UNIVERSITY OF ALASKA
ANCHORAGE

SCHEMATIC DESIGN APPROVAL

Name of Project: UAA KPC Career & Technical Education Center

Location of Project: KPC Kenai River Campus, Soldotna, AK

Project Number: 10-0013

Date of Request: September 22, 2011

Total Project Cost:	$ 14,500,000	
Approval Required:	Schematic Design Approval	
Prior Approvals/Actions:	Preliminary Administrative Agreement:	November 2010
	Project Agreement:	January 2011
	Formal Project Approval :	February 18, 2011

Reference Materials:

Project Budget

Architectural Narrative

Project Drawings (Rendering, Site Plan, Floor Plans, Exterior Campus Compatibility, Exterior Elevation)

UNIVERSITY OF ALASKA

Project Name: UAA KPC Career and Technical Education Center

MAU: UAA

Building: New		Date:	8/23/2011
Campus: Kenai River Campus		Prepared by:	S. Sauve
Project #: 10-0013		Acct #:	22719-512030
Total GSF Affected by Project:	New Building	16,000	17,054
	Backfill	4,215	4,215

PROJECT BUDGET		FPA Budget	SDA Budget
A. Professional Services			
Advance Planning, Program Development			
Consultant: Design Services (Including Backfill)		$ 1,000,000	$ 1,115,500
Consultant: Construction Phase Services			
Site Survey		$ 10,000	$ -
Soils Testing & Engineering		$ 20,000	$ -
Special Inspections		$ 80,000	$ 80,000
Plan Review Fees / Permits		$ 50,000	$ 50,000
Other			
Professional Services Subtotal		**$ 1,160,000**	**$ 1,245,500**
B. Construction			
General Construction Contract(s)	17,054gsf	$ 8,000,000	$ 7,800,000
Replace existing Septic/Storm System			$ 200,000
Backfill Renovation	4,215gsf	$ 1,500,000	$ 1,500,000
Construction Contingency		$ 800,000	$ 800,000
Construction Subtotal		**$ 10,300,000**	**$ 10,300,000**
Construction Cost per GSF	**New Building**	*$ 550*	*516*
Construction Cost per GSF	**Backfill**	*$ 356*	*$ 356*
C. Building Completion Activity			
Equipment		$ 190,000	$ 190,000
Process Tech Equipment		$ 1,500,000	$ 1,500,000
Furnishings		$ 240,000	$ 240,000
Signage not in construction contract		$ 15,000	$ 15,000
Move-In Costs		$ -	$ -
Art		$ 80,000	$ 80,000
Maintenance Operation Support		$ -	$ -
Building Completion Activity Subtotal		**$ 2,025,000**	**$ 2,025,000**
D. Owner Activities & Administrative Costs			
Project Plng, Staff Support		$ 290,000	$ 290,000
Project Management		$ 725,000	$ 639,500
Misc. Expenses			
Owner Activities & Administrative Costs Subtotal		**$ 1,015,000**	**$ 929,500**
E. Total Project Cost		**$ 14,500,000**	**$ 14,500,000**
Total Project Cost per GSF	**New Building**	*$ 786*	*$ 737*
Total Project Cost per GSF	**Backfill**	*$ 458*	*$ 458*
F. Total Appropriation(s)		**$ 14,500,000**	**$ 14,500,000**

UAA Kenai Peninsula Campus - Career and Technical Center - Architectural Narrative

Background & Scope

KPC is responsible for two of the three process technology programs in the University of Alaska system: the programs at the Kenai River Campus (KRC) in Soldotna and at the Anchorage Extension Site (AES) at the University Center. KRC is the only campus in the UA system that offers the Industrial Process Instrumentation AAS degree.

It is expected that the demand for process technology, instrumentation and occupational safety and health programs will continue to grow according to industry officials. The graying of the workforce, increased drilling activity and technology that is making more oil available in low producing fields will increase the demand for these graduates. Additionally, the reputation of KPC's programs has become apparent as Lower 48 companies now visit KPC to recruit graduates. In a spring visit to KPC, ExxonMobil called KPC's program the best in the country. Other oil companies have said the same.

