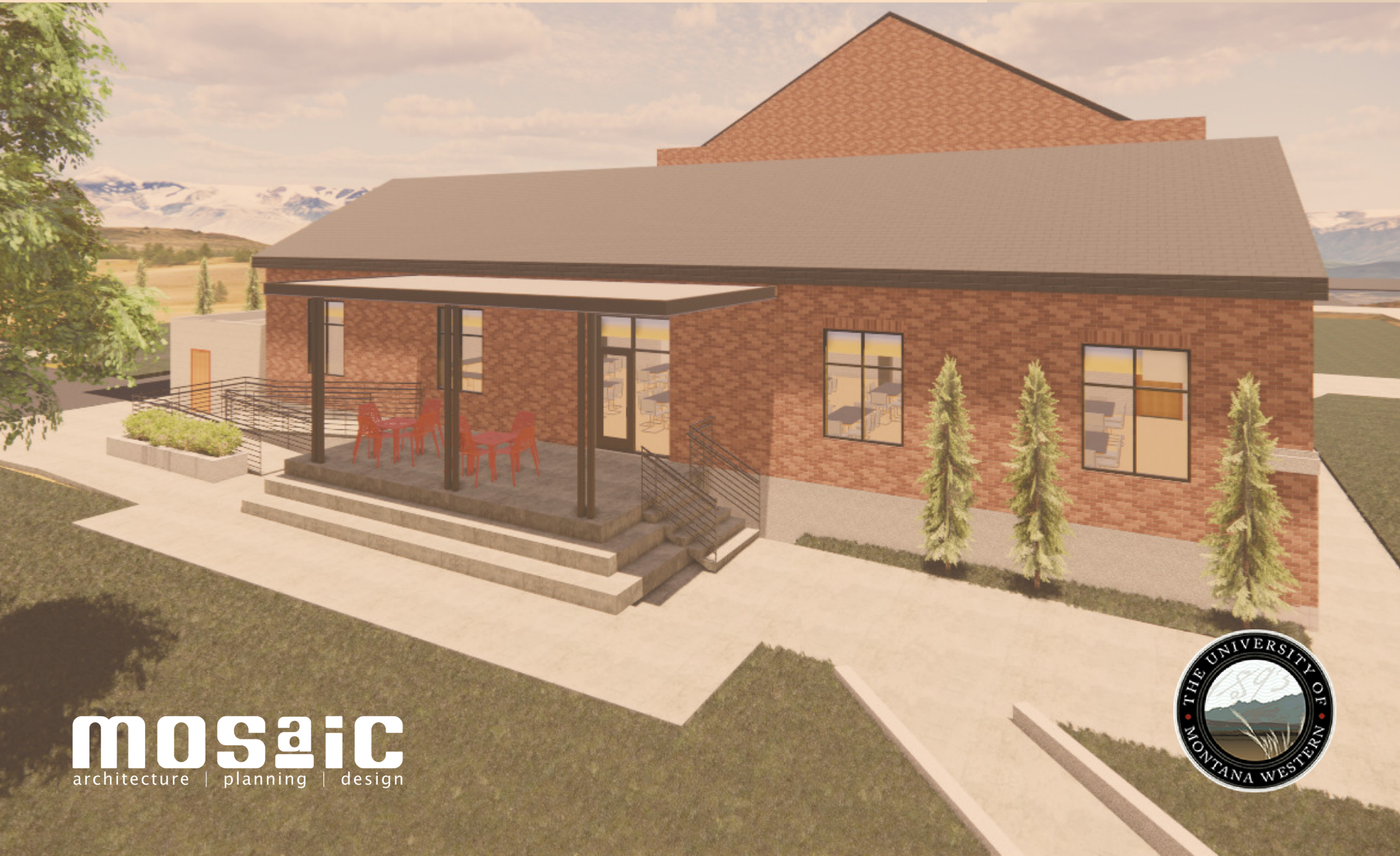
UM WESTERN YOUTH CHALLENGE DINING HALL



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FACILITY STUDY APPROVAL

Date of Approval: 4-8-2020

Project: UM Western Youth Challenge Dining Hall
Location: **UM Western Campus**, Dillon, Montana
Owner: **State of Montana**
Architect: **Mosaic Architecture, P.C.**, 428 No. Last Chance Gulch, Helena, MT

Project Phase Submittal: Feasibility Study

Based on the contract for UM Western Youth Challenge Dining Hall for the architectural services designated in the 'Standard Form of Agreement' between Mosaic Architecture and the The University of Montana Western, the work performed has been reviewed and found to be complete. The feasibility study phase for the UM Western Youth Challenge Dining Hall is acceptable and consistent with the owner's and user's functional, spatial, and aesthetic needs and desires. Furthermore, the design intent appears to meet the project goals defined by the administration and staff of the The University of Montana Western and Youth Challenge. The Date of Approval designated above shall establish the milestone beyond which major changes to the design will be considered additional work.

MOSAIC ARCHITECTURE
Architect

By: _____
Ben Tintinger, President Date

THE UNIVERSITY OF MONTANA WESTERN
Representing the Owner

By: _____
, The University of Montana Western Date

SUMMARY

Mosaic Architecture of Helena was engaged to complete a study of the UM Wellness Center in the Summer of 2020. The intent of the study was to gain an understanding of the existing conditions, identify deficiencies, and develop a workable plan and potential cost for improving the facilities and adjacent grounds. This study has now evolved into making several upgrades to the space for the use of the Montana Youth Challenge Academy.

Mathews Hall was built in 1920, and is the second oldest building on campus. As one of the primary dorms on campus, the building includes the campus dining facility as well as other campus use amenities. Adjacent to Mathews Hall is the Business and Technology Building and at the northern most end of it is the Wellness Center. The Wellness Center once housed a pool but it has been covered up and was the Wellness Center. After this use the space evolved again and it iw now used as the dining hall for the Montana Youth Challenge Academy. Within the current Dining Hall, there is no way to access the hall without passing through the dish and storage rooms. These spaces are not utilized as effectively as they could be due to the fact that they also have to function as a hallway.

Existing Building Conditions were assessed using the following criteria - life-safety, functionality, student comfort, and general material/construction conditions. These are the high level findings:

- General Material/Construction
    - Windows too high to allow views
    - Dated materials, fixtures, and equipment
    - Poor use of space in some areas
    - Poor lighting throughout the spaces

Along with getting the space to meet ADA and egress requirements there is also a desire to open up the dining hall, allowing views and connecting it to the lawn outside via a storefront door and a patio space. This outdoor patio space could be utilized for classes at times and for lounging, dining and student congregation at others. Renovating and modernizing the space would includes covering existing beams, introducing acoustic tile on the ceiling and new lighting.New windows with lower sills and the storefront door with patio access would help with the lighting in the space, and would make the space feel larger.

