

SCHEMATIC DESIGN APPROVAL

Name of Project:

UAA MAC Housing Renewal, Phase 1

Project Type:

DM, R&R

Location of Project:

UAA, Anchorage, MAC Housing 1-6, AS128-AS133, Anchorage

Project Number:

06-0005-02

Date of Request:

August 20, 2012

Total Project Cost:

\$ 12,132,000

Phase 1 \$4,432,000

Approval Required:

Full Board

Prior Approvals:

Preliminary Administrative Approval

October 20, 2011 June 7-8, 2012

Formal Project Approval

A Schematic Design Approval (SDA) is required for all Capital Projects with a Total Project Cost in excess of \$250,000.

SDA represents approval of the location of the facility, its relationship to other facilities, the functional relationship of interior areas, the basic design including construction materials, mechanical, electrical, technology infrastructure and telecommunications systems, and any other changes to the project since formal project approval. Unless otherwise designated by the approval authority or a material change in the project is subsequently identified, SDA also represents approval of the proposed cost of the next phases of the project and authorization to complete the design development process, to bid and award a contract within the approved budget, and to proceed to completion of project construction. Provided however, if a material change in the project is subsequently identified, such change will be subject to the approval process.

Action Requested

"The Facilities and Land Management Committee recommends that the Board of Regents approve the Schematic Design Approval request for the University of Alaska Anchorage MAC Housing Renewal Phase 1 project as presented in compliance with the campus master plan, and authorizes the University administration to complete construction bid documents to bid and award a contract within the Total Project Cost budget of 12,132,000, and to proceed with project construction for Phase 1 not to exceed a Total Project Cost of \$4,432,000. This motion is effective September 27, 2012."

Project Abstract

UAA MAC Housing Renewal will refurbish the existing 6 building apartment complex and surrounding grounds by replacing finishes, fixtures, and equipment. The work will address life safety issues, and bring the complex up to current local, state and federal laws and codes.

RATIONALE AND REASONING

Background

MAC Housing was built in 1985, consists of 6 buildings, and provides approximately 300 beds in an apartment style setting. The buildings are now over 25 years old and are ready for major renewal work. While the housing auxiliary takes care of maintenance, repair, and minor renewal with auxiliary funds, major renewal projects are beyond the reach of the auxiliary operating budget and fund balance. This project is for major renewal work.

The replacement value for the 6 MAC buildings is \$40.62M in 2011. Based on the investment of \$12.13M UAA needs for renovation, the building has a Facility Condition Index of 29.9%. This FCI is within acceptable bounds for making that investment and completion of this work is expected to re-age these buildings for an additional 20-25 year life.

Programmatic Need

Student Housing is a critical support function for student achievement and attainment. On-campus housing provides an environment that promotes student interaction and provides them with the opportunity to fully immerse themselves in the higher education experience. Students are able to develop ties to their fellow students that will encourage them to support one another in their academic pursuits, support retention and persistence to graduation and develop bonds that will continue throughout their lives and create a closer tie to the University after completion. This project will update these housing units to better meet the student's needs and provide a safe and healthy "home" while they are pursuing their education.

Project Scope

Renewal of exterior materials including: roof, siding, and stairwells; interior fixtures and finishes and equipment including: kitchen equipment, millwork, flooring, plumbing, and lighting; bathroom millwork, and lighting; upgrades to the electrical and IT services; and replacement building systems including: boilers and supporting mechanical equipment; all of which have reached the end of their useful lives. The work will be accomplished in phases based upon available funding and to minimize the number of apartments that are off-line at one time, while completing the project as quickly as possible.

Phase 1 will address life safety issues and the mechanical equipment for all 6 buildings. This work will consist of: the stairwells, the roofs, and the boilers and supporting mechanical equipment. Funding is currently available to proceed with the Phase 1 work. With these items taken care of, the follow-on phases will consist primarily of interior work; this will enable the remaining work to be implemented throughout the year as funding becomes available, and mitigate issues across the complex.

Project Impacts

This work will extend the life of MAC Housing, which is over 25 years old. Delay in funding could see the major mechanical systems fail, as well as further deterioration of the exterior stairwells, and cause the structures to be uninhabitable.

Variances

None.

Total Project Cost and Funding Sources

Phase 1 Funding		
Funding Title	Fund Account	Amount
FY12 Capital DM Bonds, Series Q	514520-17132	\$3,177,000
FY12 Capital DM&R	564353-17190	\$600,000
FY13 Capital DM&R	564389-17190	\$655,000
Phase 1 Project Cost		\$4,432,000
Additional Phase Funding		
FY14 Capital Budget DM Request	TBD	\$3,000,000

FY15 Capital Budget DM Request	TBD	\$3,000,000
FY16 Capital Budget DM Request	TBD	\$1,700,000
Additional Phase Project Cost		\$7,700,000

Total Project Cost \$12,132,000

Project Schedule -- Phase 1

DESIGN

Conceptual DesignMay 2012Formal Project ApprovalJune 2012Schematic DesignJuly 2012Schematic Design Approval RequestedSeptember 2012

BID & AWARD - CM@R

Advertise and Bid August 2012 Construction Contract Award September 2012

CONSTRUCTION

Start of Construction January 2013
Construction Complete December 2015
Date of Beneficial Occupancy January 2016
Warranty Period 1 year

Project Delivery Method

CM@R was identified as the selected project delivery method in the Formal Project Approval, approved by the BOR in June 2012. Approval was granted by the UA Chief Procurement Officer and General Counsel on July 31, 2012.

Supporting Documents

One-page Project Budget

Design Narrative

Drawings (Exterior Elevations, Floor Plans)

Affirmation

This project complies with Regents Policy, the campus master plan and the Project Agreement.