This project supports and enhances the UA mandate to its campuses to train Alaskans for Alaska's high demand jobs. Currently the facilities used for the process technology, instrumentation and electronics programs are using laboratories and training equipment that are more than 25 years old. Existing facilities are not equipped with sufficient utility infrastructure to allow for upgrades of the laboratory equipment. Demand from students and industry for these programs exceeds the existing program capacity, which is limited by space.

Project Narrative

C1- Site Relationships: The new Career and Technical Center is located on the Kenai River Campus site. The building is located directly west of the main Campus buildings. The building location physically defines the north boundary of an internal "quad" at the center of the campus. Following the master plan site guidelines, the quad will be defined by buildings that all have their main entries facing the open space in the quad. The formation of a well-defined, open green space that replaces the current asphalt parking is a key element in realizing the intent of the Campus master plan.

The Career and Technical Center will be the focal point for one of the school's most important academic programs. The building will be centered in the present main campus parking lot. The north entry is approximately a 150-foot walk from the adjacent Ward Building. The west end of the building is close to the College Drive campus entry point. The internal and external circulation of the CTC will function as a pathway connecting the student housing area on the west side of College Drive with the main campus to the east. These new pathway connections between the housing complex and the Career and Technical Center will provide safe pedestrian pathways that will reduce the number of pedestrian/vehicle conflicts.

The College Drive/campus entry intersection will be upgraded to a three lane road width, with 2 dedicated turn-only exit lanes from the Campus. New areas for parking have been added to the north of the Career and Technical Center building and across College Drive at the housing complex.

C2 - Exterior Design: The Career and Technical Center presents a dramatic new face to the existing campus. The process technology simulation lab, with its' unique, high profile simulation equipment, is the signature design feature. The simulation equipment, dubbed "Big Blue" by the campus, is located behind the canted glazed curtain wall and is made of pipes and tanks that visually represent the oil and gas industry. The "Big

Blue" simulator presents the image of the industry to the campus with a dramatic architectural statement that clearly identifies the program.

The Career and Technical Education Center has three functional building masses: the 2-story classroom wing, the central Commons and the process technology simulation lab. The exterior design embodies the industrial context of the process technology industry. The "Big Blue" simulator is a primary feature of the exterior design. The exterior design reinforces the importance of the simulator room as the tallest building element and is carefully glazed to highlight the features of "Big Blue." Welcoming entries have extended canopies and arctic entries. Strategic use of glass and lights accent the architectural features of the Common spaces and "Big Blue", creating a unique inviting beacon during the long dark nights.

C3 - Principal Materials: The exterior design is based on the industrial character of the process technology industry. The industry is focused on the flow of liquids and gases through a system of pipes and vessels. In addition to displaying the actual pipes and tanks that make up the "Big Blue" simulation equipment, the exterior finishes will be industrial metals that are durable and do not require maintenance. The exterior metal siding on the classroom/admin exterior will be a dark weathered copper color that matches the adjacent Ward building. The simulator exterior will feature large areas of glazing that will allow views of the simulator equipment and cor-ten steel panel siding that will rust to a reddish-orange patina. Between these two building elements is the entry commons and hallway spine that will be clad in metallic silver that relates to the clerestory walls on the Steffy building located directly south of the Career and Technical Education Center.

Major exterior materials are insulated glazing systems and insulated metal panels providing long term thermal performance and durability. Horizontal sun screening and light deflecting louvers will be located at larger windows to adjust the daylight penetration into the building depending on the time of year. Structural tension 'X' bracing will be utilized in public areas to compliment the industrial character of the facility. The strategic use of local stone and wood will provide accents in the landscape and at the entries. The primary roofing system will be an EPDM rubber membrane laid over foam insulation boards. Durable industrial finishes will be used inside the facility. Sealed concrete will be used in the lab spaces and support spaces. Carpet will be used on the admin office floors, conference room floor and in the classrooms. Ceilings in the main public spaces and shop spaces will feature the exposed steel structure supporting acoustical metal decking. Classrooms and office spaces will use traditional acoustical tiles for sound absorption. Other spaces will be finished appropriate to their use; restrooms, storage, etc.