The lawn outside the workout room, could also be better utilized. The lawn is currently tucked back off main access routes, and has no paths to lead students through the space and towards the east end of Mathews Hall. Routes to

the east are interrupted by dumpsters and service vehicles discouraging student use. By extending the lawn, moving the dumpsters and adding some additional pathways, students would be drawn across and welcomed onto the lawn, activating the space. Additionally, students leaving through the rear of the dining hall have more routes to get where they need to go-and a comfortable place to eat upon leaving the space.

The estimated project cost is included in this report. The cost reflects the total anticipated for design and development, demolition and reconstruction. It does not include work to replace or upgrade services to the building as these are assumed to be adequate. The estimate cost is just under $314,000. The cost breakdown of each area is shown to help provide more accuracy and to quickly identify an affordable phased approach if needed.

In conclusion, based on observations of existing conditions, opportunity to improve the building code and ADA compliance, the functional, aesthetic, and quality of student on-campus living, we recommend renovating and fully utilizing the spaces for the Montana Youth Challenge Academy. In addition to the plans for the hall we have also enclosed a plan of how to better utilize the area between Mathews Hall and the Business and Technology Building and making a more defined student route around the backside of the Buisness and Technology Building.

SUMMARY

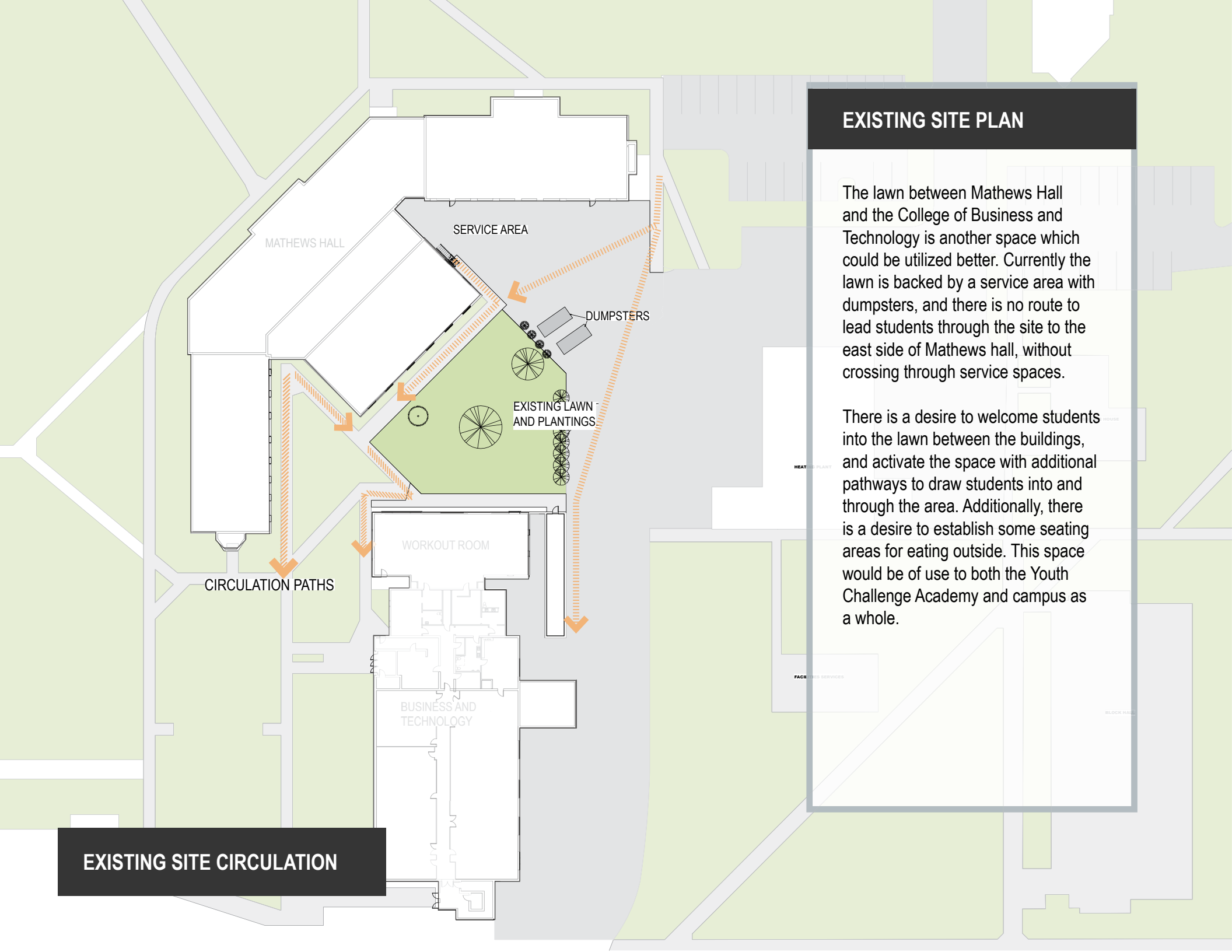
The north side of the building has no connection to the space outside nor does it allow passerbys to know what happens in the space.

Siding is dated.

Dumpsters occupy most of the area, there is no clear pathway through the space. Walking through or utilizing this space as a student seems discouraged.

Small planting barrier exists, but there is no reason to go through the space, the route is blocked by service items.