UNI	VERSITY OF ALASKA				
Proj	ject Name: UAA MAC Housing	Renev	wal		
MΑ	U: UAA				
Buil	dings: AS128-AS133		Date:		20-Aug-12
Can	npus: Anchorage		Prepared by:	ΚR	teynolds
Proj	ject #: 06-0005-2 Acct #(s): 514520-1	7132	564353-17190,	, 56	4389-17190
Tota	al GSF Affected by Project:		122305		122305
PRC	DJECT BUDGET	l	PA Budget		SDA Budget
A.	Professional Services				
	Advance Planning, Program Development				
	Consultant: Design Services	\$	697,057	\$	697,057
	Consultant: Construction Phase Services	\$	221,391	\$	221,391
	Consul: Extra Services (List:)	\$	101,651	\$	101,651
	Site Survey				
	Soils Testing & Engineering				
	Special Inspections				
	Plan Review Fees / Permits	\$	24,000	\$	24,000
	Other				
	Professional Services Subtotal	\$	1,044,099	\$	1,044,099
В.	Construction				
	General Construction Contract(s)	\$	8,963,301	\$	8,963,301
	Other Contractors (List:				
	Construction Contingency	\$	1,500,000	\$	1,500,000
	Construction Subtotal		10,463,301	\$	10,463,301
	Construction Cost per GSF		86		86
C.	Building Completion Activity				
	Equipment				
	Fixtures				
	Furnishings				
	Signage not in construction contract				
	Move-Out Costs				
	Move-In Costs				
	Art				
	Other (Interim Space Needs or Temp Reloc. Costs)				
	OIT Support				
	Maintenance Operation Support	\$	18,000	\$	18,000
	Building Completion Activity Subtotal		18,000	\$	18,000
D.	Owner Activities & Administrative Costs		•		,
	Project Plng, Staff Support				
	Project Management	\$	606,600	\$	606,600
	Misc. Expenses: Advertising, Printing, Supplies, Etc.	'			222,200
	Owner Activities & Administrative Costs Subtotal	\$	606,600	\$	606,600
E.	Total Project Cost	\$	12,132,000	\$	12,132,000
	Total Project Cost per GSF		99		99
F.	Total Appropriation(s)	\$	12,132,000	\$	12,132,000

PROJECT NARRATIVE

I. ARCHITECTURAL

General

This narrative describes the architectural features and renovation to the UAA Main Apartment Complex known as MAC Housing. The project consists of 80 units distributed among six buildings known as MAC 1 through 6. The typical apartment floor consists of two units which is accessed through two separate stairwells. Each stairwell spans over three floors for a total of six units per stairwell(s), the typical townhouse configuration is a pair of two-story units, back-to-back which are added to a group of six apartments. These apartments and townhomes are arranged in various configurations. The MAC 1 building also contains a central laundry, boiling plant and a maintenance storage/shop area. The main goals of this project are to correct life and safety issues, provide refreshed housing that is attractive to potential students, and meet all current accessibility standards unique to housing.

Building Entry

The existing building entrances consist of two sets of stairs that are accessed from opposite sides of the building. The stairs are open to the exterior with the interior starting at the unit door. The schematic design converts this exterior stair configuration to an interior enclosure with a single stair that provides the following advantages:

- Allows access from either side of the building adding flexibility for accessing parking, laundry and the commons area.
- Access points to the building will be controlled with a locked/card device discouraging unwanted visitors and people loitering in the stairwell.
- Clearer site lines from landings to the front door to create defensible space.
- Sidewalk access will continue into the interior first floor entrances, providing clearance and maneuverability which increases "visit" ability for students with disabilities.
- A canopy will cover the entrance, bike storage, and ramp area from rain and snow accumulation.
 Cantilevered beams and covering will allow equipment to clear the snow without getting close to the building.

Units

The units will be completely remodeled down to the sheetrock. Replacements include all finishes, casework, plumbing fixture, electric fixture and baseboard heat.

Doors and Hardware

Building entry doors will be insulated hollow metal with a narrow light and a fully welded thermally separated frame. Hardware will consist of a closer and ADA threshold with weather-stripping. An ADA operator will assist access to the laundry room.

Unit entry doors will be solid-core wood rated 1-Hour with closer, ADA threshold and smoke seal gaskets. Interior doors are solid core wood doors. Interior closet sliding doors will use heavy duty hardware rated for 200 pounds.

All hardware will be ADA compliant, with the main building and Unit entry using a locked/card control device. The laundry area will also utilize the same locked/card control device. Boiler rooms and crawl space access will be controlled by a separate keying system.

Laundry

The laundry room will be remodeled with new finishes for the floor, walls and ceiling. A small computer lab will be incorporated in the next phase of design.

Maintenance Rooms

The existing maintenance will remain as is with minor modifications to maintain rated construction.

Boiler Room(s)

The existing central mechanical room will remain as is and house the generator and mechanical system for MAC 1. There is a possibility of converting some of this space into storage. Separate Boiler Rooms will be added to MAC 2 though 6.

Windows

The unit windows were recently replaced. Fixed windows will be used at the new entrance interior.

Roof

The roofs for all the MAC buildings have chronic ice damming as well as sliding snow and ice issues which poses major life and safety issues. The configuration is known as a "saw tooth" design that blocks ventilation and causes ice damming. Large pieces of ice can suddenly release off of the metal roof, especially at the entrances. The design eliminates any sliding snow and ice by several strategies.

The main part of the roof will receive asphalt shingles and two foot overhangs at the rake and fascia. A new eave detail will permit ventilation in addition to gable vents and a ridge vent.

At the entrance the exiting over framed valley and shed will be removed. A new flat roof will collect and hold water and snow from the adjacent roofs. This flat roof will use an internal drain system to direct water to the storm drain system. A flat area will also be incorporated at MAC 1 and MAC 6 to solve a unique corner condition.

