



COLORADO

**Colorado Commission on
Higher Education**

Department of Higher Education

CCHE AGENDA

Friday, August 3, 2018 - 11:15 am

**Colorado Mountain College
Morgridge Commons Meeting & Conference Center
815 Cooper Avenue, 2nd Floor Glenwood Springs, CO 81601**

**CALL-IN NUMBER: 1-877-820-7831
PARTICIPANT CODE: 128479#**

1600 Broadway, Suite 2200 • Denver, Colorado 80202 • (303) 862.3001

DR. DANIEL BAER, EXECUTIVE DIRECTOR



Colorado Commission on Higher Education

August 3, 2018 – 11:15am

Colorado Mountain College

Morgridge Commons Meeting & Conference Center
815 Cooper Avenue, 2nd Floor Glenwood Springs, CO 81601

BUSINESS MEETING

11:15 – 11:40am

I. Opening Business

- A. Attendance
- B. Approval of the Minutes for the June 7, 2018 Commission Meeting
- C. Reports
 - i. Chair
 - ii. Vice Chair
 - iii. Commissioners
 - iv. Commission Standing and Ad Hoc Committees
 - v. Advisors
- D. Executive Director Report
- E. Public Comment

11:40 – 11:45am

II. Consent Items

- A. Recommend Approval of Cash Funded Revenue Bond Intercept Capital Program Plan - Colorado State University, Fort Collins - Richardson Design Center – *Lauren Lopez*
- B. Recommend Approval of Cash Funded Revenue Bond Intercept Capital Program Plan - Colorado State University, Fort Collins – JBS Food Innovation Center – *Lauren Lopez*
- C. Recommend Approval of Cash Funded Revenue Bond Intercept Capital Program Plan - Colorado State University - CSU Centers for Research, Extension and Engagement – *Lauren Lopez*
- D. Recommend Approval of Cash Funded Revenue Bond Intercept Capital Program Plan - Colorado State University - Center for Vector-borne Infectious Diseases (CVID) – *Lauren Lopez*
- E. Two-Year Cash Funded Capital Program List Amendment – Colorado State University, Fort Collins – *Lauren Lopez*
- F. Degree Authorization Act – Rocky Vista University- Recommendation of Approval for Renewal Of Authorization – *Heather DeLange*
- G. Recommend Approval of Special Education Generalist Endorsement at Fort Lewis College – *Dr. Brittany Lane*
- H. Recommend Authorization To Offer Math Supplemental Academic Instruction at University Of Colorado Denver – *Dr. Kim Poast*



**Minutes of the Colorado Commission on Higher Education (CCHE) Meeting
Colorado State Bank Building
June 7, 2018**

I. OPENING BUSINESS

Vice Chairman Renny Fagan called the business meeting to order at 1:00 pm.

A. Attendance

Vice Chairman Renny Fagan, Commissioners Maia Babbs, Vanecia Kerr, Tom McGimpsey, Monte Moses, and Paula Sandoval attended the meeting.

Also in attendance were CCHE Advisory Committee members Wayne Artis, Mark Cavanaugh, Chad Marturano, Audy Leggere-Hickey and Misti Ruthven.

B. Minutes

Commissioner McGimpsey moved to approve the minutes of the May 4, 2018 CCHE meeting. The motion was seconded by Commissioner Sandoval and passed unanimously.

C. Chair, Vice Chair, Commissioners and Advisors Reports

- Vice Chairman Fagan thanked Dr. Kim Hunter Reed for her leadership and many accomplishments during her tenure at the Department of Higher Education. Other Commissioners and Advisors also thanked Dr. Reed and wished her well.
- Student Advisor Audy Leggere-Hickey notified the Commission that her term had ended and this was her last meeting. Ms. Leggere-Hickey was sincerely thanked for her service.

D. Executive Director Report

- Dr. Kim Hunter Reed thanked the Commission and told the Commissioners that the new Executive Director, Dan Baer, would continue the momentum the Department has built this last year.
- The U.S. Department of Education anticipates releasing its application for the Federal GEAR UP program on June 7th. GEAR UP has been operating in Colorado since 1999, through three seven-year cycles of grant funding.
- Dr. Reed and Dr. Baer had a transition meeting with Lumina recently. Colorado is the first state in the nation to receive the Lumina Grant for equity. Tennessee was second and Lumina has made no other investments at this point.
- The Department co-hosted a two-day public policy forum with the University of Denver that was entirely focused on erasing equity gaps in higher education.

Vice Chairman Fagan invited the new Executive Director, Dr. Dan Baer, to introduce himself to the Commission.

II. Consent Items

- A. Degree Authorization Act – Recommendation for the Renewal of Probationary Authorization for CollegeAmerica- Colorado Springs and CollegeAmerica- Fort Collins – Heather DeLange**
- B. Recommend Approval of Special Education Generalist Endorsement at Relay – Graduate School Of Education – Dr. Brittany Lane**

Commissioner McGimpsey moved to approve consent items A and B. The motion was seconded by Commissioner Sandoval and unanimously passed.

III. Written Report

A. Legislative Report on Developmental Education for the High School Class of 2016

Michael Vente, Director of Research at DHE, introduced the agenda item related to DHE's annual developmental education report. Due to the release of other national reports related to Colorado during the same week, the release of the annual developmental education report for the Colorado High School Class of 2016 was delayed. Mr. Vente said that the report would be released in the coming weeks. As such, Mr. Vente delayed his presentation on the report to a future CCHE meeting.

Mr. Vente introduced two guests to the Commission, Dr. Rhonda Epper, Provost at Community College of Denver, and Armando Manzanares, former Community College of Denver student and current Community College of Denver employee. Dr. Epper shared an overview of various reforms to the developmental education system made at Community College of Denver (CCD) including the adoption of co-requisite developmental education and Math Pathways for their students. She shared an analysis conducted by The Boston Consulting Group with support from the Bill and Melinda Gates Foundation. The analysis showed drastically improved outcomes for students as a result of these reforms. Mr. Manzanares shared his story of working through the various barriers of the traditional developmental education model as he pursued his postsecondary degree and how the reforms at CCD were crucial to his ultimate success.

Commissioner Moses commended CCD for making these reforms and asked how difficult the transition was for the campus. Dr. Epper said that the reforms required a culture shift but that research on the improved outcomes for students helped convince faculty and staff of the importance of the reforms. Mr. Manzanares added that the transition was easy, once the type of Math courses he took matched his degree path. Advisor Cavanaugh asked where Colorado ranked nationally in terms of enacting these types of reforms. Dr. Epper said that Colorado was at the cutting edge of the work in this field. Dr. Reed asked what recommendations Dr. Epper had to help continue this work. Dr. Epper said that giving campuses more flexibility to experiment with these types of reforms was helpful. She also said that additional studies into student outcomes and potential methodological changes to DHE's annual developmental education report may be

needed. Dr. Baer asked if CCD could scale the work they've accomplished to support other campuses and their developmental education needs. Dr. Epper said that CCD could partner with other campuses, but that more work on helping inform student pathways from K12 to postsecondary was needed. Commissioner Sandoval asked how hard it was to get student to take co-requisite developmental education courses. Dr. Epper said that traditional developmental education course were also offered to students but few student took those courses if co-requisite developmental education was available. Commissioner Kerr asked how CCD could get more students into co-requisite developmental education. Dr. Epper said that students are given information on co-requisite developmental education when they enroll and are automatically enrolled in the course, if needed.

IV. Action Item

A. Fiscal Year 2018-19 Financial Aid Allocations – Andrew Rauch

Andrew Rauch, Director of Institutional Finance, presented this action item to seek approval of the Fiscal Year 2018-19 Financial Aid Allocations for the State's undergraduate need, graduate need, work-study, merit, and career and technical education financial aid programs.

Mr. Rauch presented the allocation methodology of each one of the allocations, noting that the CCHE already approved the need-based aid allocation model, which steps up the allocation between grade level for Pell-eligible FTE as an incentive to institutions to retain and complete students. Graduate need-based aid is tied to eligible FTE enrolled in certain, high-demand fields. Merit aid is allocated based on an institution's share of eligible, resident FTE. For the work-study allocation, institutions retained their current allocation and the new funding was allocated based on the proportion of FTE.

Commissioner Babbs asked about the share of funds and how it breaks down across federal, state, and institutional. Staff did not have exact numbers, but will follow up to provide the information to Commissioner Babbs.

Commissioner Babbs moved to approve the financial aid allocation. The motion was seconded by Commissioner Moses and unanimously passed.

V. Master Plan Progress

A. 2018 Legislative Session Wrap-Up –Tyler Mounsey and Andrew Rauch

Andrew Rauch provided a budget update to CCHE as part of the discussion item. Mr. Rauch walked through the \$61.7 million provided for state operating to the institutions and the changes relative to the Governor's request. Staff outlined the adjustments to financial aid, \$13.9 million total broken down by \$11.9 million for need-based aid and \$2.0 million for work study. Staff worked through the tuition increases, noting the 3% exceptions made for CU-Boulder, given their guarantee and Fort Lewis College, given their tuition situation.

Mr. Rauch also provided an update on the increase for COSI's \$2.0 million and legislation impacting the Department. HB 1331 provided additional funding for Open Educational Resources, HB 1332 provided funding for rural teacher initiatives, HB 1226 provided an FTE for a return on investment report, SB 200 buys down the unfunded liability for the Public Employees Retirement Program,

which has substantial campus-level impacts, and SB 86 which provided one-time investment for institutions to accelerate master plan goals.

Tyler Mounsey then reviewed many bills including HB18-1217; Income Tax Credit for Employer 529 Contributions, HB18-1332; Collaborative Educator Preparation Program, SB18-087; In-state Tuition Foreign Nationals Settled in Colorado and SB18-101; CSU Global Campus Student Admission Criteria.

VI. Discussion Item

A. CCHE Policy Experimentation Process – Dr. Kim Poast

Dr. Kim Poast, Chief Student Success & Academic Affairs Officer, introduced a discussion item that provided context for the development of a “policy experiment” for public postsecondary institutions. The purpose of policy experiments is to allow institutions to catalyze innovation, collect evidence, and inform meaningful policy change in Colorado.

At the national level, the Experimental Sites Initiative has been in practice in various formats since the 1980s. The US Department of Education (USDOE) has launched around 30 ‘experiments’ over the years - most of which have centered around ‘testing’ new rules for federal student aid

For Colorado, staff recommend creating an environment where institutions may experiment around certain Academic Affairs and Student Service CCHE policy areas (this may be expanded). In order to qualify for an experiment, a postsecondary institution must provide the following to the Director of Educational Innovations (or designee): 1) Specific policy name/number; 2) Type of experiment requested; 3) Policy goals that experiment is intended to address; 4) Any research or evidence base for proposed experiment; 5) Proposed length of experiment; 6) Proposed data collection process.

After a robust discussion of the experimentation policy framework, Commissioners requested that additional information be provided prior to bringing back to the CCHE for vote. Specifically, Commissioners requested that staff identify specific CCHE policy areas that might be eligible for experimentation (and those that would be ineligible) and strongly cautioned against creating a system that encourages institutions from creating environments that are too flexible, thus watering down the intent of protecting state wide student protections and interests.

There being no further business, the meeting was adjourned at 3:55pm.

TOPIC: RECOMMEND APPROVAL OF CASH FUNDED REVENUE BOND INTERCEPT CAPITAL PROGRAM PLAN – COLORADO STATE UNIVERSITY, FORT COLLINS – RICHARDSON DESIGN CENTER

PREPARED BY: LAUREN LOPEZ, LEAD FINANCE ANALYST

I. SUMMARY

This agenda item requests approval of the Richardson Design Center program plan for Colorado State University Fort Collins (CSU-FC). This program plan originally did not require CCHE approval, as it was slated to use donor funds only. However, CSU-FC has elected to use the Higher Education Revenue Bond Intercept Program (Intercept) to fund tenant finishes. A summary of the project is included below.