EXISTING EXTERIOR PHOTOS

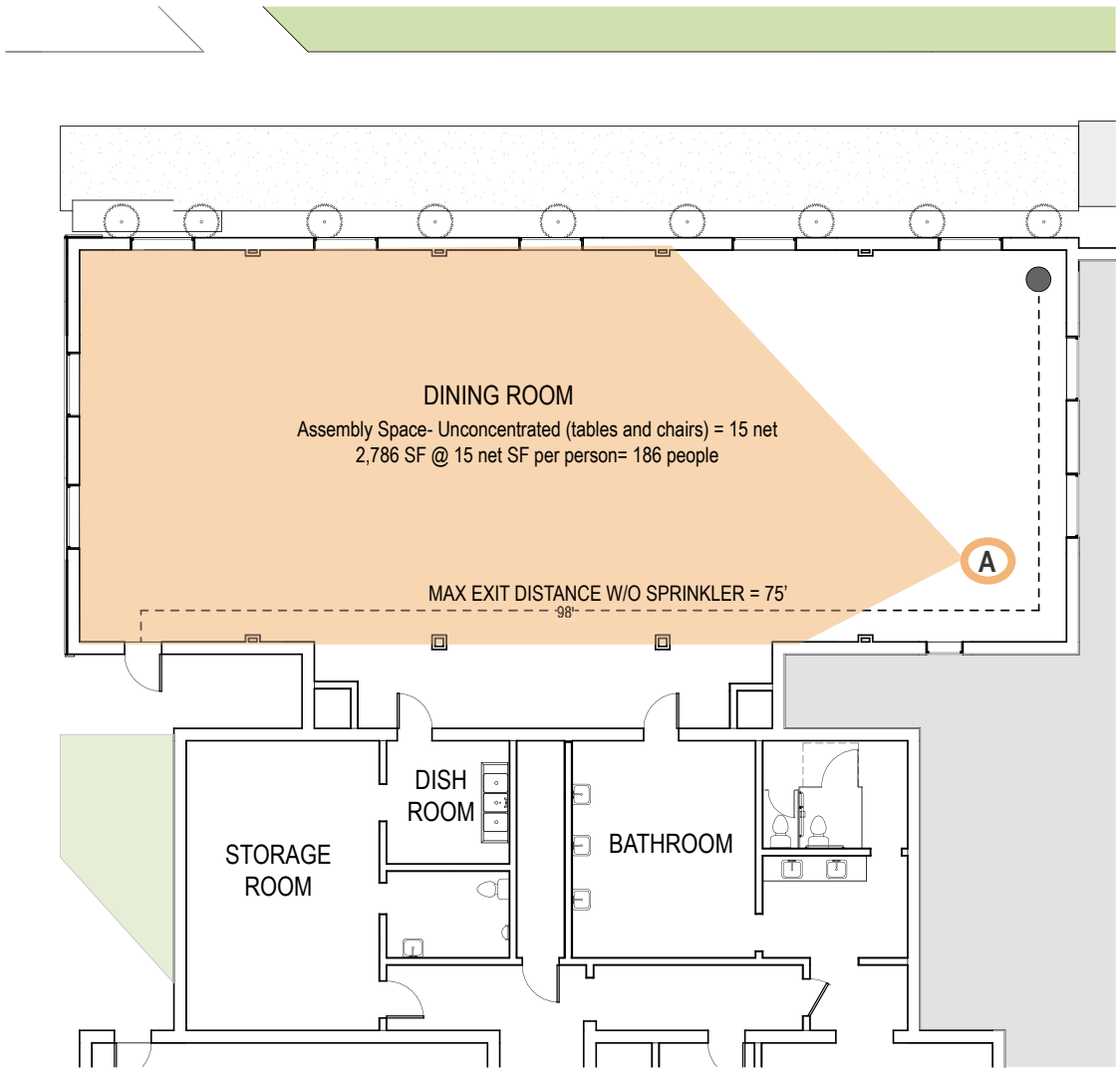


EXISTING SITE CIRCULATION

EXISTING SITE PLAN

The lawn between Mathews Hall and the College of Business and Technology is another space which could be utilized better. Currently the lawn is backed by a service area with dumpsters, and there is no route to lead students through the site to the east side of Mathews hall, without crossing through service spaces.

There is a desire to welcome students into the lawn between the buildings, and activate the space with additional pathways to draw students into and through the area. Additionally, there is a desire to establish some seating areas for eating outside. This space would be of use to both the Youth Challenge Academy and campus as a whole.

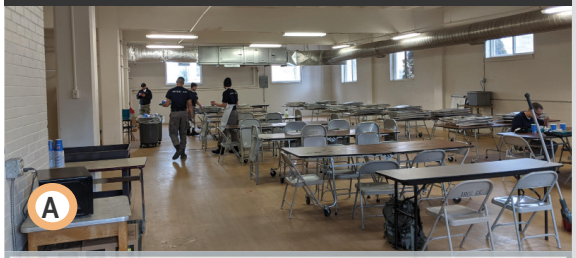


CURRENT BUILDING STUDY

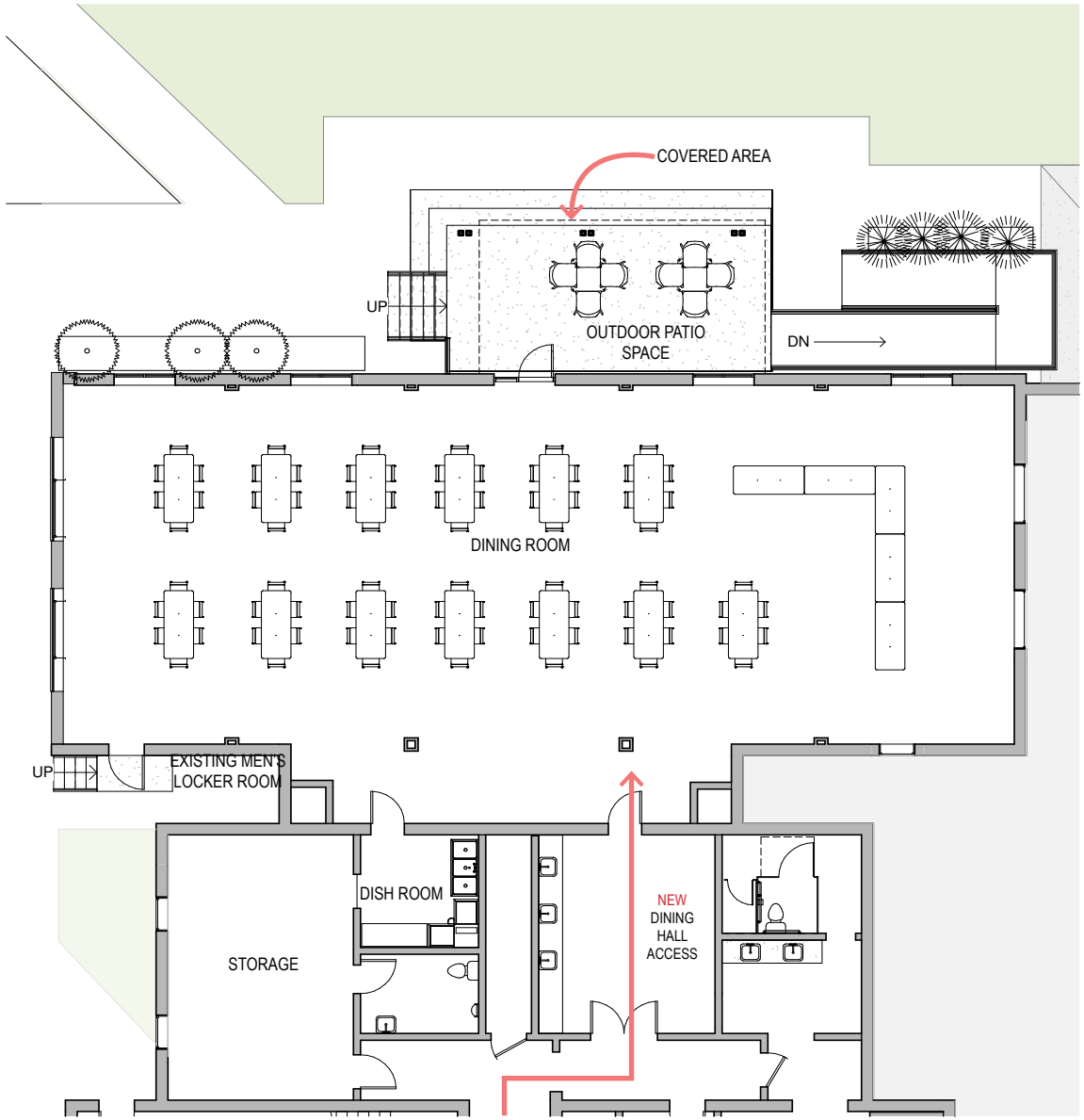
In looking at the Wellness Center at UM, a few main goals/ideas are identified.