Exterior Wall Envelope

Currently the exterior walls are 2 x 6 wood construction. The siding is Cedar which shows typical wear and tear from its age. An alternative to replacing all the siding is being considered.

Code Analysis

Applicable codes: IBC 2009, IEBC (2009)

Classification of Occupancy (IBC): R-2 - Apartments/Congregate Living

Existing R-1 (UBC)

Classification of Occupancy (IEBC): Alteration Level: 3

Type of Construction (Existing): V-1 Hour (UBC) / VA (IBC)

Required Number of Exits (1015.1, 1. Exception / 1021.1, Exception 4): 1

Sprinklered: Existing: Yes (NFPA 13R)

Allowable Height and Area Existing Height and Area (IBC):

Allowable: 3 Stories/12,000 SF

MAC 1: 3 Stories: 1st - 10,394 SF, 2nd - 8,916 SF, 3rd - 8,916 SF - OK MAC2: 3 Stories: 1st - 6,473 SF, 2nd - 6,237 SF, 3rd - 4,655 SF - OK MAC3: 3 Stories: 1st - 6,065 SF, 2nd - 5,890 SF, 3rd - 5,890 SF - OK MAC4: 3 Stories: 1st - 6,232 SF, 2nd - 6,012 SF, 3rd - 5,972 SF - OK MAC5: 3 Stories: 1st - 6,373 SF, 2nd - 6,162 SF, 3rd - 4,600 SF - OK MAC6: 3 Stories: 1st - 9,397 SF, 2nd - 9,112 SF, 3rd - 7,550 SF - OK

FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS OF VA CONSTRUCTION (TABLE 601):

Primary Structure: 1 Hour

Bearing Walls (Interior and Exterior): 1 Hour

Non-Bearing Interior Walls and Partitions: 0 Hour (Existing is 1 Hour Rated)

Non-Bearing Exterior Walls and Partitions: 1 Hour Floor construction and Secondary Members: 1 Hour Roof Construction and associated members: 1 Hour

Laundry Room (Table 508.2.5): 1 Hour

Shaft and Vertical Exit Enclosures (708.4): 1 Hour

Percentage of Allowable Area of Openings in Exterior Walls per story (Table 705.8): Fire Separation 15' to less than 20': Unprotected, Sprinklered = 75% of the Story Fire Separation 20' to less than 25': Unprotected, Sprinklered = Unlimited of the Story

II. INTERIORS

The residents' first impression of the interior living spaces will be one of comfort and welcoming, equivalent to quality private sector duplex/townhouse living. Our goal is to support UAA and their residents by providing a top quality, healthy, comfortable and enduring living environment.

Careful consideration has been given to the selection of finish materials, colors and fixtures to assure continuity throughout the project. Colors and materials have been chosen for longevity and assure value, ease of maintenance and appearance retention.

Carpet tiles have been selected for common areas, living rooms and bedrooms. Bathrooms, entry areas and kitchens will be rubber sheet goods or vinyl, wood-look plank materials; these options were selected for durability and ease of maintenance. Walls and ceilings will be painted gypsum board in a neutral white. Bathrooms will have a pre-molded shower surround and pan; walls will have a contemporary, subway tile wainscot. High quality wood cabinets will be used with plastic laminate or solid surface countertops. Sinks throughout will be stainless steel.

Furniture for the apartment bedrooms will be either wood or metal construction. Each bedroom will receive a bed with an adjustable height frame, a 3-drawer dresser and a lounge chair with a tablet arm. Living room furniture will consist of a side table, 5 armless lounge chairs that can be reconfigured to form a couch or loveseat, and a TV stand. The dining area will have a table and four chairs.

We have chosen "green" materials including recycled content, made from renewable resources, and air quality friendly products where ever possible in consideration of LEED certification. The renovation of (6) six MAC buildings is intended to meet the LEED Silver Criteria.

All lighting fixtures and appliances were selected to be energy efficient; most fixtures are Energy Star rated. The lighting utilizes fluorescent lamps wherever possible. The lighting and appliances coordinate throughout the unit and enhance the interior environment.

III. STRUCTURAL

Structural design elements for the UAA MAC Housing Renewal project include three primary components:

- New Front Entries
- Enclosure of the existing stairways including demolition and reconfiguration of the stairs
- New exterior mechanical rooms

CODE ANALYSIS

Standards

The building structural systems will be designed in accordance with the 2009 International Building Code and ASCE 7-05, "Minimum Design Loads for Buildings and Other Structures."

Design Loads

The building will be designed for the following design loads in accordance with the 2009 International Building Code and ASCE 7-05, "Minimum Design Loads for Buildings and Other Structures." The Occupancy rating will be Category II.

Live Loads

Stairways between Units100 psf Mechanical Rooms125 psf Public Areas100 psf

Snow Loads

Ground Snow Load, P_g50 psf Flat Roof Snow Load. P_f42 psf Ct = 1.2 (Cold Roof at Entry), Ce = 1.0, I = 1.0

Drifting snow loads will be computed in accordance with ASCE 07.

Wind Loads:

Design Wind Speed, 3 second gust:110 mph Exposure: B Importance Factor, I_w :1.0

Seismic Loads:

Mapped 0.2s period acceleration, S_s:1.50 Mapped 1.0s period acceleration, S_l:0.55 Seismic Importance Factor, I_e:1.0

Response Factor, Building Frame System with Light Framed Shear Walls, R = 6.5.

20% of the uniform flat roof snow load is included in the seismic mass calculation for the structure.

STRUCTURAL SYSTEMS

New Front Entry

The new front entry is a wood frame "arctic" type entry, approximately 100 sf in area, constructed at the front of the existing stair corridors. Roof framing will consist of 4x-timber decking spanning to three support beams: two located in line with exterior walls and one located approximately nine feet from the end of the building, creating a covered area adjacent to the entry.