II. BACKGROUND

Under current law, CCHE must approve a program plan before any capital construction commences at Institutions of Higher Education (IHEs) per C.R.S. 23-1-106. Solely cash-funded projects are exempted from this process, unless funded through Intercept bonds established pursuant to C.R.S. 23-5-139. This program allows IHEs to bond for a project using the State's credit rating.

III. STAFF ANALYSIS

The addition of the Richardson Design Center capital construction project to CSU-FC's two-year cash list was approved by CCHE in August 2016. Since the \$16.5 million project was to be funded completely using university cash-funds from gifts and donations, a program plan was not required. CSU-FC did produce an internal program plan similar to the one attached.

In order to make the new building fully functional, an extension of this project has been added to CSU-FC's two-year cash list. The Richardson Design Center Tenant Finish project will cost an additional \$2,600,000, funded through Intercept bonds. Intercept funded projects may not commence without program plan approval from CCHE. Since the tenant improvements fall within CSU-FC's original internal Richardson Design Center program plan, this is what is being approved.

The program plan for CSU-FC's Richardson Design Center is described below:

“Richardson Design Center” will cost \$19,100,000. \$16,500,000 was funded using gifts and donations, and the remaining \$2,600,000 will be funded using Intercept bonds. The project will construct a 41,000 gsf building that includes a Maker's Lab (available to the entire campus community), as well as classroom and studio space for multidisciplinary courses. The 3rd floor was identified as core and shell space for the Interior Design

Department, with tenant finish of the space included as an alternate. Funding is now available to proceed with tenant finish.

The center will create opportunities for students from multiple disciplines to create, innovate and collaborate in an open and immersive design community. The initial incubator programs include Interior Design, Product Development, Visual Arts, Landscape Architecture, and Construction Management. The finishes are slated to start in September 2018 and be completed in January of 2019.

IV. STAFF RECOMMENDATIONS

Staff recommends that the Commission approve the Richardson Design Center program plan for Colorado State University, Fort Collins.

V. STATUTORY AUTHORITY

C.R.S. 23-1-106 (3) The commission shall review and approve facility master plans for all state institutions of higher education on land owned or controlled by the state or an institution and capital construction or capital renewal program plans for projects other than those projects described in subsection (9) of this section. The commission shall forward the approved facility master plans to the office of the state architect. Except for those projects described in subsection (9) of this section, no capital construction or capital renewal shall commence except in accordance with an approved facility master plan and program plan.

(9)(b) Except as provided in paragraph (d) of this subsection (9), a capital construction or capital renewal project for an academic facility initiated by the governing board of a state institution of higher education that is contained in the most recent two-year projection approved pursuant to subparagraph (II) of paragraph (c) of subsection (7) of this section, as the projection may be amended from time to time, and that is to be acquired or constructed solely from cash funds held by the institution and operated and maintained from such funds or from state moneys appropriated for such purpose, or both, is not subject to additional review or approval by the commission, the office of state planning and budgeting, the capital development committee, or the joint budget committee; except that, if the capital construction or capital renewal project for an academic facility is to be acquired or constructed in whole or in part using moneys subject to the higher education revenue bond intercept program established pursuant to section 23-5-139, then the governing board of a state institution of higher education must obtain approval from the general assembly as specified in that section. Any capital construction or capital renewal project subject to this paragraph (b) must comply with the high performance standard certification program established pursuant to section 24-30-1305.5, C.R.S.

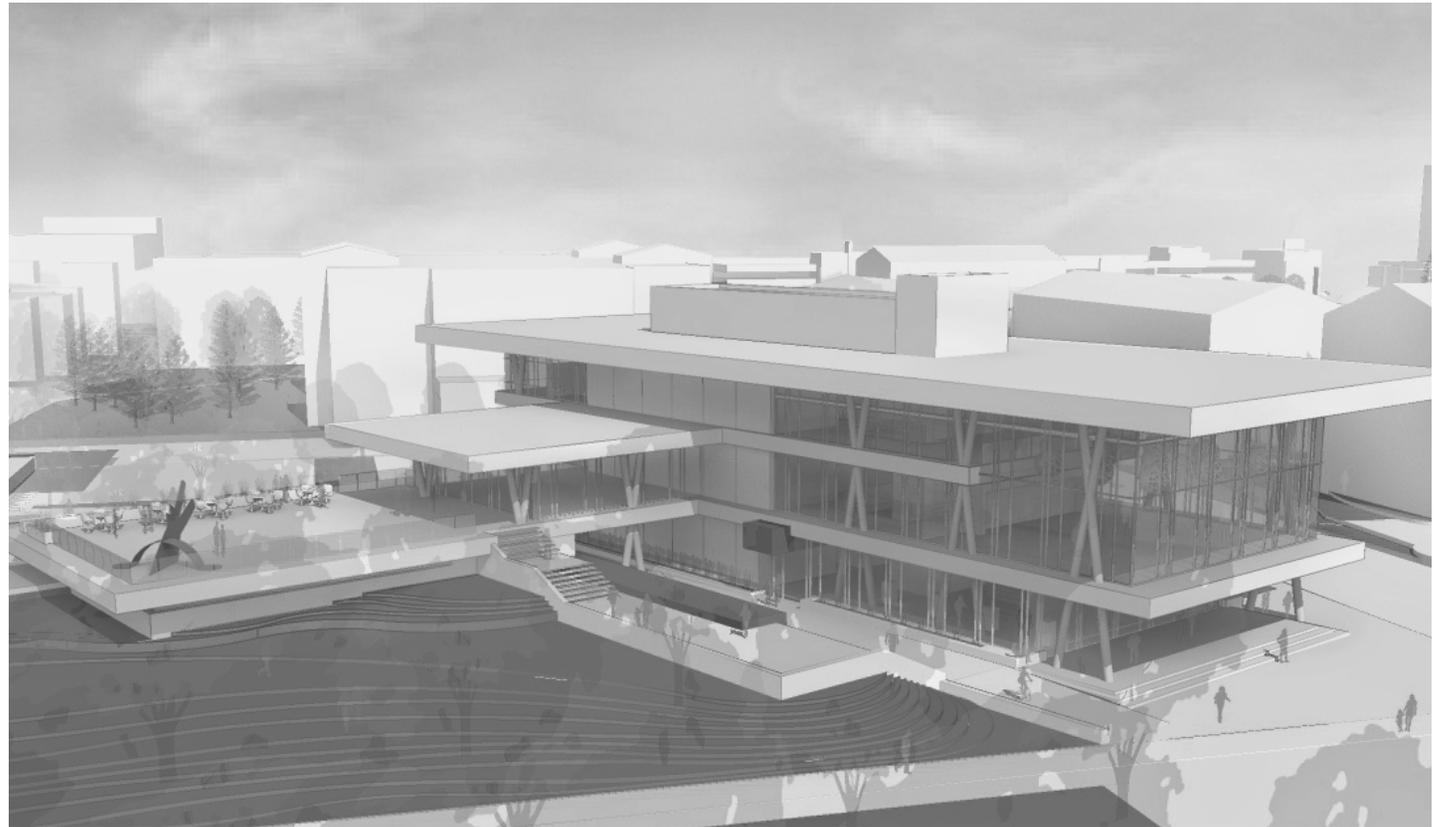
ATTACHMENTS:

ATTACHMENT A – Richardson Design Center Program Plan - Colorado State University - Fort Collins

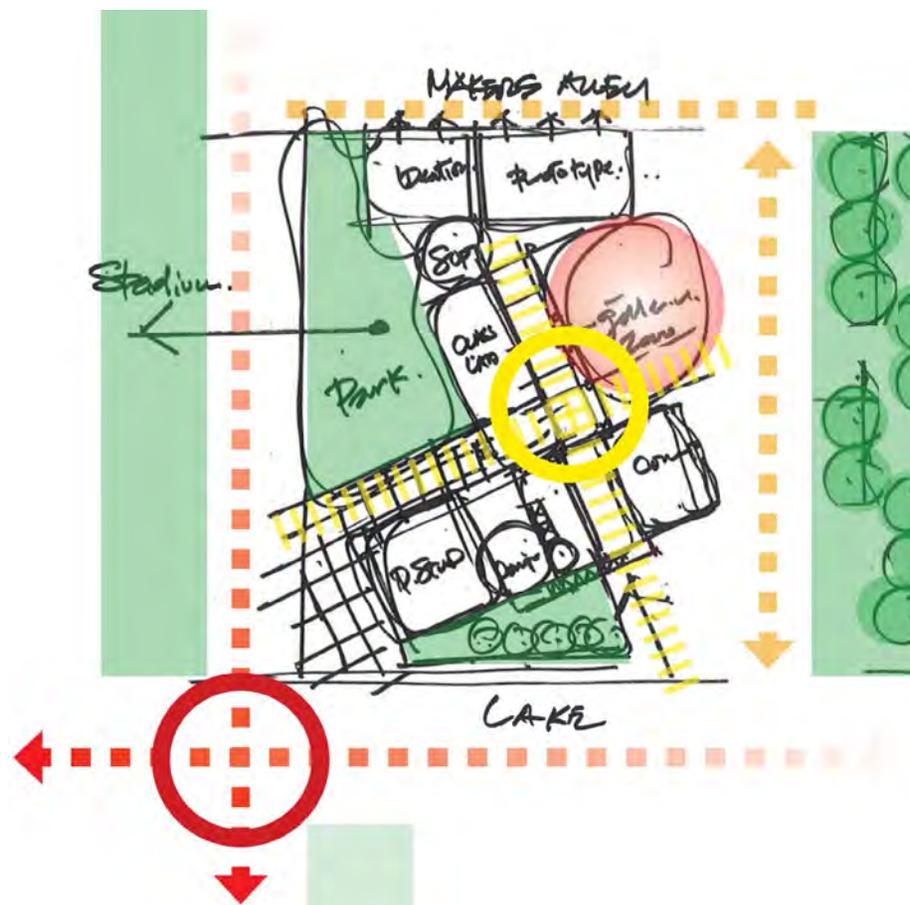
PROGRAM PLAN

Colorado State University
Richardson Design Center

11 November 2015
4240 Architecture Inc



4240 Architecture Inc



The Program Plan for the CSU Richardson Design Center was developed through collaborative programming and review. The project includes the following programming committee members:

Design Center Steering Committee Participants

Colorado State University

- Dave Carpenter, Health and Human Sciences
- Shelly Carroll, Facilities Management
- Kelly Curl, Landscape Architecture
- Del Harrow, Visual Arts
- Katherine Leigh, Interior Design
- Laura Malinin, Interior Design
- Tony Flores, Facilities Management
- Mike Rush, Facilities Management
- Nancy Miller, Design and Merchandising

Blue Ocean Enterprises, Inc.

- Nancy Richardson, Cofounder and Board Member
- Annie Lilyblade, Interior Design Team Manager

DESIGN CONSULTANTS FOR PROGRAM PLANNING

4240 Architecture Inc.

- Lou Bieker
- Izabela Rydel
- Eric Anderson
- Kit Piane
- DJ Gratzler
- Michele Decker

Cator Ruma & Associates

- Sean T. Convery

JVA Consulting Engineers

- Michael J. McDonald
- Brian J. Campbell
- Steven B. Carpenter

Cumming Corp

- Alan Plummer

Acknowledgements

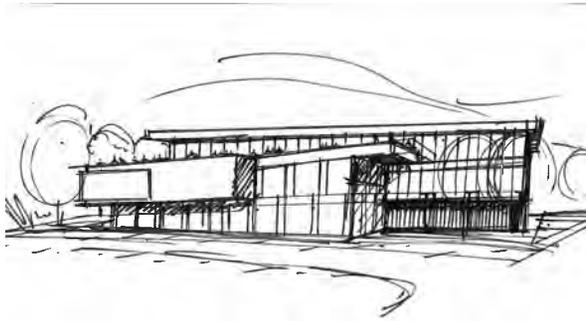


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I. Executive Summary

**Programmatic Justification:**

The vision for the Richardson Design Center at Colorado State University was spearheaded by CSU's Interior Design program within the College of Health and Human Sciences and further developed through

a strategic planning session in the fall of 2014, which included

The CSU Richardson Design Center will be “an iconic destination that inspires creative influential discovery. Through powerful ideation and inspired synergy, students explore complex problems using cutting-edge resources to create a meaningful impact on the quality of life.”

stakeholders from across CSU and the Fort Collins community. The purpose of the Design Center is to provide a campus-wide hub for innovators, helping to shape and create opportunities for “Design Thinking” and “Creative Innovation” to flourish across departments, programs, and colleges at CSU.