C4 – Functional Relationships: The overall building plan is organized by the central student Commons that connects the two teaching areas: the "Big Blue" simulation lab and the classroom/admin wing. The main pedestrian circulation path follows the south side of the gentle curve of the classroom wing on two levels. This corridor has seating/study areas in glazed nodes along the outside wall. Similarly, the central commons area has seating and display areas for the wide variety of interesting process tech equipment that have found a home at the Kenai River Campus.

In addition to the labs and classroom teaching spaces, the mechanical and electrical/communication rooms are considered teaching spaces by the process tech faculty. These building support areas contain equipment that heats the building, heats the water used in the building and provides lights, power and data to locations within the building. The building support equipment will be used as teaching tools on a limited basis. Interior windows have been provided that will allow building occupants to see the mechanical/electrical equipment from the main commons/corridor.

The process tech, instrument and electronics labs have direct data connections to each other and to the "Big Blue" simulator control room. This interconnectivity between the labs and "Big Blue" is a significant advantage for programming and controlling the process tech functions available for instructional purposes. The admin area is adjacent to the central commons area for easy access to students and the public.

C5 – Building Systems: mechanical, electrical and telecommunications systems have been carefully selected for flexibility, performance and energy conservation. Heating and ventilation will be accomplished with a hybrid system combining in floor radiant heating with displacement ventilation systems to allow the building to run efficiently during normal daytime use. The building utilizes daylighting strategies in combination with high efficient lighting to reduce overall electrical loads. Natural ventilation will be used in the classroom wing to provide ventilation and cooling air. The natural ventilation system will employ motorized window openings and manually operated window sashes that will allow fresh air to enter the building through the ground floor classrooms/offices and travel into the corridor and up through both stories. Flexible telecommunications infrastructure connects labs, simulation equipment, offices and all commons areas.

C6 – Code Compliance: this project will be designed under the 2009 International Family of Building Codes. The design will be reviewed by the local code authority, the City of Soldotna Building Department. The building will be designed to IBC Type II-B standards with braced steel main frame components and steel joists in the floor and roof structure. Complete access for the disabled will be provided including an elevator, accessible toilet rooms and site access amenities for all people. Full compliance with the Soldotna Zoning and Fire Marshal requirements will be vetted through the normal approval process.

C7 – Design Efficiency: the initial area target established during the Concept Design phase was 16,000 gross square feet (GSF). The current floor plan is within 7% of that target at 17, 054 GSF. Major program goals have been met with the current plans.

C8 – Conformance with KPC's approved master plan: The location of the Career and Technical Center building on the Kenai River Campus site conforms to the goals of the KPC master plan. The building location has shifted slightly to enhance the quad development, as intended by the master plan and is the next step in creating a central campus quad that will allow for future redesign of the south parking lot and a more pedestrian-friendly atmosphere.

The Career and Technical Center building location also sets the stage for the next campus building which will be located west of the Steffy Building. This future building will "complete" this part of the campus and further define the internal boundary of the KRC south quad.

The landscaping will provide natural materials that complement the surrounding Kenai River basin and are visually compatible with the woodland environment. There will be well-defined planting beds and outdoor seating areas that take advantage of the building's south-facing orientation.