Wall framing will consist of 2x6 wood studs with plywood sheathing on the exterior face of the wall studs.

The foundation system will consist of a "dropped edge" or shallow foundation system. The dropped edge foundation system consists of a 4-inch concrete slab on grade that is cast integrally with a thickened grade beam at the perimeter of the building. The shallow foundation typically only needs to extend 18-inches below grade, whereas a conventional foundation wall in Anchorage must extend 42-inches below grade. The shallow foundation system is an economical foundation system for lightly loaded, wood frame

buildings. Shallow foundation systems must have rigid insulation applied to the exterior face of the foundation wall. The rigid insulation extends horizontally 30-inches away from the building.

The beam at the open end of the roof will be supported on two posts that rest on a concrete pier. The concrete pier will be supported on two helical anchors.

Stairwell Construction

The existing stairs will be demolished and reconfigured. New construction will closely match the original construction. Floor framing will consist of ¾-inch plywood sheathing supported on 9.5-inch timber I- joists spaced at 16-inches on center. The joists will span the short direction of the stairwells and will be supported on a new 2x ledger nailed into the existing floor rim boards

The existing stairwells will be enclosed and heated. The ends of the stairwells will be enclosed with 2x6 stud walls.

The existing roof trusses over the stair wells will be removed and new framing will be installed to improve drainage in this area of the housing units. New framing will consist of either pre-engineered timber trusses or timber I joists spaced 24-inches on center.

Mechanical Room Additions

New mechanical rooms will be constructed against some of the housing units. Framing will consist of 24-inch deep joists supported on 2x6 wall framing at exterior walls. Where the joists abut an existing wall, framing will be supported either on new 2x walls or a post and beam.

The foundation will consist of a 4-inch concrete slab on grade with a dropped edge footing.

IV. MECHANICAL

Heating

The existing heating plant consists of two Weil McLain Model MGB-25 boilers. The units are over 25 years old and relatively inefficient gas-fired natural-draft boilers. The existing central boiler plant will be replaced with new individual boilers at each building. New boiler rooms will be constructed at buildings 2 through 6 and house two high efficiency condensing boilers sized at 50% of the load each. New boilers will be provided at MAC 1 in the existing boiler room, some of the existing boiler room will be available for additional storage space as the new boiler plant will have a smaller footprint than the existing boiler plant.

To take advantage of the higher boiler operational efficiencies we will review water temperature control reset strategies to allow lower return temperatures. The Basis of Design boilers are Burnham APEX 800 boilers for all buildings, with a gas input of 800 MBH.

Heating pumps will be Grundfos in accordance with UAA design standards.

Construction phasing will be taken into account for the boiler system layout. The individual boilers rooms will allow for easily phasing construction while keeping the remainder of the buildings' heating systems functional.

The baseboard in the living units will be replaced with new baseboard enclosures that extend wall to wall. The existing baseboard enclosures were not wall to wall so branch piping will need to be extended to serve the longer baseboard runs. We will size the baseboard to provide adequate heating capacity on a decreased water temperature. A lower glycol return temperature will allow the new condensing boilers to operate more efficiently.

Cabinet unit heaters will be provided at the new stairwell entrances.

Ventilation

The existing ventilation units at each building will be demolished. New Heat Recovery Ventilators will be provided at each "stack" of units. The new HRVs will be provided in the storage room of the first floor unit, and serve that unit along with the living units above it. The new HRVs will provide ventilation in compliance with ASHRAE STANDARD 62.2 'Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings'. Our design will also comply with AHFC's amendments to ASHRAE 62.2 per the Building Energy Efficiency Standard (BEES).

Each kitchen will be provided with new exhaust fans. The toilet exhaust fans will be reused. Due the new enclosed stairwell, existing duct routing and wall caps will need to be replaced.

Plumbing

Mechanical work will also include replacement of plumbing fixtures. All bathroom and kitchen plumbing fixtures will be replaced. Where required, fixtures will be ADA compliant. All new bathroom fixtures will be low-flow and commercial grade fixtures to help achieve water savings and reduce maintenance. Domestic water and waste piping will be reused to the extent possible. Hot and cold water piping will need to be extended in the crawlspace of each building to the new boiler rooms

New faucets will be Delta, the kitchen sinks will be 18-19 gauge stainless steel, and the toilet room lavatories will be enameled cast iron in lieu of vitreous china for increased life.

New internal roof drainage will be provided for the new flat roofs over the enclosed stairwells. Rainleaders piping will be exposed in the stairwell, drop below grade within the building, and connect to the existing storm drainage piping onsite outside the building.

New gas meters will be provided at the new boiler rooms to serve the new boilers. The existing meter at building 1 will be replaced with a smaller meter to accommodate the decreased connected load.

Domestic hot water will be provided with new indirect fired water heaters at all the new boiler rooms.

The existing arctic piping between all the buildings will be abandoned in place.

Controls

A new Direct Digital Control system shall be installed throughout the project to provide monitoring and alarms for boilers and pumps. Baseboard zones, cabinet unit heaters, and HRVs will not be on the DDC, new electric/electronic controls will be provided for that equipment.

V. ELECTRICAL

SITE

Provide new 90kW, 208Y/120V, three phase generator and new 400A, 208Y/120V, three phase automatic transfer switch (ATS), both to be located in MAC1 mechanical room. All house panels and new boiler room loads (thru house panels) shall be connected to the generator via MAC1 main distribution panel (MDP).

Provide new 400A 208Y/120V three phase MDP located in MAC1 existing mechanical room and demo existing electrical panel and manual transfer switches.

MAC2 thru MAC6: replace existing house panels located on exterior of buildings and provide new 100A, 208Y/120V, three phase panels with 24-circuits. The MDP will sub feed the house panels with new conductors using existing conduit. Each house panel will sub feed their respective mechanical loads using new conduits routed thru existing crawl space.