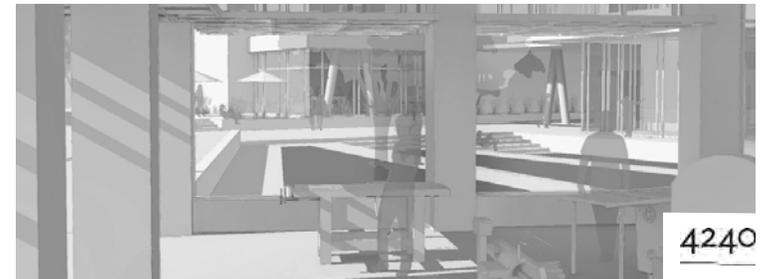
The CSU Richardson Design Center will create opportunities for students from multiple disciplines to create, innovate and collaborate in an open and immersive design community. The initial incubator programs include Interior Design, Product Development, Visual Arts, Landscape Architecture, and Construction Management. As the program’s reputation grows and demand spreads cross-campus, we see great value and potential opportunities for engaging programs within the College of Business, the Department of Computer Science, and the College of Engineering. This multi-faceted, cross-discipline approach to creative problem solving and innovation is needed to meet the demands of a generation of youthful innovators and entrepreneurs.

Following the founding principles of such notable programs as the ‘d.school’ at Stanford University and the ‘Fab-Lab’ at MIT whose missions are “to prepare a generation of students to rise with the challenges of our times...” and “to provide access to the tools and the knowledge to innovate and invent, using technology and digital fabrication to allow anyone

to make (almost) anything...,” the CSU Richardson Design Center will be “an iconic destination to advance powerful design thinking and promote inspired quality of life solutions”.

Funding:

The estimated cost of the project is \$16.5M - \$20M, depending on the extent of core and shell space on the 2nd and 3rd floors. Funding will be from donations, Intercept bonds and university resources.





Site Selection:

Located on main campus at the Northeast Corner of W. Lake St and Whitcomb St, the proposed site for the CSU Richardson Design Center is ideally located to provide the 'iconic' setting and backdrop for this innovative project. The highly visible corner is ideal for showcasing the creative works of students while providing a 'forum' for innovation, invention, and entrepreneurship. The site as a whole is envisioned as a 'Design District' for learning and innovation: a place to play, to create, to learn, to mentor, to invent. The immediacy of the site to the Department of Design and Merchandising and the Department of Visual Arts will help to expand this 'design district' into complementary programs, providing a means to connect to a campus-wide community of learners, educators, technologists, researchers, makers and innovators - a knowledge sharing network.

The site slopes north to south and is approximately 1.25 acres (54,450 sf) and serves (2) surface parking lots. The Lower lot (south) is accessed from W Lake St and accommodates 88 stalls, while the Upper lot (north) is accessed off the alley north of the site and accommodates 84 stalls. Along the west edge, fronting Whitcomb St, is a mature stand of deciduous trees which provides a 'soft' edge to the site and will help mitigate / attenuate visual, acoustical and solar concerns. Along the eastern edge of the site is an established bike route creating a key north-south connection from Aggie Village through the center of campus. Site work will be required to comply with CSU landscape standards.

Project Schedule:

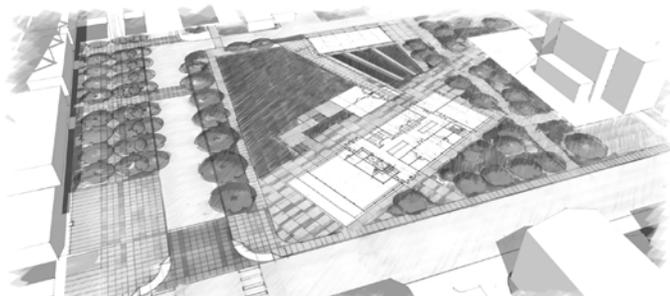
Once funding and approvals are obtained the project is estimated at 20 months using Design Build procurement.

Project Description:

The project as a whole is envisioned to be part of a larger 'design district'. There will be studios and labs for collaborative group projects, gallery or presentation spaces to facilitate display of work and ideas in development, a maker's lab for ideation and prototyping, 3D printing lab, art workspace and classrooms with cutting edge technology. Interior Design will be located on the upper floors with offices for 10-15 faculty/staff members as well as required studio space. There will be offices for the Center director and staff as well as temporary hoteling spaces for faculty.

The aesthetic of the design center will reflect the innovative, immersive and inclusive learning environment within. The end-users will be students and faculty who will have access to cutting-edge resources and partnerships with industry. Students and faculty will be immersed in a process of "design thinking" which draws on methods from engineering and design, and combines them with ideas from the arts, tools from computer sciences, means from construction management, and insights from the business world. The ultimate goal is to learn by doing--with a bias toward action and iteration where each cycle brings stronger insights, greater collaboration, more unexpected solutions and greater innovation.

Students and faculty will be immersed in a process of "design thinking" which draws on methods from engineering and design, and combines them with ideas from the arts, tools from computer sciences, means from construction management, and insights from the business world.



Conclusion(s):

According to the Fab Foundation at MIT, 'Fab-Labs' or 'Innovation Labs' are "increasingly being adopted by schools as platforms for project-based, hands-on STEM education. Users learn by designing and creating objects of personal interest or import.

Empowered by the experience of making something themselves, they both learn and mentor each other, gaining deep knowledge about the machines,

The CSU Richardson Design Center has the capacity to bring about transformative, creative change and become a vital central-hub of innovation for the campus.

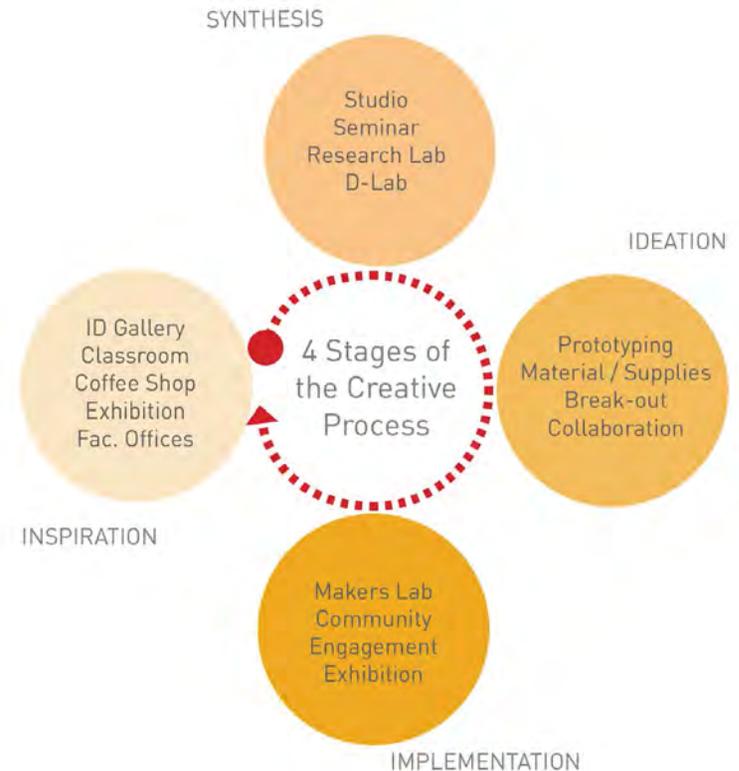
the materials, the design process, and the engineering that goes into invention and innovation.

In educational settings, rather than relying on a fixed curriculum, learning happens in an authentic, engaging, personal context, one in which students go through a cycle of imagination, design, prototyping, reflection, and iteration as they find solutions to challenges or bring their ideas to life."

The CSU Richardson Design Center has the capacity to bring about transformative, creative change and become a vital central-hub of innovation for the campus. Students and faculty from design disciplines across campus, who share a desire to gain an understanding beyond their own experience, will be the end-users. The Design Center will become the glue that binds them together, allowing students to unleash intuitive leaps, lateral thinking, and new ways of looking at and analyzing old problems. The dynamic process will challenge all users to loop through cycles of learning, teaching and doing, creating a collaborative culture where judgement is deferred and students can build on the ideas and inspiration of others.

CSU Richardson Design Center Vision:

- A design district
- A gallery of student's innovations
- A modeling of the creative process from ideation to prototype to fabrication
- A visibly compelling culture
- A leader in developing new technology and processes
- A campus wide transformation





II. Existing Conditions



Proposed CSU Richardson Design Center Site

Existing Conditions

The Richardson Design Center sits strategically at the southern edge of the CSU core campus at the Northeast corner of the intersection of Lake Street and S Whitcomb Street. To the west of the site is the new stadium, which has a green way occupying the adjacent eastern edge to the Design Center site. Aggie Village North student residential complex sits directly south of the site and is currently under construction. The Aggie Village North complex also contains a proposed green way running North / South along Whitcomb Street. Current layout of the Richardson Design Center has allowed for the development and growth of significant vegetation (specifically trees) that provide shade throughout the site and noise and view buffers along Lake Street while connecting the two adjacent green ways. The connection encourages pedestrian circulation and wayfinding through the area. West of the site is the Gifford Building which houses the Department of Design and Merchandising, comprised mostly of office and classroom program. North of the site is the Visual Arts building which brings a unique opportunity to collaborate and create a design district on campus between the two sites.

Existing Site Analysis

The Existing site for the Richardson Design Center is approximately 1.25 acres, comprised mainly of two separate surface parking lots providing a total of 172 parking stalls with pedestrian access on all sides. The south most lot is accessed off Lake Street while the north most lot is accessed off a service drive to the north.

- The primary electrical system will be designed by CSU Facilities, including primary feeders, the utility transformer and utility meter.
- Steam/Condensate lines will be provided by campus utilities at the southern edge, the new steam condensate runs through the middle of the site and then to mechanical rooms at various locations.

Service comes in off S Whitcomb St.

- Domestic cold water service will be provided from the campus utilities at Southern edge of site
- Sanitary will connect to (E) inverts as they leave the site. Capacity will be reviewed during the design phase with the projected fixture counts.
- An existing 42" storm sewer line runs through the middle of the site and will be abandoned. The new design will target to interconnect with new proposed stadium storm sewer line.
- Natural gas service will be new to the site. It is a goal to establish 'use agreements' and not grant easements with Xcel.
- Fiber optics and CATV service is CSU owned and enters from Center Avenue.

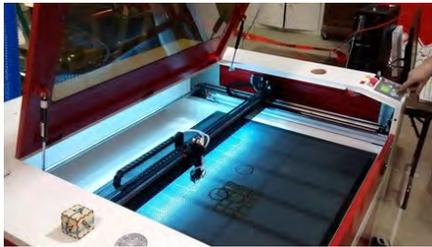
Acquisition of Real Estate Property

No land acquisition is necessary. CSU owns the proposed buildings and project site.



Equipment Requirements

The Richardson Design Center is comprised of off-the-shelf, industrial-grade fabrication and electronics tools, wrapped in open source software and programs. It is a technical prototyping platform for learning, innovation and invention. The specific equipment requirements are included in this scalable list, which will be specific to CSU's programmatic needs. Users learn by designing and creating objects of personal interest and relative course



material. Empowered by the experience of making something themselves, they both learn and mentor each other, gaining deep knowledge about the machines, the materials, the design process, and the engineering that goes into invention and innovation.