C11 – Sustainability: The facility will be a model for northern design by providing a highly efficient building envelope and high efficiency mechanical and electrical equipment. It will perform well from an operational cost standpoint and the building systems are designed to be accessible to faculty for use as a teaching tool for the process technology students. As part of the Schematic Design process, initiatives are currently being reviewed in collaboration with the KPC administration and the process tech faculty to develop design strategies that will reduce the energy consumption and the building's impact on the environment. The following summarizes the initiatives:

- Utilizing daylight to reduce electric lighting loads (auto sensors and setbacks)
- LED exterior lighting
- Natural Ventilation
- Storm water retainage on site In a common drainage area
- Landscaping with native plants that require minimal irrigation
- Recycling of construction materials
- Use of locally manufactured materials and materials with recycled content
- High efficiency mechanical equipment
- High efficiency lighting systems
- Variable frequency fan motors with heat recovery systems
- Low flow and dual flush plumbing fixtures.
- Pathways and bicycle storage to encourage patrons to walk or cycle to the facility.
- Site design preserves significant portion of native forest on site as compared to the initial building site location
- High performance glazing, wall and roof systems (high performance building envelope).
- Indoor air quality management systems
- Stub out consideration for future wood pellet boiler, solar PV and thermal

Initiatives that require further analysis and review:

- Capstone Co-Gen system for campus
- Public/student access to building energy data meters (monitors I commons area)
- Priority parking for car pools and fuel efficient vehicles

This project is being designed to comply with LEED Silver standards and can be submitted for certification if desired.

C12 – Backfill: Planning and design for the renovation of vacated spaces for conversion into offices and classrooms is included in the Total Project Cost.

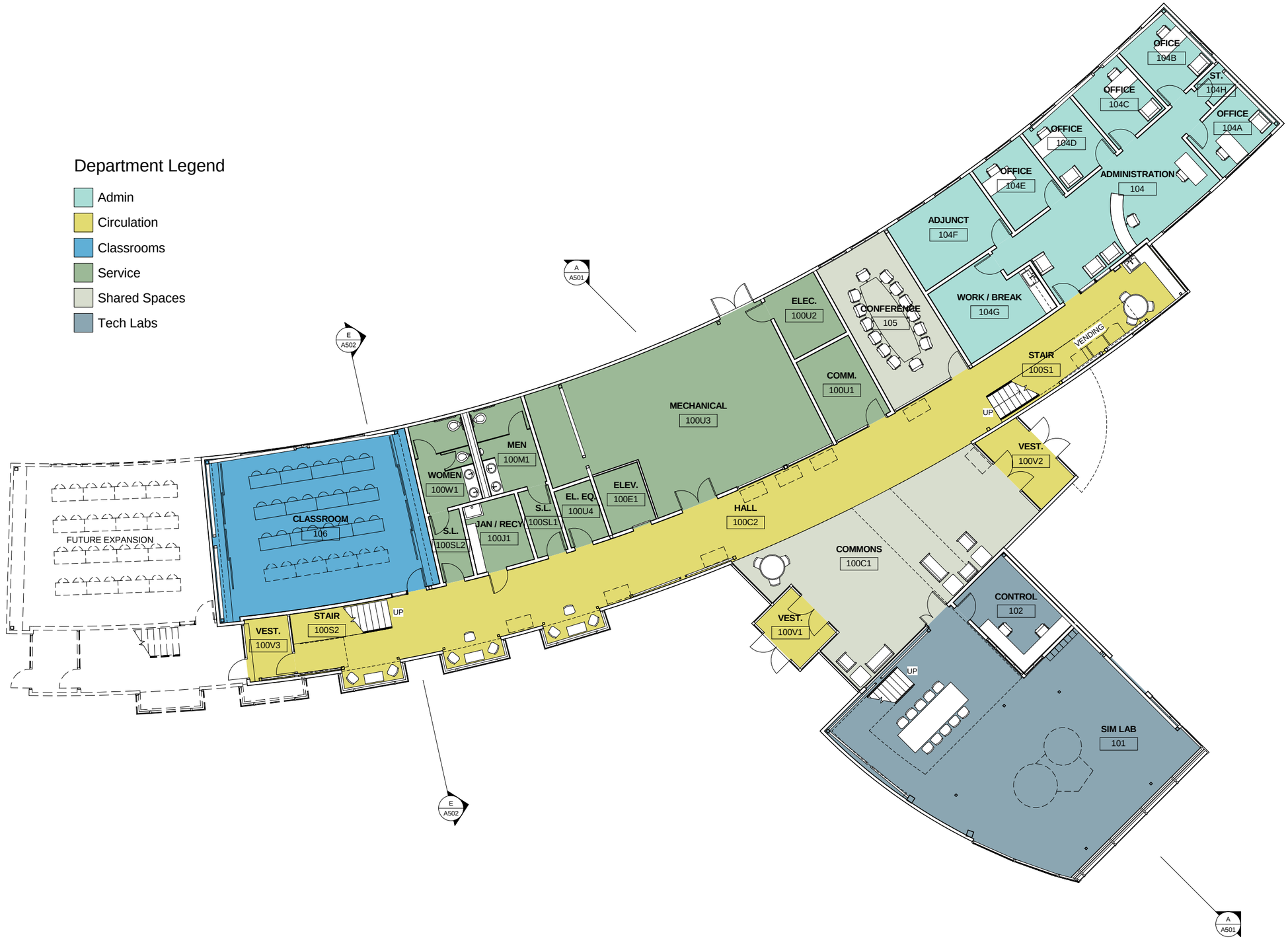
UAA KRC Career & Technical Center - Rendering
August 19, 2011