Repair the existing head bolt heater pedestals and receptacles. Repair or replace the exterior panel board doors. Replace the exterior stair and canopy lights with energy efficient LED fixtures. Replace pathway lighting with LED fixtures and new poles.

HOUSING

Power

Replacing all the receptacles by providing with GFCI where code required, arc flash circuit breakers in the bedroom as required and providing the tamper resistant receptacles as required by code. Install two additional duplex receptacles in the bedroom as recommended in the 2008 condition survey. Wire mold shall be used to add the two new receptacles and will use existing receptacle circuits.

Provide a hardwired connection for each buildings DDC automation panel.

As part of the kitchen remodel the receptacle will be moved to be above the new countertop backsplash.

Lighting

Provide energy efficiency energy star rated light fixtures to meet or exceed the LEED requirements. Replacing the exterior canopy fixtures with an LED source fixture. Replace the interior light fixture with the linear fluorescents and LED down-lights. Provide an additional linear fluorescent light fixture in the living room and upgrading the bathroom fixture. Provide battery powered emergency lighting units where required.

Special Systems

Provide intercom system for MAC1 thru MAC6. The system will allow residents to unlock main entrance stairway door from their apartment.

Provide new horn/strobe, heat detector and manual pull station in new mechanical rooms.

Clean detectors and re-install in the existing locations. Replace the smoke detector near the shower with a heat detector.

Replace the telecommunication jacks (telephone and data) and test existing cable to make sure we can reuse them.

Provide panic/emergency stations (campus 911) shall be located thru out courtyard space between MAC1 thru MAC6.

Energy Efficiency

Light fixtures that carry the ENERGY STAR label have met or exceeded a long list of tests for energy efficiency and reliability and we will insist upon energy star rating.

Currently LED fixtures are more energy efficient than their compact fluorescent equivalent. Linear T8 fixtures with electronic ballasts are the most energy efficient when compared to LEDs for interior application. With this in mind our overall philosophy will be the use linear fluorescents where possible, keeping in mind the aesthetics, and to use LED fixtures where typically the compact fluorescent would be used.

VI. CIVIL

General

The UAA MAC Housing is located on a portion of Tract A, UAA Seawolf Subdivision, which is a 41.6 acre site. The housing site is bounded by Elmore Road to the east, Wellness Street to the west and Sharon Gagnon Lane to the north. The project site improvements consists of regrading the existing pathways

within the MAC Housing area, providing adequate fire access lanes, installing new storm drain pipe and structures, and maintenance to the existing storm drain system.

Existing Site Conditions

The site is currently developed. There are 6 housing within the MAC Housing area. Asphalt pathways provide pedestrian connectivity between the housing and the surrounding development. The asphalt pathways do have cracking, heaving, and settling. In some grassed areas, settlement has occurred, which creates areas where storm water runoff can pond.

Some of the asphalt pathways appear to have slopes greater than 5 percent without hand rails, which does not meet current ADA guidelines. The pathway is also intended to provide fire access through the housing complex. Currently, the asphalt pathway is 10 to 12 feet wide. Fire lanes are to be a minimum of 20 feet wide and for buildings over 30 feet high; one side of the building needs to have a fire lane that is 26 feet wide. The existing pathway does not meet current fire access requirements.

The MAC Housing area does have an underground storm drain system. MAC Housing 1 through 4 are served by a 12 inch CMP that extends along the pathways and discharges to Chester Creek. There are several catch basins located within the area of housing 1 through 4. However, some of the catch basins are no longer located at low points or are overgrown with vegetation. Based on record drawing information, it does appear that an oil/grit separator was installed upstream outfall to Chester Creek. However, the oil/grit separator was installed in 1985. The oil/grit separator is outdated and would need to be replaced.

A second storm drain system serves MAC Housing 5 and 6. The storm drain catch basins connect to an outfall to Chester Creek. It does not appear that an oil/grit separator was installed prior to discharging to Chester Creek Trail.

The outfalls in both locations are overgrown and slightly buried. The outfalls should be exposed to provide proper flows through the storm drain system. During the MAC Housing Condition Survey done by McCool Carlson Greet in 2008, it was noted that all of the catch basins were inspected and found to contain a significant amount of silt and debris. All debris and silt should be removed from the on-site storm drain catch basins and manholes.

Demolition

All of the existing pathways and lighting within the UAA MAC Housing area will be removed to accommodate the proposed pathway layout. Landscaping shall be removed as noted on the landscape plan. A portion of the parking area to the north of housing 1 will need to be removed and replaced for the installation of a new storm drain line.

Storm drain catch basins 6 and 7 will be removed along with the storm drain lines that connect storm drain catch basins 6 and 7 to the main storm drain line. Due to regarding of the site, the storm drain catch basins will no longer be located at low points. A portion of storm drain pipe will need to be removed to the southwest of storm drain catch basin 3 to accommodate an oil/grit separator. A portion of storm drain pipe will be removed to the east of storm drain manhole 8 to accommodate an oil/grit separator. The grated cover of storm drain catch basin 5 will be removed and replaced with a storm drain manhole lid

Some of the on-site storm drains catch basins and storm drain and sewer manholes will need to be adjusted to accommodate the new grading plan for the area.

Site Work

A new 12 foot wide asphalt pathway with concrete edging will be constructed along the west and north side of the housing complex to provide pedestrian connectivity between the housing. Six foot wide

asphalt pathways will be constructed along the south side of housing 1 and to the west of housing 1 and 5 to provide connection to the main 12 foot wide pathway. The pathway will also serve as the fire access to the housing complex.