1. The current Youth Challenge Dining Hall does not meet required egress requirements. The occupant load of the room is 186.
2. Rooms with an occupancy of 50+ require 2 egress doors, which swing in the direction of travel, and do not pass through other spaces.
3. Current entry into the space requires going through a storage and a dish washing room, this decreases the effectiveness of both these space as they essentially become big hallways
4. The current window sills sit at 5'-4", this does allow light into the space but it provides no views, and makes the space feel very isolated

CURRENT DINING ROOM



Windows are too high for views, space is echo filled and loud, and no definition to guide usage of the space.



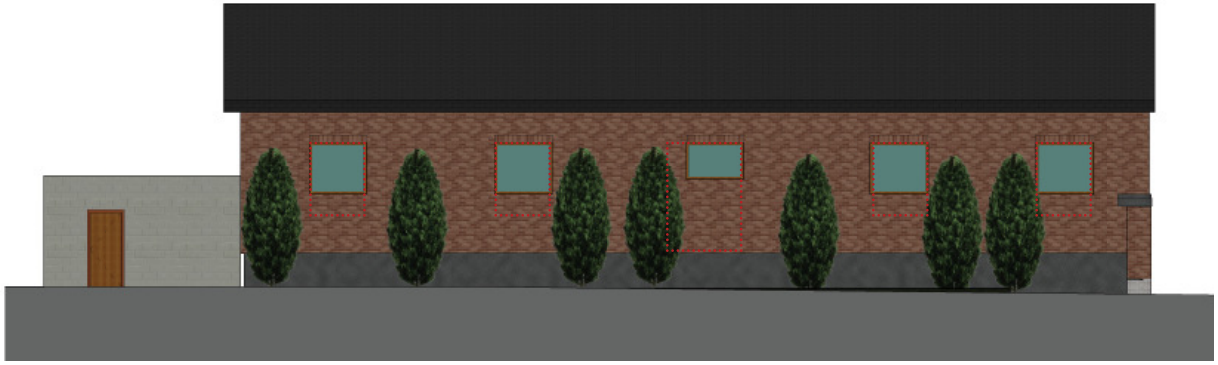
BUILDING LAYOUT

The remodel of the space focuses on expanding the windows and lowering the sills. The window sills will be brought down to 3 feet. This allows visual connection to the outside, but keeps the sill high enough to allow tables to be pushed against the wall.

Additionally one window is removed and a storefront door is put into the space. The door and the ramp can be used for service activities in addition to having a more accessible routes.

There is the possibility to create better access to the space through making the access hall/hand washing station the entryway into the hall. We have done and seen this scenario at other dining halls and it works well. Opening up the storage room and dish room to be used for those specific purposes. Moving the sink and adding a corner dishwasher into the room would also be undertaken at this time.

The bathroom remains accessible from the hallway as it was previously.



EXISTING ELEVATION

FUTURE ELEVATION

EXTERIOR ELEVATIONS

In the current elevation the building is closed off from the exterior and the occupants of the space are not part of the activities outside. There currently isn't even a visual linkage between the spaces.

With the exterior remodel of the building the sill of the windows are dropped to 3'. Views and visual access between the spaces is established.

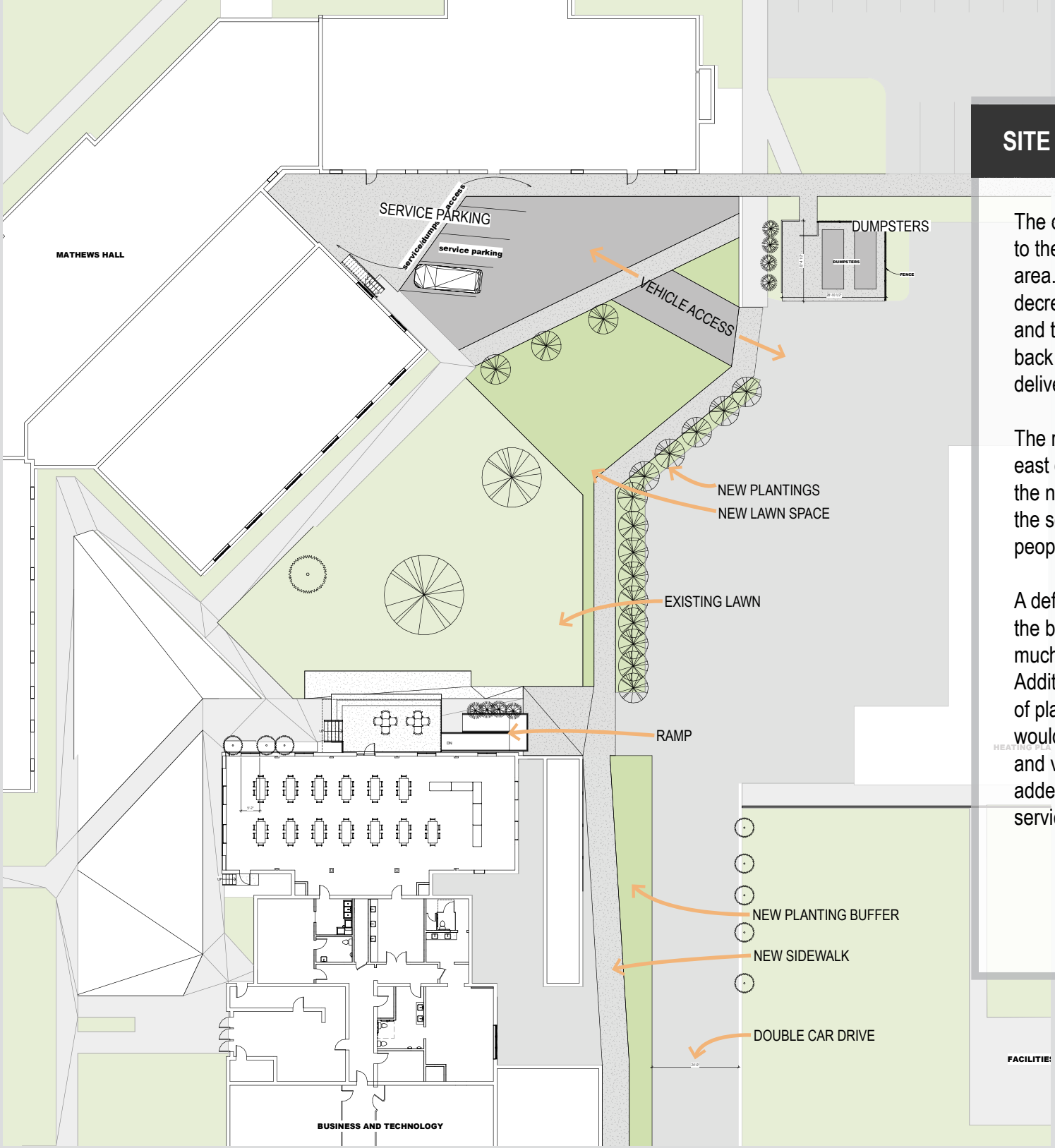
Adding a storefront door not only brings the space up to code and allows safe egress in an emergency situation, but allows access to the lawn and creates additional service routes from the space. The exterior patio space allows seating at tables and chairs and seating around the edges of the patio. This seating is not just for occupants of the dining hall but for occupants of Mathews Hall and all surrounding spaces.