McCool Carlson Green Architects
www.mcgalaska.com

UAA KRC Career & Technical Center - Site Context

August 19, 2011

McCool Carlson Green Architects
www.mcgalaska.com



UAA KRC Career & Technology Center - Level 1

August 19, 2011

McCool Carlson Green Architects
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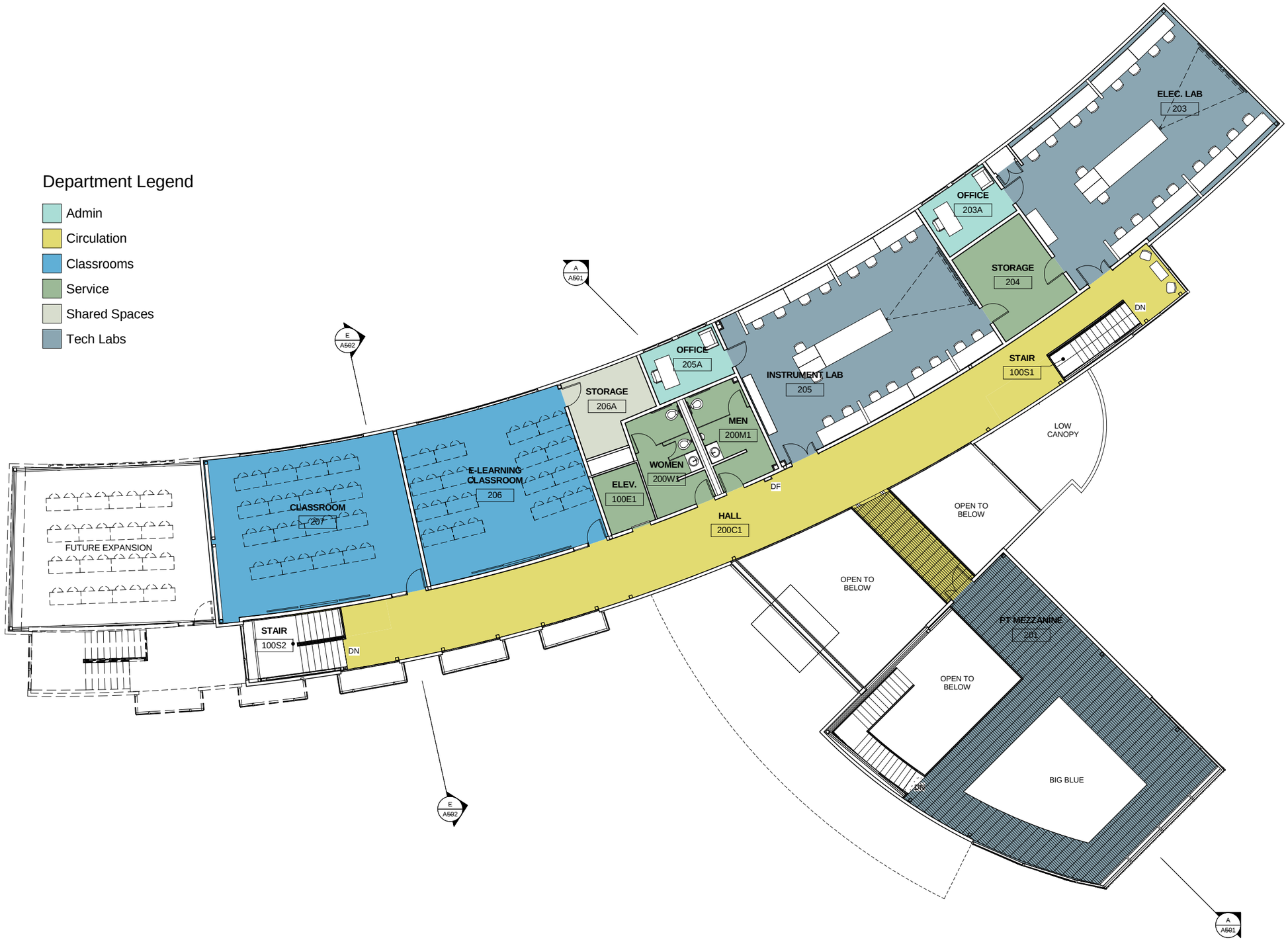
Department Legend

