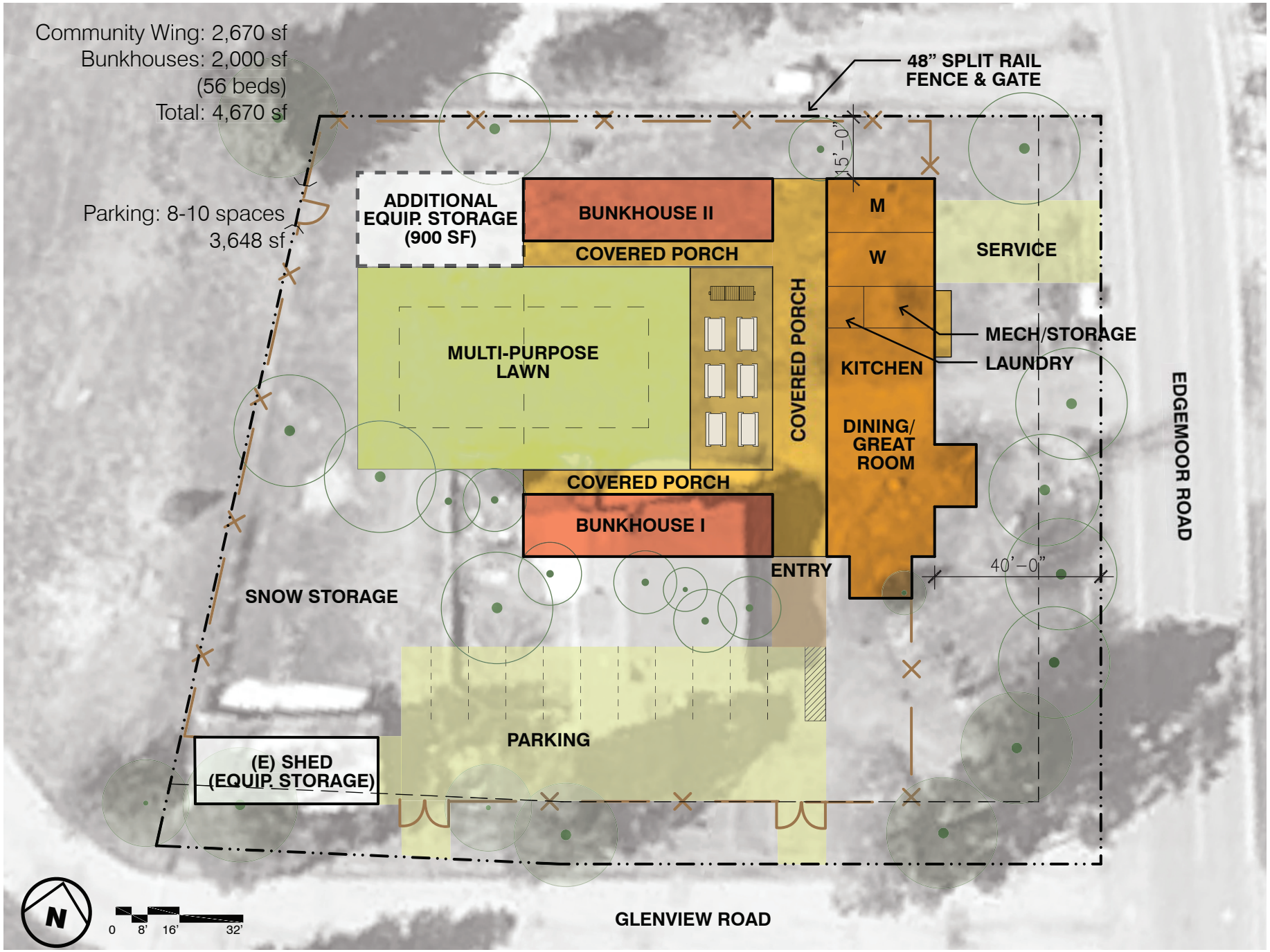


Scheme 3 (Future) Parking Option 2



draft site concept + phasing diagrams .

Scheme 3 (Future) - Additional Equipment Storage



student organizations on campus

- There are 84 groups in the 5-10 member range
- 114 groups in the 11-25 member range
- 67 groups in the 26-50 member range
- 19 groups in the 51-75 member range
- 3 groups in the 76-100 member range
- 3 groups about 100 member range (137, 139, 176)

Asian Pacific Student Programs holds retreats each year for 25-30 student staff and volunteers and for 35-40 leaders of student organizations that focus on the needs and concerns of students of Asian descent. The LGBTRC hosts an annual Winter Retreat for 25-35 students and 5 staff (40 total) would like to include more if resources and space were available to do so. The WELL and the ethnic and gender programs hosted what they hope will be the first annual Common Ground retreat and had 55 student participants and an additional 15 staff facilitators (70 total). Student Life is in its third year of organizing Leadership a week long leadership retreat during Spring Break and have 60 student participants and 10 staff facilitators (70 total) and in past years International Education has sponsored a retreat for students who will be studying abroad in advance of their departure and typically have engaged 80 students.