DINING ROOM

New windows have a sill height of 3' allowing someone to easily see out the window while sitting or standing. The center window is expanded into a storefront door. All beams across the ceiling are to be wrapped in gyp. board, the center bay of the wall and the columns to break up the space. The ceiling would have cleanable acoustic panels fixed to it throughout the space.

EXTERIOR SPACE

The patio outside the dining hall space has seating wrapping around the edges of the patio and the ramp. The ramp has been shifted to the far east end of the building to use for service uses in addition to being an accessible entrance. There are stairs coming up from the corner for easy access from both sides.



SITE LAYOUT-OPTION 1

The dumpsters will be moved farther to the north and placed into a fenced area. The service area for trucks is decreased but is still easily accessible and there is still plenty of room to back a supply truck in for kitchen deliveries.

The row of shrubs or trees on the east of the site will be extended along the new lawn and used to buffer the service areas from the area for people to congregate.

A defined walk down the East side of the buisness building would create a much friendlyier pedestrian walkway. Additionally if we were to add a buffer of plantings, be it grass or shrubs it would further seperate the pedestrian and vehicle routes. With both of these added there is still a 24' drive for service vehicles.

COST ESTIMATE

UM Western - Youth Challenge Dining Hall — 4/8/2021

Project Budget Estimate

A. Administrative

Administrative						
UM Western Facilities PM Costs	1 LS	@	$15,000.00 PER	LS	=	$15,000.00
Trade Support Costs	1 LS	@	$5,000.00 PER	LS	=	$5,000.00
Printing/fees/ads/etc.	1 SF	@	PER	SF	=	$0.00
Data Systems	0 LS	@	PER	LS	=	$0.00
Phone Systems	0 LS	@	PER	LS	=	$0.00
Security Systems	0 ST	@	PER	ST	=	$0.00
					ADMINISTRATIVE SUB TOTAL	$20,000.00

B. General Work

Demolition	544 SF	@	$33.97 PER	SF		$18,480.00
Dining Hall - Miscellaneous	300 SF	@	$7.50 PER	SF	=	$2,250.00
Window & door cuts	94 SF	@	$45.00	SF	=	$4,230.00
New Hallway Space	150 SF	@	$30.00 PER	SF	=	$4,500.00
Patch and Repair	1000 SF	@	$5.00 PER	SF	=	$5,000.00
Sink relocation	1 LS	@	$2,500.00 PER	LS	=	$2,500.00
					DEMOLITION SUB TOTAL	$18,480.00

C. Building Remodel — 2950 SF — $33.20 per SF

DINING ROOM	2700 SF	@	$27.64 PER	SF	$74,620.00
Wall prep	2600 SF	@	$2.00 PER	SF	$5,200.00
Beam Boxes	1200 SF	@	$3.50 PER	SF	$4,200.00
Acoustic Ceiling Panels	1050 SF	@	$5.00 PER	SF	$5,250.00
Windows (Aluminum)	4 CT	@	$2,100.00 PER	CT	$8,400.00
Storefront	66 SF	@	$70.00 PER	SF	$4,620.00
Electrical	2700 SF	@	$12.50 PER	SF	$33,750.00
Doors/Hardware	1 CT	@	$1,500.00 PER	CT	$1,500.00
Painting	2600 SF	@	$1.50 PER	SF	$3,900.00
General/Accessories/Cleaning	2600 SF	@	$3.00 PER	SF	$7,800.00

ENTRY HALL	150 SF				$14,625.00
Floor/Wall prep	350 SF	@	$2.00 PER	SF	$700.00
Walls	20 LF	@	$25.00 PER	LF	$500.00
Ceilings	150 SF	@	$3.50 PER	SF	$525.00
Electrical	150 SF	@	$12.50 PER	SF	$1,875.00
Flooring	150 SF	@	$11.00 PER	SF	$1,650.00
Doors/Hardware	1 CT	@	$1,500.00 PER	CT	$1,500.00
HVAC	150 SF	@	$45.00 PER	SF	$6,750.00
Painting	450 SF	@	$1.50 PER	SF	$675.00
General/Accessories/Cleaning	150 SF	@	$3.00 PER	SF	$450.00

DISH ROOM	100 SF				$8,700.00
Floor/Wall prep	300 SF	@	$2.00 PER	SF	$600.00
Walls	10 LF	@	$25.00 PER	LF	$250.00
Plumbing — dishwasher plumbi	1 CT	@	$2,500.00 PER	CT	$2,500.00
Dishwasher	1 CT	@	$4,000.00 PER	CT	$4,000.00
Painting	300 SF	@	$1.50 PER	SF	$450.00
General/Accessories/Cleaning	300 SF	@	$3.00 PER	SF	$900.00
				BUILDING REMODEL SUB TOTAL	$97,945.00

D. Exterior Improvements — 1300 SF — $58.77 per SF — AREA AROUND PATIO NOT ENTIRE SITE

Concrete Patio and Stairs	1300 SF	@	$45.32 PER	SF	$58,910.00
Concrete Demo	22 CY	@	$120.00 PER	CY	$2,640.00
Excavate & Fill	173 CY	@	$15.00 PER	CY	$2,600.00
Footing and foundation Walls	80 LF	@	$120.00 PER	LF	$9,600.00
Concrete stairs-Cast in place	30 LF	@	$60.00 PER	LF	$1,800.00
Concrete Seat Steps -Cast in place	73 LF	@	$90.00 PER	LF	$6,570.00
Concrete Slab	400 SF	@	$6.50 PER	SF	$2,600.00
Ramp	40 LF	@	$775.00 PER	LF	$31,000.00
General/Accessories/Cleaning	700 SF	@	$3.00 PER	SF	$2,100.00