The Design Center facilities will include a wood shop, metal shop, textiles lab, soldering/robotics lab and a digital fabrication lab. Each laboratory will have special equipment requirements relating to power supply, dust collection, ventilation, computer aided software, restricted safety access and staff technical support. The open and flexible plan will allow the facility to adapt to new technology and equipment demands

Potential Lab Equipment Requirements:

Wood Shop:

- (3)saw stop table saws
- (3)panel saws
- (3)combination disc/belt sander
- (5)edge sander
- (5)scroll saw
- (5)drill press
- (5)6" jointer
- (5)12" planer
- (5)spindle sander floor model
- (5)sliding compound miter saw
- (5)bandsaw floor model
- (1)CNC router

Metal Shop

- (1)Haas machine center VFI
- (1)Haas CNC lathe
- (1)abrasive cutoff saw
- (5)horizontal bandsaw
- (5)geared head drill press
- (1)manual metal lathe
- (1)manual milling machine
- (1)slip roller
- (1)metal shear
- (1)metal break
- (1)MIG welder
- (1)TIG welder
- (1)CNC Plasma cutter
- (5)metal band saw
- (5)oxy acetylene torch setup
- (5)grinder
- (5)die grinder
- (10)files
- (10)rasps
- (10)drill bits
- (10)endmills

Textiles Lab

- (3)industrial sewing machine
- (1)CNC quilting machine
- (1)CNC embroidery machine
- (1)TC-2 Loom

Digital Fabrication Lab

- (3)Low cost 3d printers
- (3)60+ WATT laser cutters
- (3)3d scanners
- (1)small scale water jet
- (5)vinyl cutter
- (1)paint booth

Soldering/Robotics Lab

- (10)soldering workstations
- (1)robot arm(universal robot or ABB)
- (1)other CNC Tools allowance



*Looking from
the Outside-In*



1 Approach to site from W Lake St



2 Intersection of W Lake St and Whit-



3 Northwest Corner along Whitcomb



4 Northeast Corner along Alley and

Located at the Northeast Corner of W Lake St and Whitcomb St, the proposed site for the CSU Richardson Design Center is ideally located to provide the 'iconic' setting and backdrop for this innovative project / program. The highly visible corner is ideal for showcasing the creative works of students and faculty while providing a 'forum' for innovation, invention, and local entrepreneurship. The site as a whole is envisioned to be a 'Design District' for learning and innovation: a place to play, to create, to learn, to mentor, to invent. The immediacy of the site to the Department of Design and Merchandising and the Department of Visual Arts will help to expand this 'design district' into complementary programs, providing a means to connect to a campus-wide community of learners, educators, technologists, researchers, makers and innovators - a knowledge sharing network.



*Looking from
the Outside-In*



1 Southeast Corner Entry From Aggie



2 Southwest Corner Entry from



3 View West from Bike Path

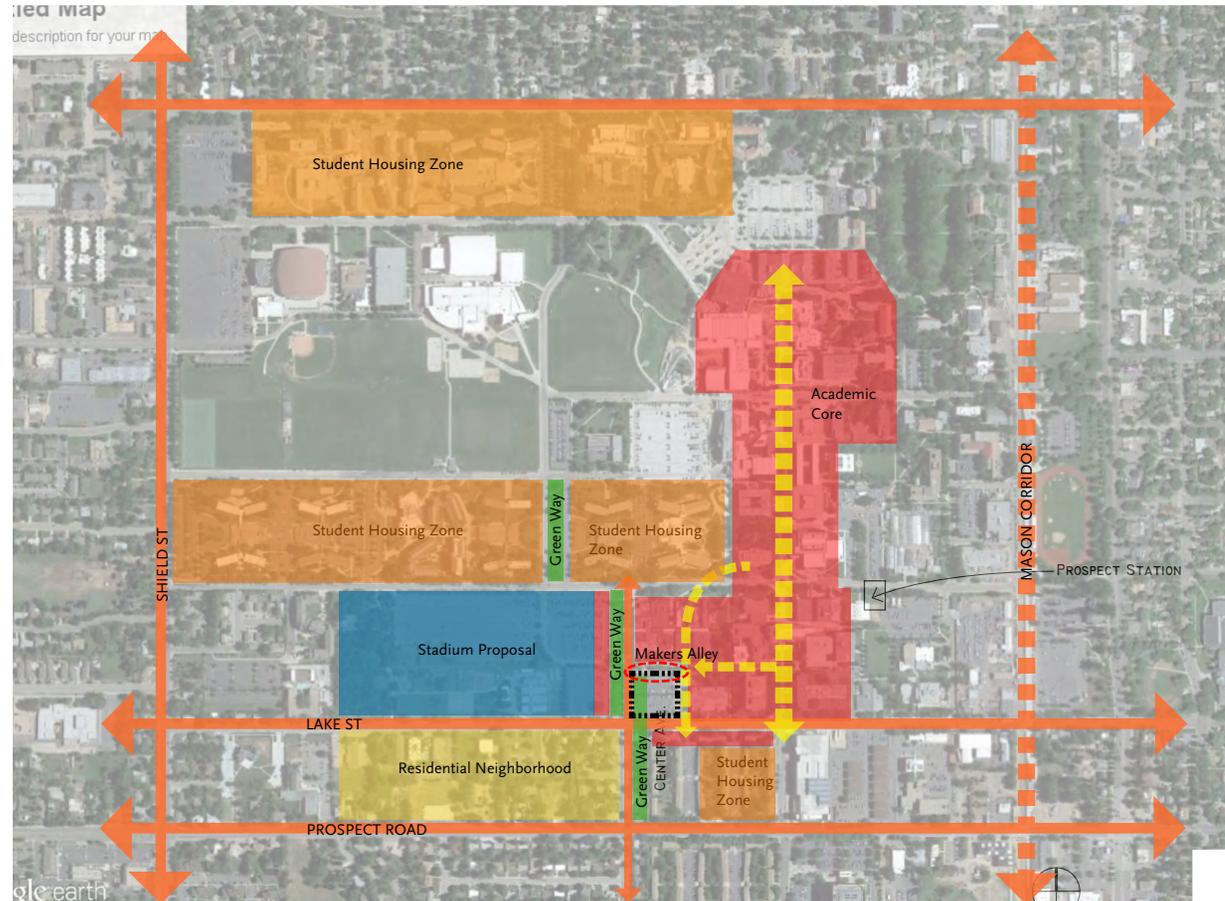


4 View along 'Makers Alley'

The site slopes north to south and is approximately 1.25 acres (54,450 sf) and serves (2) surface parking lots. The Lower lot (south) is accessed from W Lake St and accommodates 88 stalls, while the Upper lot (north) is accessed off the alley north of the site and accommodates 84 stalls. Along the west edge, fronting Whitcomb St. is a mature stand of deciduous trees which provides a 'soft' edge to the site and will help mitigate / attenuate visual, acoustical and solar concerns. Along the eastern edge of the site is an established bike route creating a key north-south connection from Aggie Village through the center of campus. Site work will be required to comply with CSU landscape standards.



III. Relation to the Master Plan / Other Projects



Campus and Community Connections

■■■■■ RICHARDSON DESIGN CENTER

The Design Center is located at the Southern Edge of CSU's main campus at the Whitcomb and Lake Intersection. Less than a 10 minute walk from Mason Corridor Bus Rapid Transit Station and the Lory Student Center, the site is ideally located for quick multi-modal connections to campus and the greater Fort Collins community. The CSU Richardson Design Center will be epicenter of the design district which encourages networking amongst cross-campus programs.

Physical Master Plan

The goals of this project fit within the guidelines of the Colorado State University New/Future Buildings Master Plan of 2014, by providing a space and facility that supports the University's role and mission. It maximizes the flexibility of facilities and infrastructure to accommodate unforeseen future conditions. The Richardson Design Center will broaden the horizon of creativity by creating a platform for discussion and exchange of ideas on a social, academic and artistic level.

Flood Mitigation Analysis

The first Master Drainage Plan for CSU was completed by Ayres Associates in June 1996. On July 28, of the following year, Fort Collins experienced a significant storm event that caused approximately \$150 million in damages to campus facilities. Very few of the master planned facilities were constructed prior to the 1997 flood. A draft Master Plan Update was completed in January 2001 with the purpose of identifying the best possible drainage improvement alternatives. The current Master Plan Update was completed by Ayres Associates in April 2003 and includes the as-built analysis of the Phase I and II improvements that were constructed. The existing floodplain on the CSU campus is the result of the following:

- Off-site flows entering the CSU campus from the City of Fort Collins Canal Importation Basin. These flows enter campus from the west side of Shields with a particular concentration at the Shields and Elizabeth Street intersection.
- CSU campus encompasses approximately 375 acres of mixed use development. Much of the campus is developed and highly impervious (which generates a lot of runoff) with the exception of the open space and recreation fields.
- Existing storm drainage system is small and complex, and provides very little conveyance capacity during large storm events, so most of the storm flows travel via overland or surface flow.
- The current Master Drainage Plan document is a

summary of the work that has been done, and also provides a guide for additional work that still needs to be done. This Master Plan also serves as a warning as to the complexity and sensitivity of CSU's storm drainage system. No additional work of any kind should be done without looking at the impacts to the storm drainage conveyance and flooding elevations.

- The CSU Richardson Design Center site does not encroach on the 100 year floodplain at the northeast corner of the site. All future structured development on site will stay out of this area.

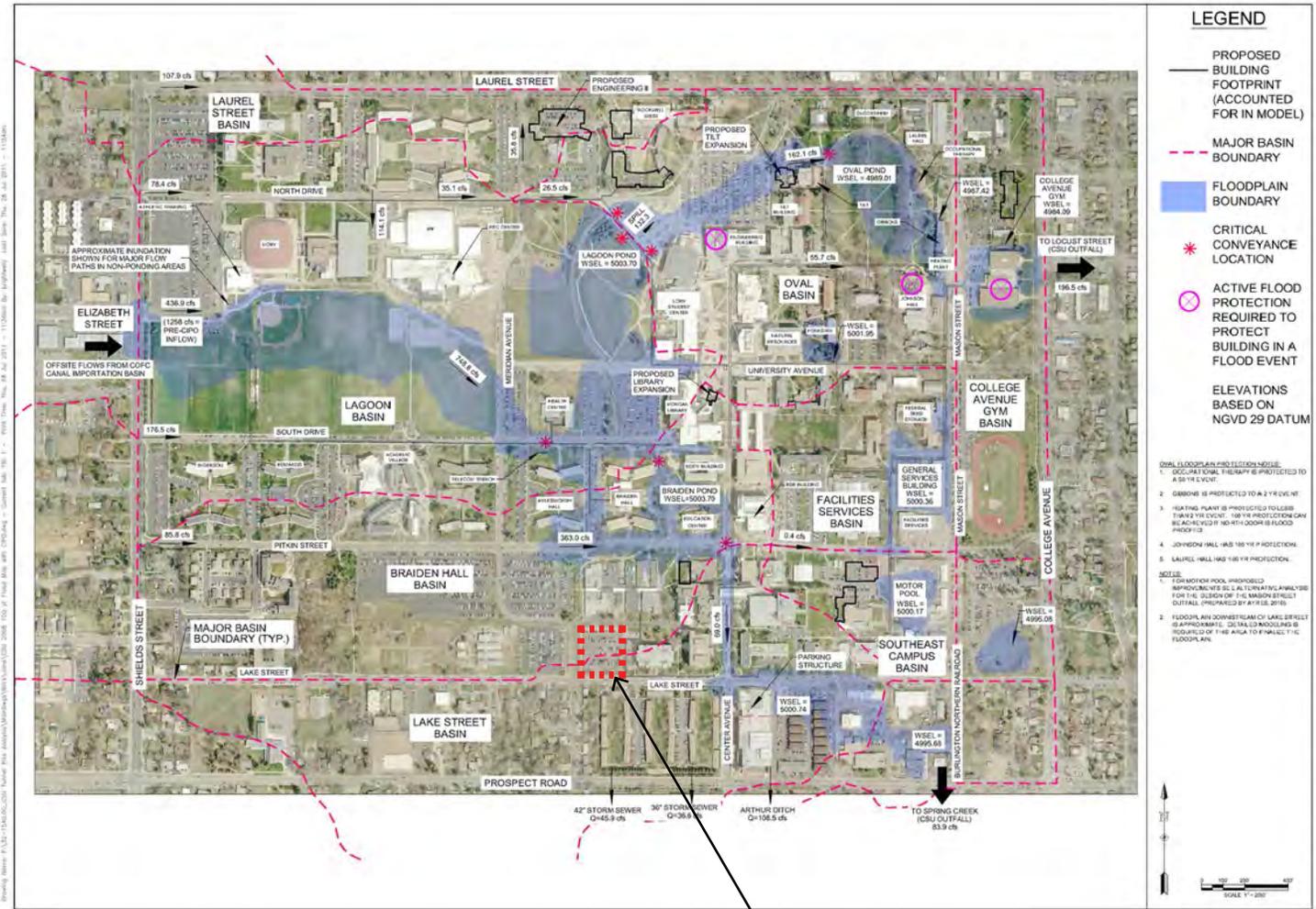
Landscaping

The proposed landscape improvements envision the complete revitalization of Richardson Design Center site. The buildings can be sculpted into the landscape in effective ways to promote cross pollination between private and public spaces. Pockets formed within the site create thoroughfares from one end to another embracing the energy of public circulation. Establishing an oasis along the east edge of the site allows the design center to create a social, yet contemplative space sheltered from the public streets while inviting students and faculty from all corners of campus. This concentration of collaborative energy provides a unique focal point to enhance and inspire creativity.