- Admin
- Circulation
- Classrooms
- Service
- Shared Spaces
- Tech Labs



UAA KRC Career & Technology Center - Level 2

August 19, 2011

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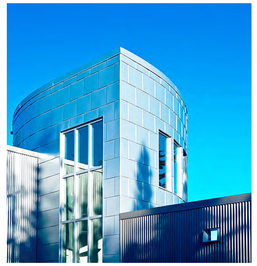
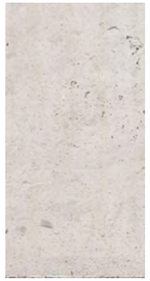
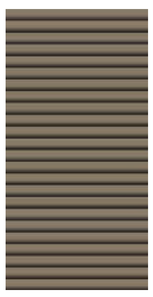


Silver Metallic Metal Panels on the Steffy Building

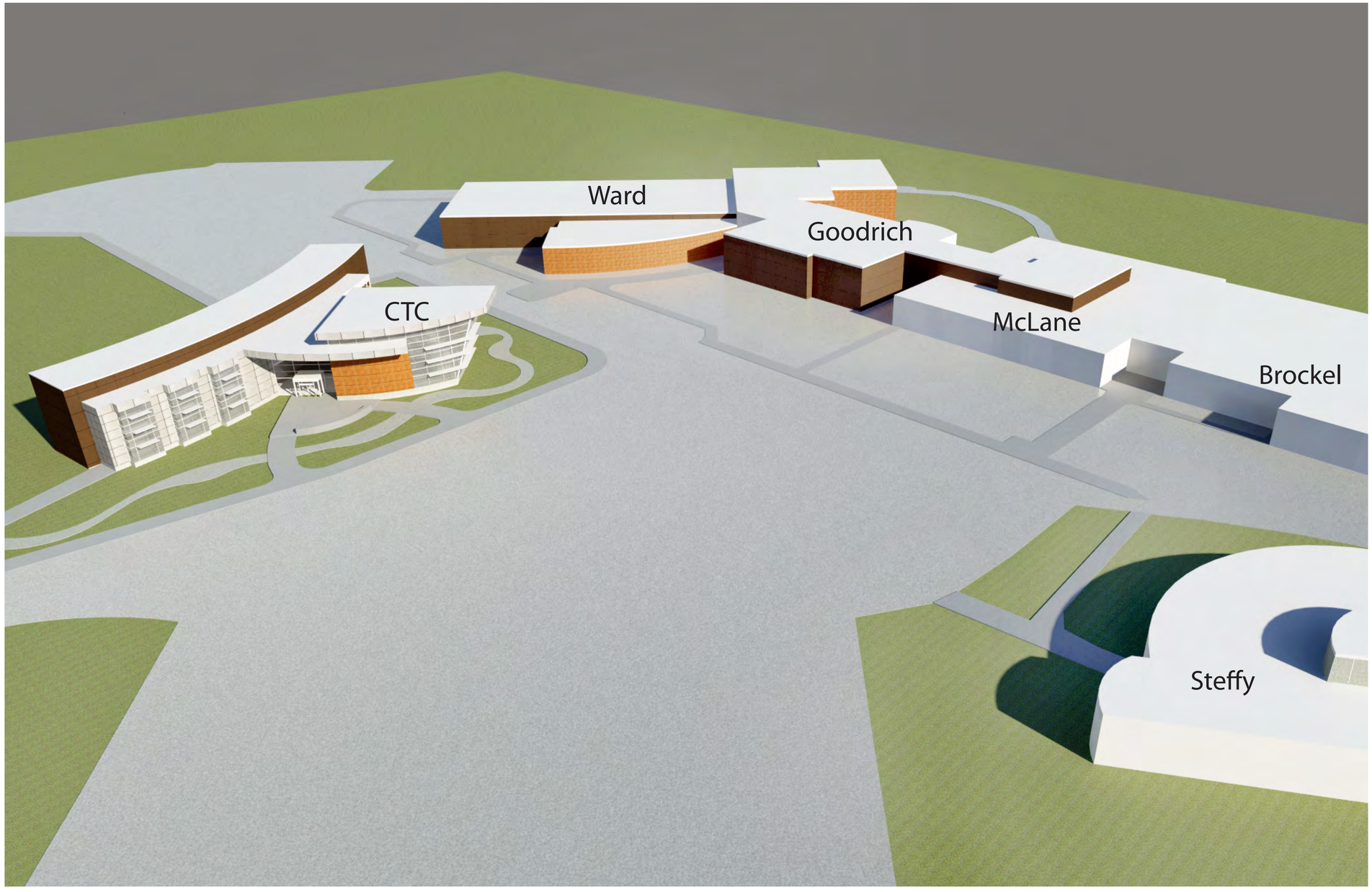


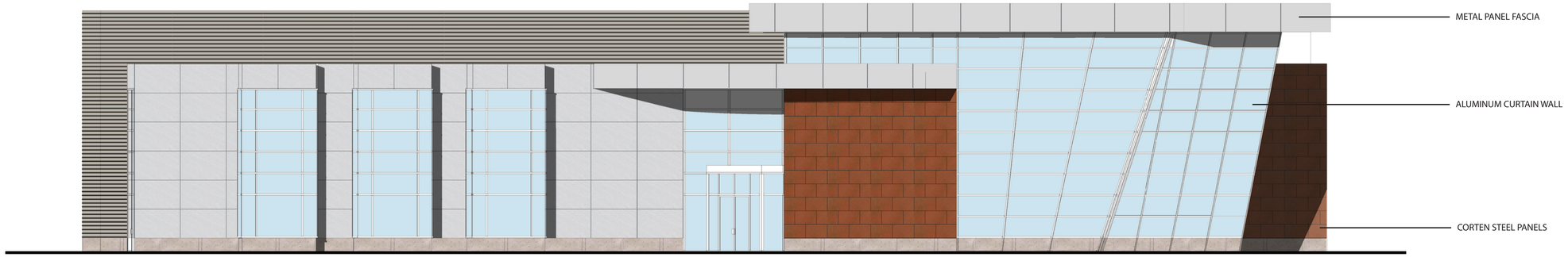
Concrete / CMU base on the Steffy Building

Redish - Orange Brick on the Ward Building similar color
to the Corten steel on the CTC Building



Weathered Copper Metal Panels on the Brockel and Ward Building





South Elevation

North Elevation