Patio Roof					$12,390.00
Steel columns	54 LF	@	$35.00 PER	LF	$1,890.00
Steel framing	250 LF	@	$4.00 PER	LF	$1,000.00
Roof Framing	500 SF	@	$6.00 PER	SF	$3,000.00
Roof Decking	500 SF	@	$13.00 PER	SF	$6,500.00
Electrical	0 SF	@	$12.50 PER	SF	$0.00

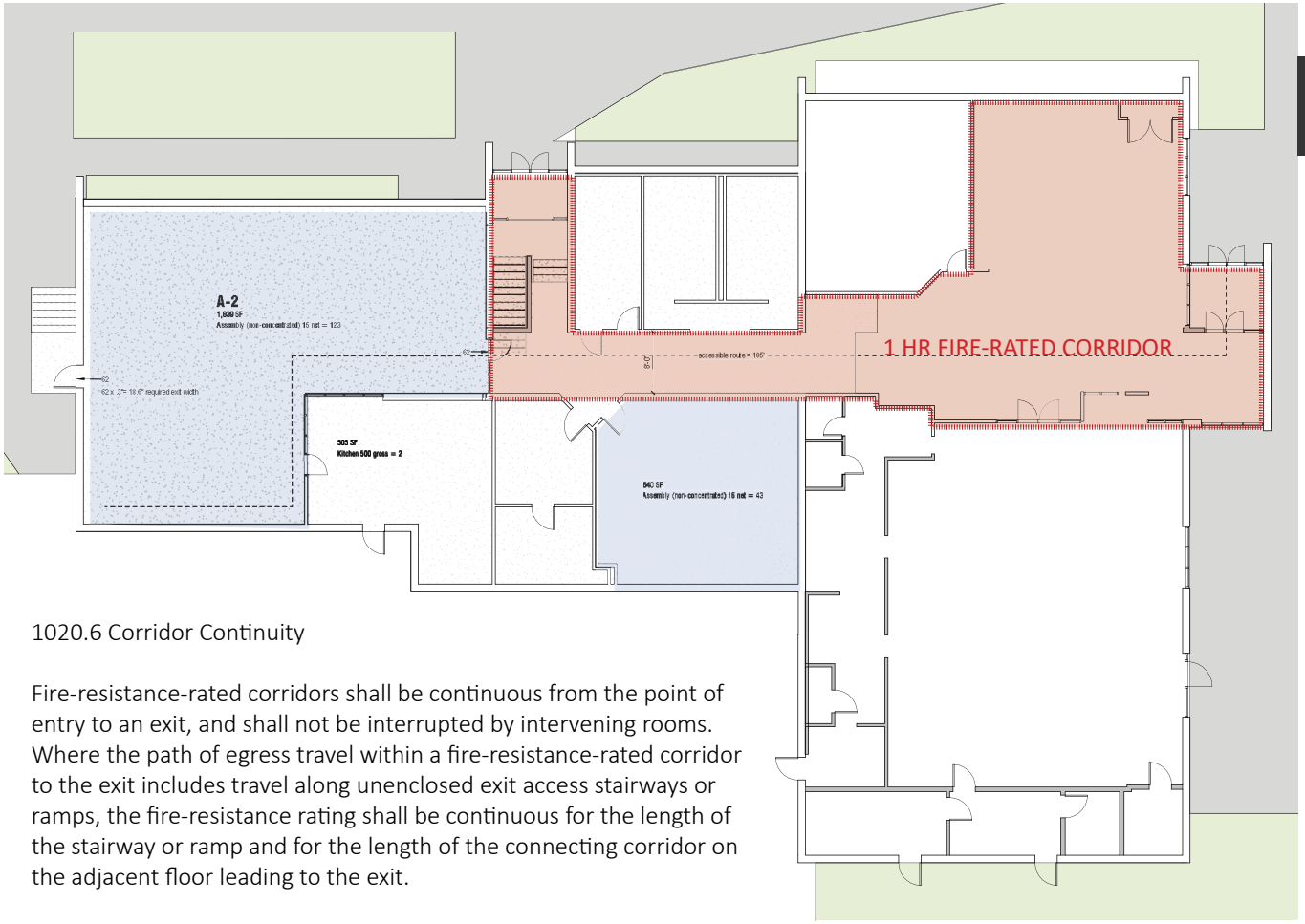
SITE WORK					$5,100.00
Concrete paths	80 LF	@	$32.50 PER	LF	$2,600.00
Soil placement & grading	50 SY	@	$10.00 PER	SY	$500.00
Landscape	2 allow	@	$1,000.00 PER	allow	$2,000.00
				EXTERIOR IMPROVEMENTS SUB TOTAL	$76,400.00
				TOTAL OF ABOVE	$212,825.00

General Conditions	7.00%	$14,897.75
Overhead & Profit	10.00%	$21,282.50
Contingency	12.00%	$25,539.00
Testing	0.50%	$1,064.13

PROJECT BUDGET — SUB TOTAL BUILDING CONSTRUCTION — $275,608.38

DEVELOPMENT COSTS		
ESTIMATED PROFESSIONAL FEES	12.00%	$33,073.01
Hazardous Materials Investigation		$5,000.00
Site Survey (interior model)		Verify
Geotech Investigation	N/A	
Civil Engineering		
Fire Protection Design		
Fundamental Commissioning Services	N/A	
Interior Design/Furnishings procurement	N/A	
	DEVELOPMENT COSTS SUB TOTAL	$38,073.01

TOTAL INCLUDING CONTINGENCY — $313,681.38



1020.6 Corridor Continuity

Fire-resistance-rated corridors shall be continuous from the point of entry to an exit, and shall not be interrupted by intervening rooms. Where the path of egress travel within a fire-resistance-rated corridor to the exit includes travel along unenclosed exit access stairways or ramps, the fire-resistance rating shall be continuous for the length of the stairway or ramp and for the length of the connecting corridor on the adjacent floor leading to the exit.

Exceptions:
Foyers, lobbies or reception rooms constructed as required for corridors shall not be construed as intervening rooms.