...buildings can be sculpted into the landscape in effective ways to promote cross pollination between private and public spaces



CSU Campus Flood Plain Map



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III. Relation to the Master Plan / Other Projects

CSU Richardson Design Center Site

Parking and Biking

The development of the new Design Center will displace a portion of the existing on-site parking. Various replacement parking options have been studied to replace a portion of the lost stalls. Existing surface parking is estimated at 172 stalls.

New construction for the project will provide new temporary surface stalls to the immediate west of Gifford Building (where the proposed Gifford expansion will take place in phase II). By enhancing the efficiency of the adjacent Gifford site we can alleviate a portion of the parking loss from the proposed Design Center Site. Additional site parking needs, should future demand warrant, will be accommodated through off-site surface lots. Further study will be needed to develop comprehensive campus parking solutions.

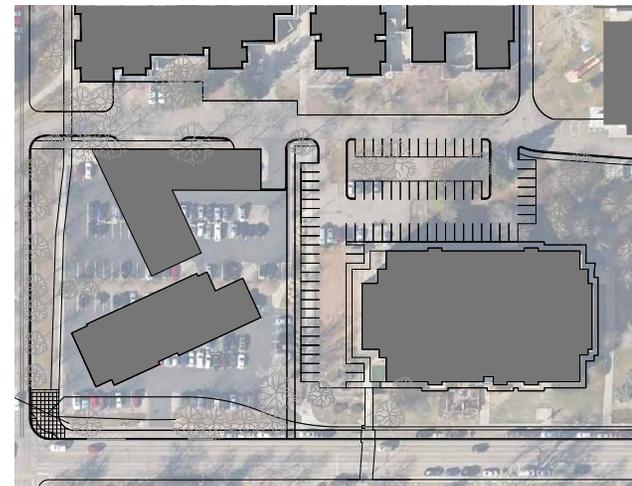
Bike parking will be ample and will provide a targeted rack space to provide short-term bicycle storage for at least 2.5% of all peak visitors, but no fewer than four storage spaces per building, as well as long-term bicycle storage for at least 5% of regular building occupants, but no fewer than four storage spaces per building in addition to the short-term bicycle storage spaces(LEED v4 - Bicycle Facilities).



Option B- 53 stall parking lot



Option A - 51 stall parking lot



Option C- 82 stall parking lot



III. Relation to the Master Plan / Other Projects

Information Technology

The proposed Richardson Design Center will be served with both hard-wired and wireless network connectivity. Existing campus single and multi-mode fiber optic networks have ample capacity for expansion.

Relation to Academic or Institutional Strategic Plans

Colorado State University is dedicated to providing a distinctive educational experience for students and faculty. The University's Strategic Plan, "Strategic Directions: Colorado State University Strategic Plan 2006-2015" is organized around five broad objectives. Consistent with the University's mission statement, sections are devoted to teaching and learning, research and discovery, and service and outreach. The fourth section addresses resources critical to supporting CSU's mission and the final section outlines diversity goals. The Richardson Design Center will support Strategic Plan as follows:

Teaching and Learning: Goal 3-Undergraduate Enrollment

The university will gradually increase the number of full-time undergraduates toward the current target of 35,000 at a rate that is consistent with institutional policy objectives, available resources, and state needs.

Teaching and Learning: Goal 6-Curricular and Co-curricular engagement in Active and Experiential Learning Opportunities for Undergraduates

The university will create opportunities for active and experiential learning in every major and in a broad range of co-curricular activities.

Sustainability, Accountability and Infrastructure:
Goal 31-Model institution for Sustainability, Master Planning, Beautification and condition of our campus buildings and grounds
Construct and renovate high quality facilities to meet campus demands.

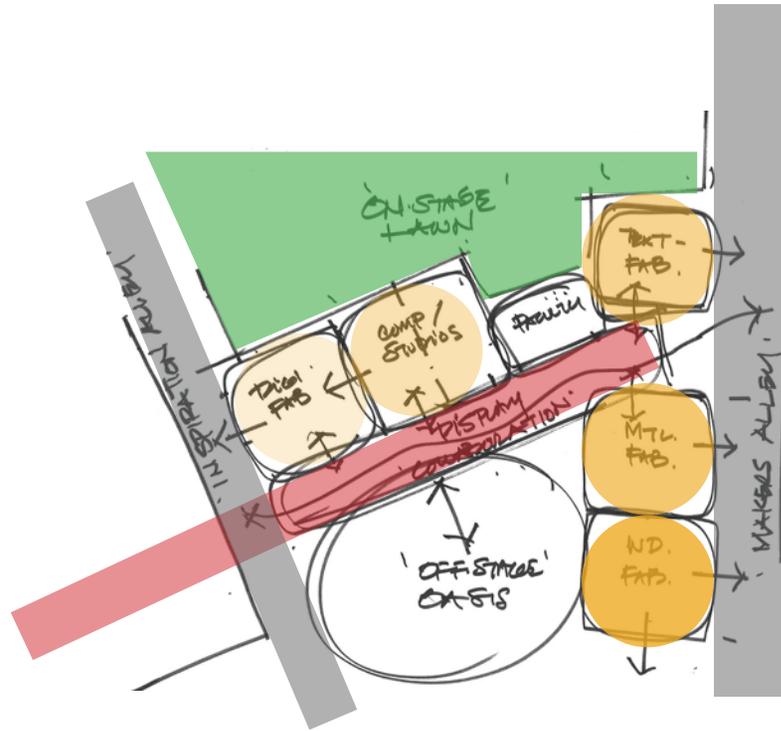
Relation to Other Programs or Agencies

The initial incubator programs include Interior Design, Product Development, Visual Arts, Landscape Architecture, and Construction Management. As the program's reputation grows and demand spreads cross-campus, we see great value and potential opportunities for engaging programs within the College of Business, the Department of Computer Science, and the College of Engineering.

Existing Programmatic/Operation Deficiencies

The Interior Design program is located in Aylesworth Hall. The building was originally built in 1956 as a residence hall and was converted to an classroom/office building in the 1980s, partly because its outdated infrastructure was already very expensive to maintain for student occupants. Building systems are beyond their useful life and investment for improvements is not fiscally prudent, as it is scheduled for deconstruction for the next housing development. Enrollment figures indicate a need for this redevelopment to occur in 3-5 years. There is currently no Design Center on campus. There are various fabrication workshops and studio spaces in several colleges, but no single location with fabrication workshops, studios, 3D printing and classroom space that is intended for interdisciplinary use.





Vision/Mission Statement:

The vision for an interdisciplinary design center at Colorado State University spearheaded by the Interior Design program within the College of Health and Human Sciences, and was further developed through a strategic planning session in the fall of 2014, which included stakeholders from across CSU and the Fort Collins community. The purpose of the Design Center is to shape and create opportunities for “design thinking” to flourish across departments, colleges, and programs at CSU. The strategic planning session yielded a clear mission statement: “This design

The design aesthetic is to create an innovative, inclusive, and immersive learning environment. center will be an iconic destination to advance

powerful design thinking and promote inspired quality of life solutions.” The Design Center will create opportunities for students from multiple disciplines to learn, study, and work together. The initial programs involved include Interior Design, Product Development, Art, Landscape Architecture, and Construction Management. In the future, we see great potential for engaging more with the College of Business, the Department of Computer Science, and the College of Engineering.

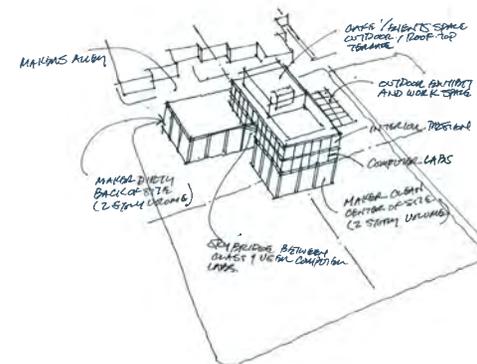
The Design Center will be a fluid space with studios and labs for collaborative group projects, gallery or presentation spaces to facilitate display of work and ideas in development, a maker’s lab, 3D printing lab, art workspaces, classrooms with high end technology, as well as offices for a director and support staff. The design aesthetic is to create an innovative, inclusive, and immersive learning environment. The end users will be students and faculty who will have access to cutting-edge resources and partnerships with industry. The Interior Design department will occupy the upper floors of the facility, with both studio and office space, to allow the department to relocate from Aylesworth Hall.

Staff:

The Design Center is expected to have a full time staff of 2-4 people including a Director, Production Manager and support staff. Safety of users will be the primary concern of the staff—they will provide initial training on equipment, assist with scheduling and provide overall monitoring of the fabrication spaces. Staff will also keep the equipment functional and make decisions on new equipment needed in the Center’s fabrication areas. Interior Design will be relocated from Aylesworth Hall and the Center will provide for growth of this highly rated program (#16 in the nation in 2015).

Program:

The Design Center is envisioned to provide an entirely new program for CSU, one that is interdisciplinary and draws students from many different majors and disciplines. There are several separate, college-specific fabrication areas on campus, but nothing that can bring students and faculty together in one common facility. The location of the Design Center will help to create a Design District on main campus—with Visual Arts and Design and Merchandising buildings located directly to the north and east. There will be “hoteling space” for faculty to set up temporary offices for co-curricular classes as well as flexible studio space in which to teach. Another key programmatic emphasis is gallery space to showcase student work and generate awareness around “design thinking”.



Role and Mission:

The College of Health and Human Sciences provides transformative academic, research, and outreach programs designed to enhance the health and well-being of people, their environments, and communities in which they live. It is a diverse college with a wide range of disciplines that come together because of the overall emphasis on improving lives, whether it is through design, construction, counseling, nutrition, fitness, merchandising, or education. The focus is on healthy living across the lifespan and in various environments.

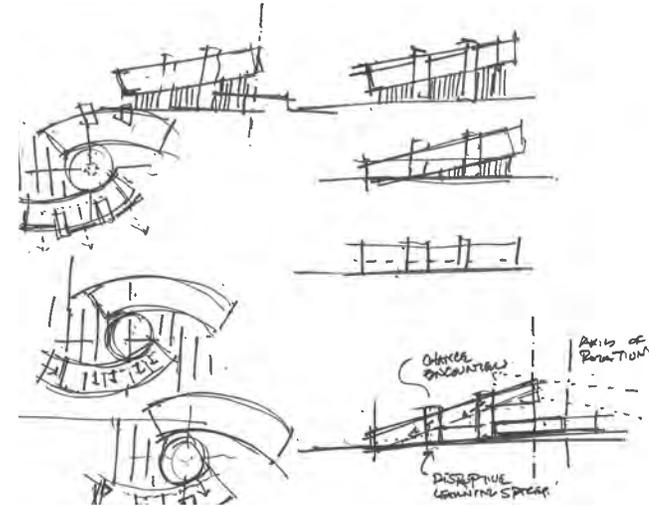
History:

The vision for the Richardson Design Center at Colorado State University was spearheaded by CSU's Interior Design program within the College of Health and Human Sciences, and further developed through a strategic planning session in the fall of 2014, which included stakeholders from across CSU and the Fort Collins community. This was followed by a multidisciplinary visioning session in May of 2015 that included faculty from Construction Management, Landscape Architecture, Design and Merchandising, Visual Arts and the Institute for the Built environment, along with the program plan architects, community representatives and college administration. This session further defined the Functions and Activities, Staffing, Learning Objectives and Future Growth needs for the Design Center.