A 14 foot wide area will be constructed using grass pavers adjacent to the 12 foot wide pathway to provide for a 26 foot wide fire lane that will extend from the west side of the housing area to the east side of the housing area. New swing gates will be installed at the entrance and exit of the fire lane.

A plaza area will be constructed to the west of housing 1. The plaza area will be connected to the main pathway via the 6 foot wide asphalt pathway.

Grading and Drainage

The finished floor of the housing varies. The existing elevation of the pathways to the buildings is approximately 18 inches below the finished floor of each building. The grading and drainage plan raises the pathway elevation outside of the building approximately six inches where feasible. The remaining elevation difference is addressed with a ramp inside the building. All pathways are graded to have a running slope of 5 percent or less and no more than a 2 percent cross slope to meet accessibility requirements.

Two new storm drain catch basins will be located at low points along the south side of housing 5. The existing storm drain catch basins will be utilities for the remaining storm drain system. The areas around storm drain catch basin 4 will need to regraded to allow for positive drainage to the existing catch basin. As previously discussed, the existing storm drain catch basins and manholes need to have all debris and silt removed.

There are existing swing gates for fire access at the west and east end of the housing area. The gates are in poor condition and should be replaced.

Utilities

As mentions previously, oil/grit separators are proposed along each of the storm drain systems to treat storm water runoff prior to discharging to Chester Creek. New storm drain lines will be installed along the north side of housing 1 and housing 5 to tie the new roof leaders into the on-site storm drain system. Roof leaders will be extended to the existing storm drain line for housing 2 through 4 and 6.

Earthwork Requirements

A geotechnical report was provided for the UAA Housing Addition done by DOWL Engineers in 1996. The housing addition is located to t he north of the MAC Housing, although there was information in the soils report from test borings done within the MAC Housing was from 1984.

All organics and debris should be completely removed from the traffic areas, parking areas, and pathways and replaced with structural fill. Since the pathways will be for pedestrian and fire access, the following minimum section is recommended:

- 2 inches of asphalt pavement
- 2 inches of leveling course

In areas where the new pathway is located over existing pathways, the existing material is likely suitable for reuse. In areas where the new pathway is outside of the existing pathway footprint, the depth of fill material will vary depending on the soils classifications and could be up to 3.3 feet minimum of non-frost susceptible subbase (NFS). The grass pavers that will be used as part of the fire access may also require up to 3.3 feet of noon-frost susceptible subbase.

VII. LANDSCAPE

Existing Conditions on Site

Plants - The existing planting design is natural in character and uses plant species well-suited to Alaska. However, there are several concerns with the existing plantings. They no longer receive the necessary maintenance and they cause safety concerns, allowing moose to hide behind them and surprise the residents. Many of the larger, mature trees are near their peak life-expectancy and would be negatively impacted by building renovations and construction in the area. In general, we are recommending the removal of all existing plantings with the site improvements, to replace with something requiring less maintenance and allowing better visibility on site.

Soils

Planting soils existing on site were installed with the existing planting design. It is assumed that these are still of good quality and may be possible to be salvaged for use with proposed planting improvements. However, the quality is unknown and the soils likely have a very large amount of weed seeds accumulated within. It is recommended that to keep weeds out and maintenance low, new planting soils be brought in for all new plantings.

Topo

The site is relatively flat, although some grading around the building entries will need to be done to meet ADA guidelines. A low berm exists in the courtyard area that residents occasionally like to gather on. A depression or low point existing in the courtyard with a catch basin.

Snow storage

Winter snow removal is typically done with a bobcat or small truck and blade. When the site was visited in March, the entire courtyard area was being used for snow storage. Areas along pathways had significant depths of snow stored along them. Because most of the amenities are currently located alongside the pedestrian routes, most amenities like the grills, benches, and tables were all located under snow.

Sun

The site receives a lot of shade due to the height of the buildings. The area of best sun for resident outdoor use is in the courtyard area. While MAC 6, 4, and 3 all have good southern exposure, only the highest windows receive good sun due to the proximity of the dense natural vegetation along the creek.

Creek

The creek offers a nice natural element next to this dense development. It is viewed from the trail bridge crossings and the smoking area deck.

Existing Vehicular and Pedestrian circulation

Currently, Sharon Gagnon Lane is access from Elmore Road with a cul-de-sac at the end. With upcoming development for the UAA Arena occurring just north of this site, the road access will be reversed with access from the north and a cul-de-sac near the current site access from Elmore Road.

Site Use

Currently the site is used in fall, winter and spring months by UAA students who are on-campus residents. A large portion of the time students spend on campus is during winter months when most of the amenities are buried under snow. During summer months, the units are rented out to both students and non-students as well. With proximity to the Edward Lee Gorsuch Commons, the MAC Housing site is often a destination for a quick stroll for those visiting or attending a meeting at the Commons.

Proposed Character

In general, the proposed design is driven by function yet offers a complimentary aesthetic to the renovated buildings. We heard that reducing the maintenance needs for both snow removal and planting is key for any new proposed planting and site designs on campus. Straight lines allow for easy snow removal in winter and faster lawn mowing in summer. This plan offers a formal, simple layout of straight pathways and connections providing a modern campus feel that accents the architecture while keeping maintenance to a minimum.

Surfaces

The existing trails on site are asphalt and the layout is generally meandering throughout the site. We propose using asphalt trails and walks to keep costs lost but show the use of concrete edges to provide clean lines in keeping with the more formal layout of the circulation routes.

Concrete in the gathering area, around the amenities, offers an accent for important spaces. Using an integral color for concrete edges and walls adds even more accent to these spaces and has a bigger impact.

Grass pavers are proposed for fire lane surfacing that is not accommodated by the asphalt trails. This reduces the amount of pavement within the small courtyard space, but still allows for easy, mowable landscape maintenance. The fire lane will need to be kept free of snow in winter months, so seasonal 'edge of pavement' markers will need to be installed at the edge of grass pavers so limits of snow removal are clearly identified. These are easy to install and easy to replace from possible damage done by snow removal crews.