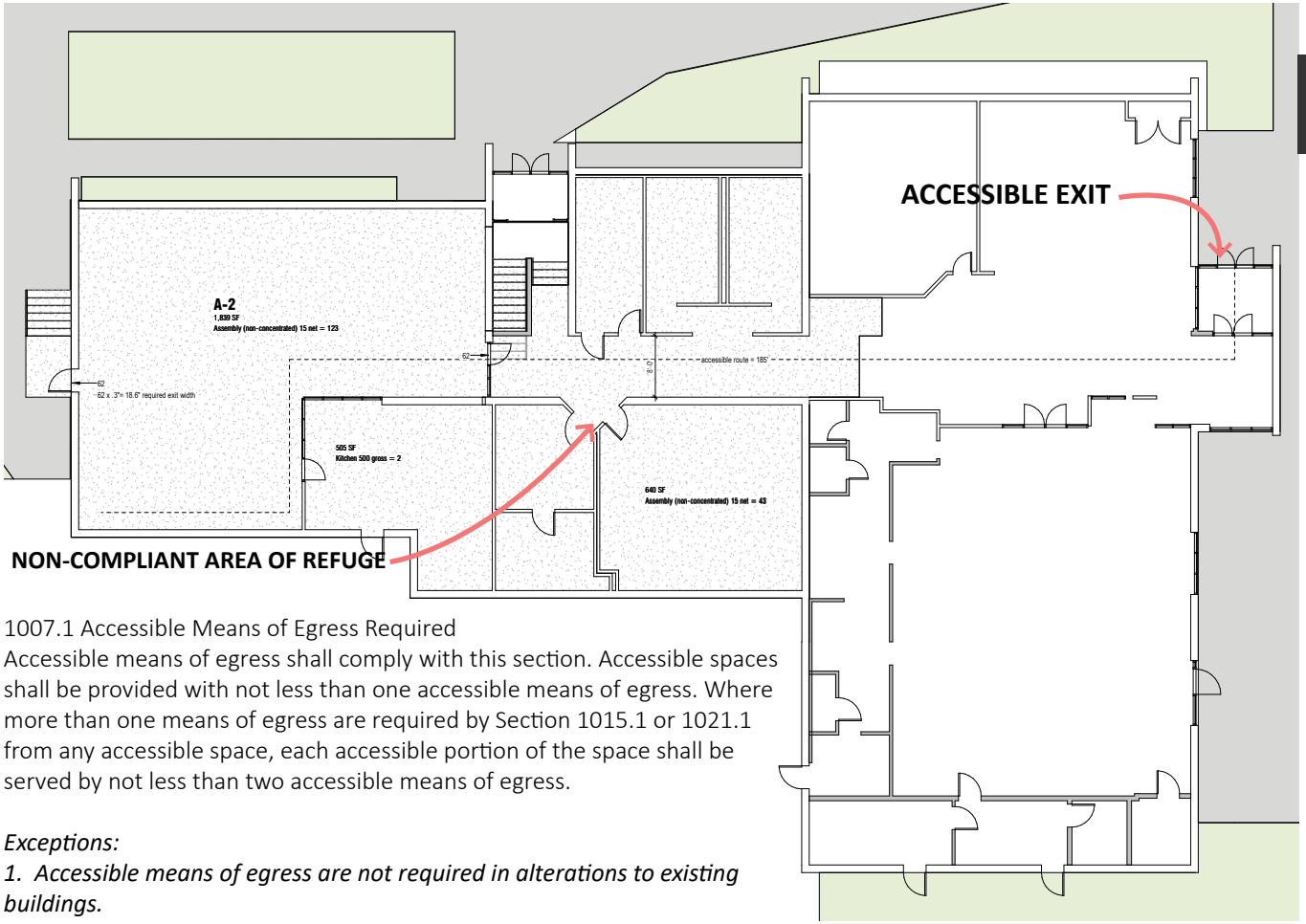
SUB CODE STUDY

FIRE SAFETY:

Due to the capacity of the building and its uses the corridor has to be 1HR Rated and protected from all other spaces. The only spaces allowed to be part of the 1 HR cooridpr are lobbies, foyers and reception rooms.

I am not confident that the 1HR rating extends into the lobby space to the north, but due to code I am assuming it does.

In order for any other space to be a part of the corridor it would have to be a foyer, lobby or reception room and the 1HR rating must encompass the included space.



1007.1 Accessible Means of Egress Required
Accessible means of egress shall comply with this section. Accessible spaces shall be provided with not less than one accessible means of egress. Where more than one means of egress are required by Section 1015.1 or 1021.1 from any accessible space, each accessible portion of the space shall be served by not less than two accessible means of egress.

Exceptions:
1. Accessible means of egress are not required in alterations to existing buildings.

AREA OF REFUGE
1009.6.3 Size
Each area of refuge shall be sized to accommodate one wheelchair space of 30 inches by 48 inches (762 mm by 1219 mm) for each 200 occupants or portion thereof, based on the occupant load of the area of refuge and areas served by the area of refuge. Such wheelchair spaces shall not reduce the means of egress minimum width or required capacity. Access to any of the required wheelchair spaces in an area of refuge shall not be obstructed by more than one adjoining wheelchair space.

1009.6.4 Separation
Each area of refuge shall be separated from the remainder of the story by a smoke barrier complying with Section 709 or a horizontal exit complying with Section 1026. Each area of refuge shall be designed to minimize the intrusion of smoke.