Program Needs and Trends

"Design Thinking" is a term used for the combination of the skills, cognitive processes, and attitudes prevalent in design. A significant phenomenon is that design thinking is being looked at as having genuine promise in bringing about new ideas for affecting wide-spread behavior modification through designed interventions, which range from a highly personal level to policy. Building/fabricating is recognized as another way of thinking, using rapid prototyping and an iterative approach to solve complex problems.

Design instruction has always emphasized learning-while-doing, with the students as active contributors. Advances in technology have resulted in an unprecedented ability to "make almost anything", and access to this technology is critical to the education of the next generation of interdisciplinary designers.



Benefits of the Project

The Richardson Design Center will create opportunities for students from multiple disciplines to learn, study, and work together. The design aesthetic is to create an innovative, inclusive, and immersive learning environment that will have

Design Center users will have access to cutting-edge resources and partnerships with industry.

a national reputation and spur student and faculty

recruitment. Design Center users will have access to cutting-edge resources and partnerships with industry. In addition, the Interior Design department will have the opportunity to relocate from Aylesworth Hall, which is scheduled for eventual deconstruction to provide a site for additional student housing.

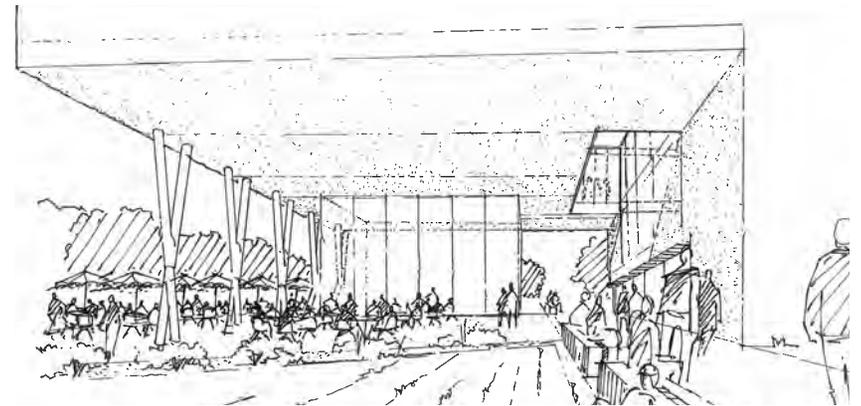
Program Alternatives

During the program plan process we investigated the possibility of combining the Design Center with community “maker space” that was being developed off campus. While the sharing of equipment and the multigenerational mentoring possibilities were very attractive, the need for students and faculty to have priority access to the facility caused us to discard this option. The popularity of other maker spaces such as “TinkerMill” in Longmont was seen as a likely source of scheduling conflicts, and the need for parking for community members was difficult to accommodate at this site.

CSU also looked at the possibility of locating this program in the academic space that is being built under the east concourse of the multipurpose stadium. Multiple programming and conceptual design options were developed for this space in response to discussions with representatives from campus constituency groups, including Faculty Council, Administrative Professional Council, Classified Personnel Council, ASCSU, Student Advising, Administration, and several colleges and academic departments. The Design Center was not part of the final configuration recommendation by

those campus constituencies.

Renovation of Aylesworth Hall is not considered to be a feasible option. The building has multiple operational difficulties and the site is planned for other future uses.



Total Space Requirements

CSU Richardson Design Center Preliminary Space Program - 40,600 SF Prepared by 4240 Architecture Updated 10/9/2015				
Programmed Spaces				
Department / Use	Area/ASF	Quantity	Area/NSF	notes
Interior Design Department				
ID Lab / Classroom Spaces				
Class Laboratory / Studio	1,800	3	5,400	2 General, 1 Senior (Incl. ANHUI)
Large Studio	3,000	1	3,000	similar to D Lab
CIDA Storage	400	1	400	Accreditation archival storage
Conference / Seminar Room	500	1	500	Seminar and faculty meetings, 25 occupants
Conference Room	200	1	200	10 occupants
Materials Workroom	350	1	350	Materials and library
Class Laboratory Storage	500	1	500	Student project storage, adjacent to studios
Sub-total Assignable Square Feet (ASF)			10,350	
*Departmental Gross Square Feet (DGSF) @ 20%			12,420	
Faculty / Staff Offices				
Offices - ID	120	8	960	std. faculty office
Offices - Graduate Students	200	1	200	4 occupants open office space
Offices - Product Development	120	3	360	
Offices - Research	120	1	120	
Mailroom & Kitchen	200	1	200	
Sub-total Assignable Square Feet (ASF)			1,840	
*Departmental Gross Square Feet (DGSF) @ 35%			2,484	
Computer Laboratories				
Computer Lab Spaces				
User Lab	1,100	1	1,100	College access, lab, storage, tech room
Class Lab	1,500	1	1,500	50 occupants NASF @ 30 sf/Student tables & chairs
Sub-total Assignable Square Feet (ASF)			2,600	
*Departmental Gross Square Feet (DGSF) @ 20%			3,120	
Design Center				
Design Center Spaces				
Cross Campus Fab Lab	3,000	1	3,000	Cross campus flex space
Ideation Lab	1,000	1	1,000	Low-tech, sketching, study models , pin-up, storage
Prototyping Lab	3,000	1	3,000	Digital, Textile, Wood and Metal Shops / Labs
Class Lab / Studios	1,500	1	1,500	Cross campus, demisable
Gallery / Presentation	2,000	1	2,000	Shared with ID, informal pin-ups / presentations
Coffee Spot / Collaboration Lounge	0	0	0	Integrate into circulation
Sub-total Assignable Square Feet (ASF)			10,500	
*Departmental Gross Square Feet (DGSF) @ 20%			12,600	
Faculty / Staff Offices				
Directors Office	180	1	180	
Reception / Office Manager	120	1	120	
Offices - Flex	80	7	560	Hoteling, open layout
Offices -Visiting Scholar	120	1	120	
Production Manager	120	1	120	
Support Staff	100	1	100	2 Graduate students @ 50sf
Sub-total Assignable Square Feet (ASF)			1,200	
*Departmental Gross Square Feet (DGSF) @ 35%			1,620	
Total Departmental Gross Square Feet (DGSF)			32,244	
Mechanical, Electrical, Plumbing, IT @ 6%			1,935	
Building Core & Circulation Efficiency @ 20%			6,449	
**Total Building Gross Square Feet (BGSF)			40,627	

The program development process included strategic discussions with the CSU Richardson Design Center Steering Committee including participants from CSU's Health and Human Sciences, Facilities Management, landscape Architecture, Visual Arts, Interior Design, Design and Merchandizing, as well as participants from Blue Ocean Enterprises. The initial programs involved include Interior Design, Product Development, Visual Arts, landscape Architecture, and Construction Management. Future program phases may engage the College of Business, the Department of Computer Science, and the College of Engineering.

*Department Gross Square Feet (DGSF) - Includes internal departmental and/or service circulation and partitions, columns and projections enclosing the structural elements of the building within the departmental space

**Building Gross Square Feet (BGSF) - Includes all DGSF space, as well as the area of the exterior wall and structure; public restrooms, common and service spaces not assigned to a department; enclosed mechanical spaces; vertical circulation spaces including elevators and stairs, shafts and stacks; any other areas which make up the entire building

Floor Plan Opportunities

Through refining the preliminary space program by encouraging greater collaboration amongst departments and use of shared resources, an inviting balance between building efficiencies and amenity space resulted. The initial space

The buildings will strike an inviting balance between building efficiencies and amenity space in the Design Center by designing dual functionality into building elements.

allocated for “Ideation” and “Prototyping” was further defined by the intended use rather than the process, all of which cycled through

a prototyping and fabrication workflow - Wood shop, Metal shop, Textiles/Metal arts and Digital fabrication. These uses were seen as the core programs of Design Center, thus reducing the need for a separate spaces such as the “Fabrication lab” for cross-campus flexible fabrication space since this lab would share the resources already “on-site.”

The second level of the Center houses the primary teaching spaces for the Interior Design Department. Special attention was given to the overall organization and layout of the Class Lab / Studio spaces to foster greater collaboration and design synergy. Each studio incorporates a ‘Storage / Presentation wall’ with operable doors which also function as student pin-up space. Outside the studio, the storage wall is transformed into an undulating (standing/sitting) workbench where students can pull up to or recline into to or plug into to further the spirit of open / collaborative work environments.

functions for the interior design department, as well as conference / seminar rooms. The proximity to the Class Lab/Studio spaces immediately below help promote an open learning environment between faculty and student. Off the elevator lobby is a mezzanine overlooking the D-Lab Studio below, heightening the importance of this cross-campus / cross-discipline Lab and uniting students, faculty and community members in the creative and innovative culture of the CSU Richardson Design Center.

The third level houses the primary administrative

Level 1 Floor Plate

- Gallery / Presentation gsf: 20,000
- Computer Labs gsf: 1,800
- Design Center gsf: 8,500
- Cafe gsf: 600
- Social / Collaboration gsf: 800





Exterior and Interior Materials

As identified in the recommendations of the Campus Aesthetic Guidelines, the proposed design will strengthen CSU's unique sense of place, reinforce the campus built framework by sharing a common palette of material aesthetics, provide new opportunities to expand the CSU brand and optimize sustainable opportunities in materials, construction operations, and energy consumption. This project shall comply with the Campus Aesthetic Guidelines as best applied to the goals of the renovation. Materials shall also comply with the CSU Design and Construction Standards Manual, most current.

Richardson Design Center- Exterior Materials

Facade components of the new construction are comprised of stone, architectural concrete, metal panel and glazing. Key building joints, horizontal connections and vertical circulation components will employ a light, tectonic aesthetic helping to reduce the scale, bulk, mass and visual impact of the buildings. The buildings will strike a balance between mass and tectonics that are inspired by the energy and patterns of the campus. Integration with the material palette of the existing Campus and academic buildings will be a key design goal, though the use of new, high-performance materials will help create a unique personality for the Richardson Design Center, ultimately, providing CSU with a distinctive, contemporary product. Exterior materials will also include:

- Exterior sun-control devices at strategic south, east and west exposures, based on energy models & ROI
- The academic façade and character would draw from the vocabulary of the campus buildings, specifically embracing existing patterns while evoking a modern extension of the CSU palette through transparent / light materials.

Richardson Design Center- Interior Materials

The interior finishes will be hard surface and require low maintenance. Sustainable materials or materials with sustainable components shall be considered with priority. The construction of interior finishes for the Design Center will be typical and are proposed to include:

- Painted gypsum board on metal studs
- Impact resistant walls
- High grade carpet
- Hard surface flooring materials at the entries, shops, labs and bathrooms
- Hard surface surrounds
- Solid surface at casework.

Health, Life Safety and Code Issues

As a State institution, Colorado State University holds overall jurisdiction for this project and will provide final interpretation on building code issues. Within its authority, Colorado State University will employ the services of an independent third party code consulting firm to be responsible for the review of the design and construction documents for compliance with applicable codes and standards. State Inspections will be required during construction for elevators. This project will be designed and constructed in accordance with the applicable codes in effect at the time the design phase is commenced.