AMENITIES

Gathering Area

The proposed Gathering Area is shown approximately where the existing circular seating area is located, just outside the doors to the laundry facilities within MAC 1. This area is an active and sunny location for residents, making it the best spot for small get-togethers and people watching.

Fireplace

Because UAA Students residing in MAC Housing are primarily living here in the winter months, we wanted to create a space that is more not only attractive in summer but also inviting and appealing to use during fall, winter, and spring. We've found that creating a successful gathering area for a winter climate relies heavily upon having a warming element of some kind. While providing a fireplace may require many safeguards for student housing area like this one, we propose its inclusion at this point for discussion. There are many ways a heating element could be included in the gathering area space. Although they may not necessarily make the space enjoyable or usable during the depths of winter, they will extend the space's use further into the shoulder seasons. A fireplace (instead of a fire pit) makes the most sense for this area it offers greatest control for limiting the size of fuel (wood) being put into the fire while the body of the fireplace protects the fire pit from weather and snow build up. A fully-enclosed gas fireplace offers the most control. Access to fire can by controlled and regulated by the site managers or set up on a timer to turn off automatically, it also regulates the size of the fire. The potential problem with a gas unit comes up when residents want to start a fire and the controls are off or not accessible. A wood fireplace would allow residents more control over building a fire (assuming rules and regulations would be set in place by the University) but the relatively small opening for fuel could limit the size of fire.

Grill

Several grills are located around the existing site. It was noted that in winter these are covered up by snow storage and they are forgotten. Locating a central grilling stand in the main gathering area would consolidate the amenities in one area, allowing snow removal crews to focus their attention to this area only.

Emergency Call Station

One Emergency Call Station Tower will be located within the courtyard area.

Illuminated Seat Walls

Concrete seat walls with LED light fixture in an enclosure within the wall. A stainless steel panel with cutout patterns would be placed over the enclosure, allowing filtered colored light to pass through. These walls will provide colorful visual interest during dark, winter months when UAA students are residing in this facility. A small curb at the base of the wall will prevent snow-plow blades from running along the face of wall.

Building Entry Bench/Entry Signs

A seat wall with wood bench top and building signage will be located near the entry of each building, accenting the entries and helping with wayfinding. One will also be located at the northern-most sidewalk at MAC 1 where pedestrians will enter the site.

Bike Racks

Two 'Pi' Bike Racks from Landscape Forms will be provided under a canopy at each building entrance.

Trash

Dumpsters are used by residents of the facilities. One trash can will be located in the Gathering Area to ensure those using the grills and others visitors who may not live in MAC Housing have good access to a trash can.

Light Fixtures

There are existing light pole fixtures along the pathways on site. These will be removed and replaced with new light pole fixtures to better match the new architecture and located based on new circulation routes.

Sculpture

A possible location for future art element or sculpture is shown on the plans. This location accents the strength of the long, linear pedestrian spine that runs between the MAC Housing units.

Planting Design

The proposed planting design uses columnar trees to accent the renovated architecture. The vertical form of these trees offers a modern, simple aesthetic that complements the formal layout. It was noted that UAA prefers fern planting beds over shrub beds due to the reduced level of weeding required. Out of all the existing plantings on site, the fern plantings are the most successful in shading out the weeds and serve nicely as foundation plantings. We propose the use of linear native fern beds along the building foundation to continue this method of anchoring the building and keeping maintenance down. In places with more sun there are linear lines of ornamental grasses to add more texture and complement the fern plantings. The straight edges of the beds minimize mowing effort as well. Bright, hardy, drought-tolerant perennials are used in minimal locations to accent important spaces like the Gathering Area, building entries, or other pedestrian nodes. Aggressive groundcovers like Bishops Weed are proposed in areas where they can successfully out-compete weeds and yet are contained by concrete to prevent escape into the lawn areas. For more natural areas along the creek or backs of the buildings, the seed mix will include native wildflowers like Lupine, Fireweed, and Yarrow to add more visual interest but still keeping maintenance low. Some shrub plantings are included at important spaces for accent but were kept to a minimum to reduce the need for weeding.

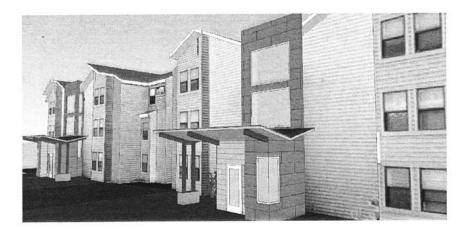
Pedestrian Circulation

In general, the main pedestrian routes have not been significantly modified from existing conditions. The building entry locations have not changed so the necessary pathways between them remain the same. The lines have been straightened out to ease snow removal and add to the formal campus character.

One major change to pedestrian circulation on site is with the directional change of Sharon Gagnon Lane. It currently enters the site from East to North. The new conditions will flip this access to the site so that vehicles (and sidewalks) will enter the site from the North and dead-end in a cul-de-sac to the east. With this more direct pedestrian and vehicular connection to the heart of campus, MAC 1 will now be the first building seen upon entering the site instead of the Commons. Accent amenities like the Illuminated Seat Walls and accent plantings will be placed in this area to create a sense of entry: a gateway to the site.

Vehicle Circulation

As this site focuses on interior site modifications, little is being done to change the existing vehicle circulation. The fire lane (also see Civil) is maintaining the existing route with access to MAC 1, 2, and 3 buildings from the northern parking lot and the access to MAC 4, 5, and 6 from Sharon Gagnon (access from this road near MAC 6). A fire lane 'T' or turnaround is provided between MAC 2 and 3 with surfacing being Grass Pavers to accommodate vehicle loads. The fire lane will have 12' paved surface and 14' grass pavers, a total of 26' width. There are 'pinch points' along this route, the first being between MAC 1 and MAC 2 where a truck is able to drive but not able to set up ladder trucks. The second pinch point is between MAC 4 and MAC 5. The fire truck still has full access to MAC 6 via the fire lane access off of Sharon Gagnon.