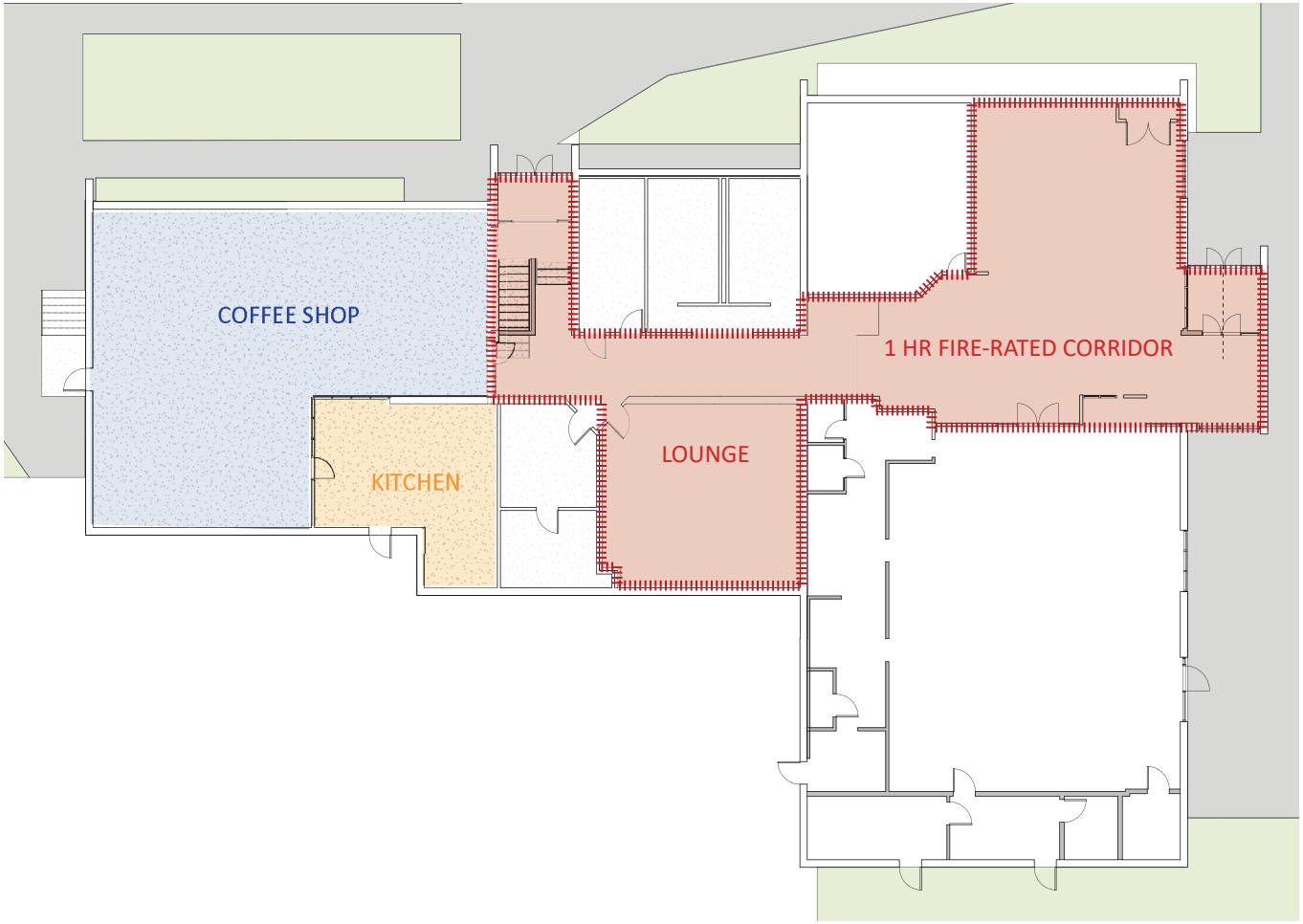
SUB CODE STUDY

ACCESSIBILITY:

There are some accessible egress issues in the building that can be resolved in this renovation.

Accessible means of egress are not required in alterations to existing buildings per code. Currently the provided are of refuge does not meet the requirements of being a safe space to wait for assistance. This means the building has one exit for those who need asssistance/ an accessible exit.

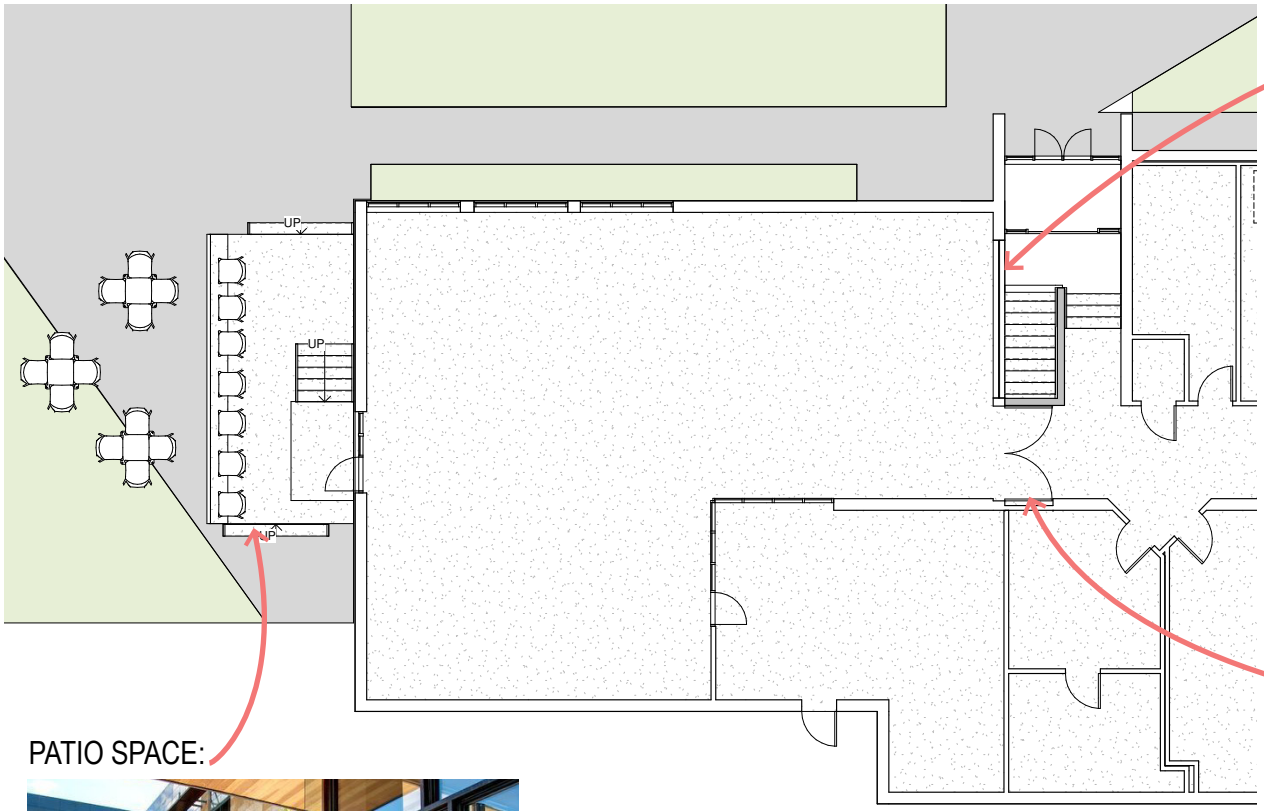
Through the addition of a safe area of refuge outside on the new patio addition the building and the methods of accessible egress from the building will be brought up to code. Since this can be accomplished while accomplishing the goals of the patio space, a safe area of refuge outside the exit door will be created.



SUB CODE STUDY

LOUNGE: The lounge space can be opened up if the one hour fire barrier is moved to encompass the space. This maintains a safe exit corridor and protects the space from the surrounding spaces.

COFFEE SHOP: The only spaces that can be combined with a 1hr rated corridor are lounges, foyers and reception rooms. The kitchen space which is connected to the coffee shop is a higher risk space. The fire corridor is a protected space for safe exit, putting a kitchen into the corridor compromises safety. There are methods to make the spaces feel open to one another while mainting the 1HR fire rating.



PATIO SPACE:

The possibilities for the patio space are numerous, the whole thing could be raised similar to the proposed Youth Challenge Patio space. It could be a small raised slab, or through simple bar seating and a couple low walls a defined patio space could be created.

ROLL DOWN FIRE DOOR:

Through use of a fire door the spaces can be visually linked together and appear open and connected. In the event of fire, the doors would automatically roll down, and preserve the required 1hr fire rating of the hallway.

FLUSH MOUNTED FIRE DOORS:

Doors can be flush mounted to reduce their visual impact, and make the spaces appear linked. Again, in the event of fire these doors would close and preserve the 1hr rating of the corridor outside.