Code Review

A brief description of code review criteria for the project is included below:

Building:	CSU Richardson Design Center
Location:	Colorado State University Fort Collins, Colorado
Proposed Construction Type:	Type II-A (Fire Resistive Non-Combustible)
Proposed Stories:	Maximum 3 total with Mechanical Penthouse Option 01: 3 stories of Type II-A concrete construction with building elements listed in IBC Table 601, including the roof, are of non-combustible materials 1 Hr. Primary Structural Frame 1 Hr. Bearing Walls (Exterior/Interior) 0 Hr. Non-bearing Walls and Partitions (Exterior) 0 Hr. Non-bearing Walls and Partitions (Interior) 1 Hr. Floor construction and associated secondary members 1 Hr. Roof construction and associated secondary members
Fire Protection:	Automatic fire sprinkler throughout NFPA 13
Occupancy:	B Business A-3 Assembly spaces more than 750sf and/or 50 occupants per section 303. S-1 Moderate-Hazard Storage (Combustible material storage) S-2 Low-Hazard Storage (Non-combustible material storage)
Occupancy Separation:	0HR between A-3 and B occupancies. 0HR between S and A-3 and B occupancies.
Fire Separation:	0HR or as modified by Occupancy
Accessibility:	As required by ANSI 117.1
Egress:	2 Required Exits per Floor

* Type IIA: (achievable and least restrictive)

Code Review cont.

Area Analysis by Construction Type

CSU Richardson Design Center

Type II A Construction:

Height: 65 feet (Non-Sprinklered)

75 feet with NFPA 13

Stories: 3 (Non-Sprinklered)

5 stories with NFPA 13

Area per Story: 15,500 sf.

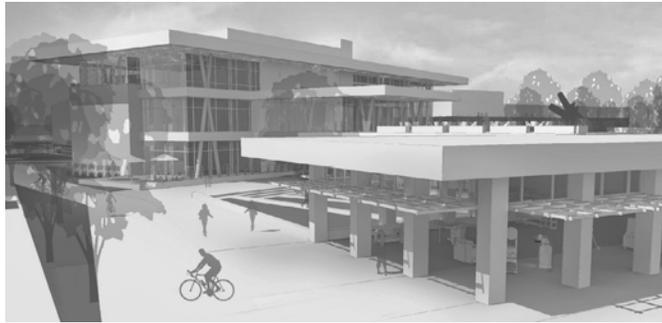
Area Increases:

Assume 3 Story Building / Maximum 'Open Frontage Increase' / NFPA 13:

15,500 sf per floor, max.; 45,000 sf total for entire building.

Reference: 2012 IBC / Table 503 – Allowable Building Heights & Areas Group A-3





Civil Narrative

General Description

The site work associated with the Richardson Design Center includes extending, relocating, and/or constructing new water and fire service connections, gas lines, irrigation, sanitary sewer, electric and communication lines. The associated demolition of the existing utilities and parking lot can be addressed under the same phase. New utilities services will be extended to the proposed building, and the existing irrigation main is to be rerouted. Coordination with CSU utilities, City of Fort Collins utilities, and the mechanical, electrical and plumbing engineer will be necessary to locate and size all utility services connections.

Coordination with the geotechnical engineer will be necessary to verify the pavement design for any driveways, surface parking and dewatering requirements for basements. An ALTA survey of the entire site is recommended in order to more accurately evaluate the existing site conditions, encumbrances and determine exact location and depth of existing utilities and tie-in locations.

Fire emergency access around the building and hydrant locations will also have to be considered for the site.

Design Criteria

Design of the above mentioned improvements will be directly coordinated with CSU Facilities staff utilizing CSU's design criteria and standards. City of Fort Collins and CDOT standards will be utilized for service drives and curb & gutter designs. Coordination with Poudre Fire Authority will be needed to review fire access and hydrant locations and the design will address their requirements. Construction erosion control design will reference Urban Drainage and Flood Control District and City of Fort Collins standards in collaboration with CSU Facilities Staff.

Earthwork

Work in this Section includes grading associated with the proposed building and any surface drive improvements. The recommendations for earthwork elements will be based on the geotechnical engineer report specific to the Richardson Design Center. The site topography appears to generally drain north and south, roughly split down the middle. The surrounding site has been previously improved with paved pedestrian access areas and pavement associated with parking. The proposed building will require modifications to the adjacent grades to ensure positive drainage away from the building foundation and to the existing drainage conveyance system.

We have not received a geotechnical report for this site. All site grading decisions will be coordinated with the project architect and with the geotechnical and structural consultants involved in the pavement and building foundation subgrade. Storm water management and erosion control plans will be prepared for the areas of disturbance. Building over excavation, subgrade modifications and potential basements are currently unknown. Detail grading around the building will be coordinated with both the architect and the landscape designer.

Flexible Paving

This section includes the asphalt paving for any proposed service drives and parking. A composite section of asphalt over an aggregate base course will be used. Heavy duty areas including drive lanes will require thickened sections to support fire trucks and emergency vehicles.

The flexible pavement sections will be confirmed with the geotechnical engineering report upon receipt. Paving amenities such as patterned or colored asphalt will be detailed by the architect.

Rigid Paving

This section includes the concrete paving for any proposed service drives, loading dock if applicable, sidewalks, and curb and gutter with jointing and Reinforcement as specified and scheduled. A composite section of concrete over an aggregate base course may be used based on the geotechnical engineers recommendations. Heavy duty areas including dumpster areas may require a thickened concrete section and be reinforced with welded wire fabric.

The rigid pavement sections will be confirmed with the geotechnical engineering report upon receipt. Paving amenities such as patterned or colored concrete will be detailed by the architect.

Signage

Directional signage will be provided in coordination with CSU recommendations and in accordance with MUTCD standards.

Location of on site signs will need architectural and CSU Staff coordination.

Storm Drainage

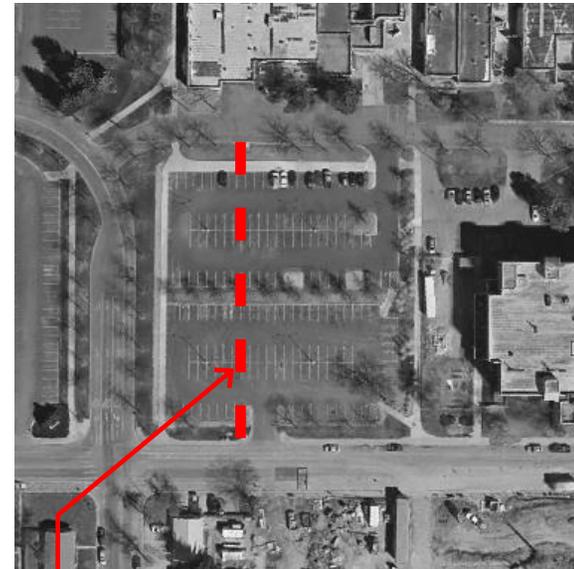
Work in this section includes all drainage relative to the proposed building, sidewalks, drives, parking and existing infrastructure.

CSU would like to implement the City of Fort Collins' Low Impact Development (LID) Standards. These Standards include:

1. No less than fifty percent (50%) of any newly added impervious area must be treated using one or a combination of LID techniques; and
2. No less than twenty five percent (25%) of any newly added pavement areas must be treated using a permeable pavement technology that is considered an LID technique.

Drainage around the proposed building will be conveyed via surface drainage through curb and gutter, inlets, storm piping and sheet flow away from the structure. Storm water is anticipated to be conveyed through storm piping to a new detention pond if space is available. If, due to site constraints, no room is available for on-site detention, fees will need to be paid into an account set up for a future regional campus detention pond. The existing 42" storm line located along the western part of the property will need to be relocated to accommodate the Design Center building. This will be a part of the Design Center project. Flows from the 42" line are eventually conveyed to the Spring Creek water quality pond south of Prospect Road.

Coordination with CSU will need to occur to determine the appropriate erosion control measures to be in place during construction. Further coordination will most likely be required to determine allowable street capacities for storm water conveyance off site.

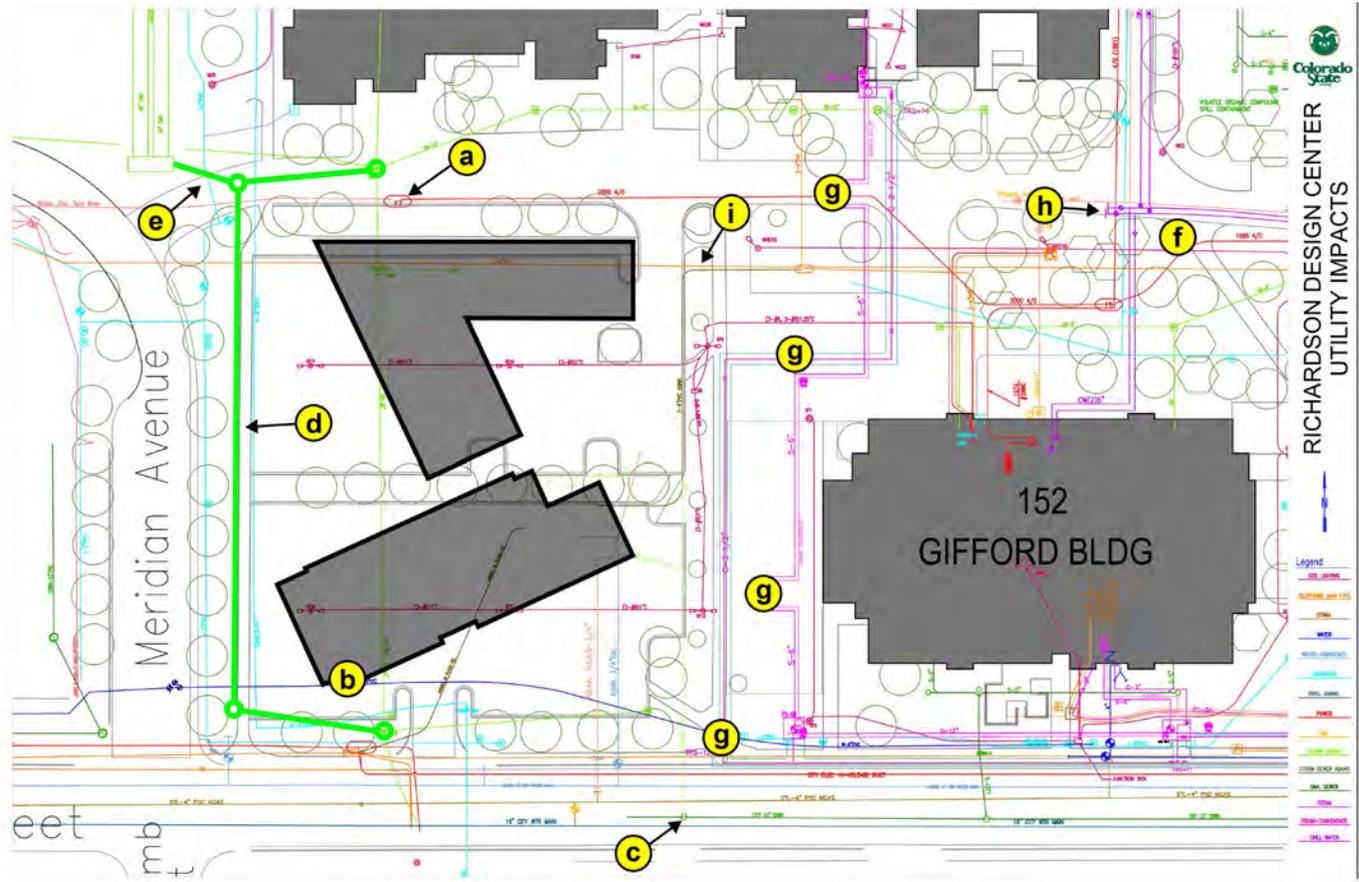


Existing 36"/48" storm line to be relocated

Utility Impacts

The following are impacts of the proposed building to existing utilities based on location and available capacity. Meters, transformers, building services, water quality features and other standard expenses required to connect the utilities to the building are not included in the scope of this analysis unless the expected cost is considered to be out of the ordinary.

In general, it is suggested that mechanical and electrical rooms of sufficient size be identified in the structure(s) on the ground floor, or in a basement, if any, which will define the entry point for all of the utilities.



Utility Impacts Map

Utility Impacts - Continued

Letters in parenthesis () are utility impact map references.