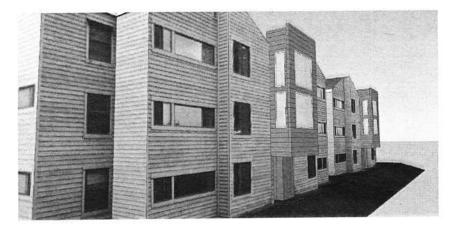




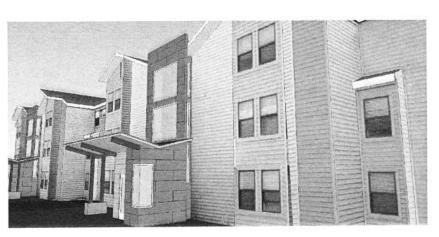


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EXTERIOR PERSPECTIVE - BACK ENTRY



EXTERIOR PERSPECTIVE - FRONT ENTRY

BDS
Bank Outs Select, Inc., 1310 C Steed Select 200

Barek Durst Selser, Inc. 3339 C Street, Sulte 200 Anchorage, Alaska 99503 P.907.552,6076 F.907.562,6075

CONCEPT DESIGN

UAA MAC HOUSING RENEWAL

Anchorage, Alaska

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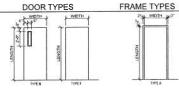
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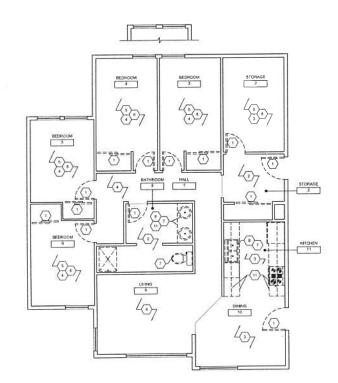
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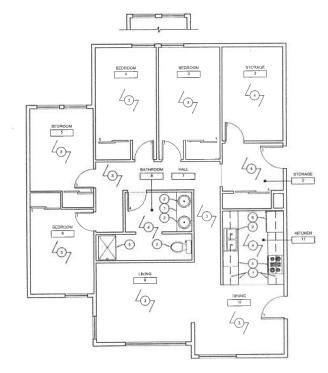
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- NOTE REFERENCE DEMOLITION NOTE REFERENCE
- gD SMOKE DETECTOR

Bezek Durst Seiser, Inc. 3330 C Streel, Sulte 200 Anchorage, Alaska 99503 P,907.547.6076 F,907.567.8635

BDS



ENLARGED DEMOLITION PLAN - TYPICAL UNIT 'A'



ENLARGED PLAN - TYPICAL UNIT 'A'

SCHEMATIC DESIGN

PROJECT TRUE UAA MAC HOUSING RENEWAL

model tocation Anchorage, Alaska

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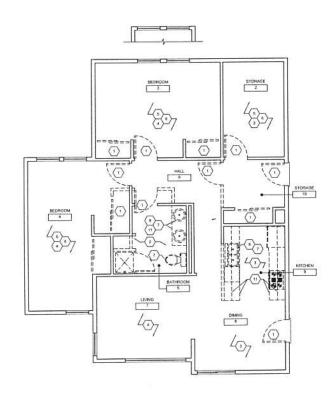
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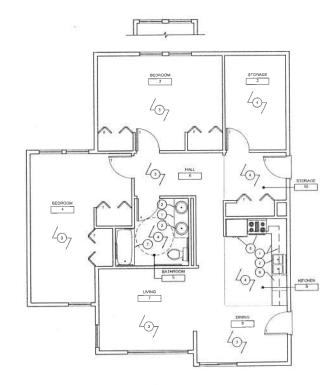
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gD SMOKE DETECTOR



ENLARGED DEMOLITION PLAN - TYPICAL UNIT 'B'



ENLARGED PLAN - TYPICAL UNIT 'B'

SCHEMATIC DESIGN

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BDS

Bezek Durst Selver, Inc. 3330 C Suret, Sulte 200 Anthorage, Alaska 99503 9,907,552,8076 F,907,562,8835

PROJECT TRUE **UAA MAC HOUSING** RENEWAL

PROMOTLOCATION Anchorage, Alaska



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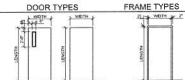
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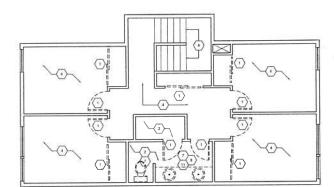
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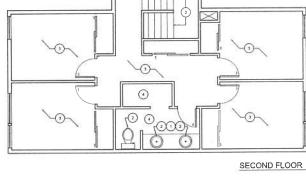
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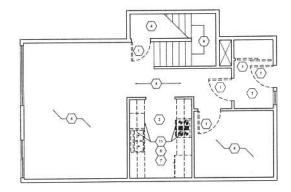




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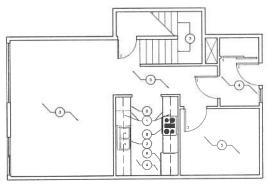
UAA MAC HOUSING RENEWAL

PROJECT LOCATION Anchorage, Alaska



FIRST FLOOR

ENLARGED DEMOLITION PLAN - TYPICAL UNIT 'C'



FIRST FLOOR

ENLARGED PLAN - TYPICAL UNIT 'C'



ENLARGED PLAN -UNIT 'C'

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