Electrical

- (a) Upgrade High Voltage Switch
Provide power from vault F7 at the northwest corner of the site. A different high voltage switch will need to be added in the vault to accommodate the new load.
- A location for the transformer needs to be identified within the site.

Lighting

- Remove existing and install new as necessary.

Water

- (b) It appears that the southwest corner of the lower building lays at or on top of the new Stadium water line. The water line is now installed and incorporated into the utility map via GPS survey, so the line represented is accurate. Some final adjustment will be required either of the line or the building to provide a 10' minimum offset. This could be accomplished during installation of the building service.
- There should be sufficient fire hydrant locations around the building due to new installations made during Stadium and Aggie North construction

Sanitary Sewer

- (c) Connect sanitary service at specified manhole to the City 10" sanitary main in Lake Street.

Stormwater

- (d) Reroute existing 36" storm line around site
- Reroute approx. 540 linear feet of storm main. Upsize to accommodate reduced slope on pipe.
- (e) Reconnect Stadium stormwater outfall
- Reroute approx. 30 lf of 36" storm line at Stadium outfall to new manhole.
- Regional detention pond

Stormwater detention is required for the project. This building site will need to invest in regional detention projects elsewhere on Main Campus.

- Address site drainage locally as necessary and include water quality measures on site (e.g. rain gardens, permeable pavers).

Natural Gas

- (f) If process natural gas service is necessary for programs, a connection can be made to the utility between Visual Arts and Gifford in the location shown.

District Heating

- Per campus master plan, this building site will be served by the central steam utility.
- (g) Connect to steam and condensate mains at any of the anchor points shown and route service lines to the mechanical space.

District Cooling

- Per campus master plan, this building site will be served by the central chilled water utility.
- (h) Run service lines from system termination in between Visual Arts and Gifford.

Telecom

(i) Reroute two 4" fiber-optic conduits around building footprint. Consult CSU Telecom for cost impact.

Irrigation

No impacts foreseen.



Site and Landscape Narrative

Five programmatic areas have been identified for the CSU Richardson Design Center. These include:

- 1) Gateway / Innovators Corner
- 2) The Great Lawn (On-stage)
- 3) The Oasis (Off-stage)
- 4) Makers Alley
- 5) Inspiration Alley

Following are functional/experiential goals and design objectives for each programmatic area:

Gateway / Innovators Corner

- Design Center gateway, intersection of Whitcomb Street and W. Lake Street
- Primary site arrival from south and Campus Spine – open circulation arrival plaza w/seating, sculpture and display
- Gathering and congregation – allow for flexibility in use throughout the year
- Facilitate events for game days (potential)
- Celebrate spirit of the CSU Richardson Design Center as an innovative, inclusive and immersive environment
- Celebrate CSU's World Class Design Hub
- Ground floor activation and creativity / innovation on display

The Great Lawn (On-stage)

- Central gathering space for events and activities, foreground to the Design Center
- Congregation, meeting and people watching
- Sense of permanence and timelessness – variation on traditional campus quad
- Community activity/event center – flexibility for events such as 'pre-game' activities and exhibits of innovation and creativity

The Oasis (Off-stage)

- Privacy for creative inspiration, emphasis on hard landscape and cultural displays
- Contemplative, inspirational, collaborative

- Gathering and congregation of cross-campus makers and innovators, outdoor classrooms and group instruction
- Cafe' and exhibition space as an extension to outdoor environment
- 4-seasonal and evening enjoyment

Makers Alley

- Creative and synergistic 'back-door' to the Design Center forging a strong tie with the Visual Arts building.
- Makers corridor where Class Fab Labs are on display and flow into the alley and plaza spaces
- Opportunities to heighten creativity and spark curiosity
- Open, active, immersive feel with technology both old and new on display
- 4 seasons landscape, emphasis on usable public way

Inspiration Alley

- Opportunity for 'chance encounters' to foster student / faculty / community interaction
- Transition from more public / exhibition spaces to more private / contemplative spaces
- Choreographed sequence of displays and innovation from 'Innovators Corner' to the 'Oasis'
- Tight and active space allowing users to easily access the Design Centers collective curriculum and approach

Streetscape - Lake Street and Whitcomb Street

- Canopy tree public right of way and promenade along Whitcomb
- Facilitate bike and pedestrian circulation
- Create overall project 'edge' and define pedestrian domain
- Transition to open plazas at project entry points



Structural Considerations

General

The proposed CSU Richardson Design Center consists of three structures. A Fabrication Lab, a Prototype Lab, and a Design Center.

The Analogue Fabrication Lab will be single story, high bay type structure, while the Digital Fabrication Lab will have an upper level Design Lab/Studio and adjoining spaces. The framing will in general be structural steel post and beam combined with long span open web roof joists exterior Fabrication Gallery/Terrace. There may be an overhead crane present in the Analogue Fabrication Lab.

The Design Center will primarily be a three story structure. Level one will be slab-on-grade. Levels two and three will be elevated floors. We anticipate composite steel/concrete floor system for these floor levels. Roof framing will be open-web steel joists spanning between wide flange beams located on grid lines. Exterior finishes will vary, but we anticipate a large percentage of glazing.

We anticipate that wind loads will control lateral design for all three structures. We anticipate using braced steel frames at the one-story structures to resist lateral loads. For the three story structure, we recommend using the concrete elevator/stair core wall to resist lateral loads. However, some additional elements along the structure's perimeter will likely also be required.

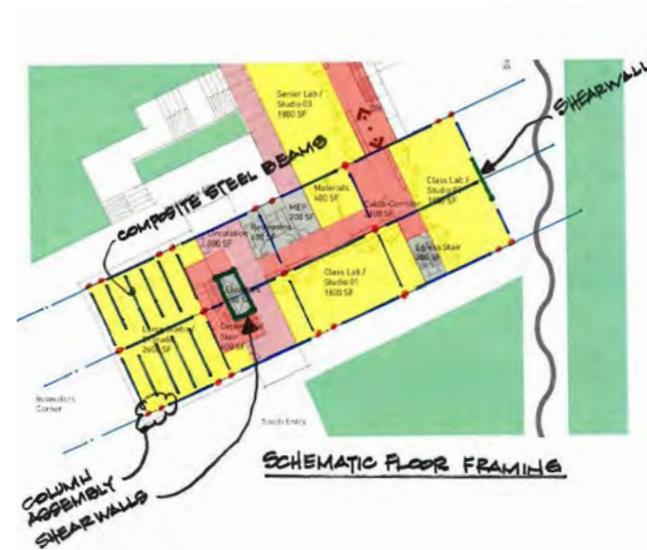
Currently, we do not have a Geotechnical Report for this specific site. However, a recent Geotechnical Report for the adjoining Aggie Village North site is available. This Report is dated October 11, 2013 and is by Terracon.

This Report recommends deep foundations (drilled piers) and spanning grade beams on void form. This Report recommends minimum pier depth of 30,' minimum bedrock embedment of 15,' and a minimum pier diameter of 18."

This Report also recommends SOG on improved fill if the Owner is willing to accept the risk of some slab movement. This is a typical recommendation. In our opinion, a minimum of 24" of imported structural fill should be anticipated below slabs on grade.

There were 13 borings for the Aggie Village site. Ground water was observed in each boring. Ground water depth ranged from approximately 10' to approximately 20' below existing grades. Therefore, temporary steel casing and dewatering should be anticipated for drilled piers.

Based on the proximity, and our previous experience with other Projects in the general vicinity, we anticipate similar recommendations, and hence a similar foundation system, for this Project.



Design Codes and Loads

Design of structural elements and systems in Fort Collins is currently based on the requirements of the 2012 International Building Code (IBC), 2010 ASCE 7 'Minimum Design Loads for Buildings and Other Structures' and CSU Construction Standards. Floor vibration design is based on floor stiffness vs. vibration criteria developed by AISC Design Guide 11 and coordinated with CSU's vibration consultant. Please note that it is possible that Fort Collins will shift to IBC 2015 prior to permitting for this project.

Design of structural elements and systems will be based on the requirements of the following material codes:

Concrete: 'Building Code Requirements for Reinforced Concrete' (ACI 318) and 'Specifications for Structural Concrete for Buildings' (ACI 301)

Structural Steel: AISC 'Manual of Steel Construction', 14th Edition

Light Gage Steel: AISI 'Specification for the Design of Cold-formed Steel Structural Members', latest Edition



Structural elements and systems are designed for the following:

2nd and 3rd floors:	60 psf reducible live load plus 20 psf partition load
Stairways:	100 psf live load
Ground snow:	30 psf snow load for drifting calculation
Flat roof snow:	25 psf snow load plus drifting
Wind:	130 mph (Ultimate 3-second gust), Exposure C
Seismic:	S _s = 0.19g (0.2s spectral acceleration) S ₁ = 0.06g (1s spectral acceleration)
SOG:	Wheel loading from equipment/lifts as required

Building Foundations

As previously noted, we anticipate drilled piers and spanning grade beams. We also anticipate spanning concrete mat slabs in elevator/stair core areas. Most likely drilled piers sizes and depths are as follows:

- Minimum pier diameter: 18"
- Minimum pier length: 30'
- Minimum embedment in bedrock: 15'

Main Level slab-on-grade thicknesses will vary based on occupancy. The Digital and Analogue Fabrication Labs will likely have 6" SOGs, while the Design Center will likely have a more traditional 4" SOG. We anticipate mild steel reinforcing in all slabs. We also anticipate that all slabs will be placed on a 15 mil vapor barrier and prepared sub-grade in accordance with the Geotechnical Report specific to this Project. Slabs should have saw cut or formed control joints in each direction spaced at approximately 12'-0"+. Some joint grinding should be anticipated.

Cast-In-Place Concrete

Work includes all labor, material and equipment necessary for cast in place concrete for piers, mats, grade beams, building/core walls, interior slabs on grade, elevated slabs on deck, retaining walls, and all other miscellaneous concrete.

Comply with requirements for Specifications for Structural Concrete for Buildings, ACI 301 and all other applicable documents and standards listed therein. ACI 302, "Guide for Concrete Floor and Slab Construction" should be adhered to for the construction of the slabs on grade.

PRODUCTS:

Provide Type I/II Cement at foundation elements and for all concrete in contact with soil.

Concrete Strengths:

Drilled Piers	4,000 psi; w/c=0.45
Grade Beams/Mat Slabs	4,000 psi; w/c=0.45
Slabs-on-Grade	4,000 psi; w/c=0.45, no entrained air
Composite Slabs	3,500 psi; w/c=0.45, no entrained air
Building Walls	4,000 psi; w/c=0.45

Fly Ash will be limited to 20%.

Reinforcing: ASTM A615, Grade 60.

General Contractor to track recycled content and regional materials for LEED credits pursued by Project.

Grout: 7,500 psi Non-Shrink, Non-Metallic

Structural SteelDESCRIPTION OF WORK:

Work includes all labor, material, equipment and services necessary for furnishing, fabricating and erecting structural steel framing members including anchor bolts and all other requirements related to steel construction.

Comply with requirements of AISC Specifications, 'Steel Construction Manual', 14th edition, the 2000 Code of Standard Practice and all other applicable documents and standards listed therein.

Most of the structure will be framed with HSS and/or wide flange columns, a composite floor system consisting of wide flange beams for the elevated floor areas, and a roof system consisting of open web joists and wide flange beams. 2", 20 gage CFD will be used at the floor. 1 1/2", type B, 20 gage wide rib roof deck welded to the framing members will be used at the roof.

Steel lateral elements will most likely be HSS diagonal or inverted chevron braces installed between adjacent building columns. Braces will be located in exterior/perimeter and/or interior walls without openings or shall be configured so as not to conflict with openings in walls.

Prime paint is only required on structural steel column elements exposed to view.

PRODUCTS:

Wide Flange Shapes:	ASTM A992
HSS Shapes:	ASTM A500, Grade B or ASTM A1085
Pipe:	ASTM A53, Grade B
Plate/Angle/Channel:	ASTM A36
High Strength Bolts:	ASTM A325
Anchor Bolts:	ASTM F1554, Grade 36

General Contractor to track recycled content and regional materials for LEED credits pursued by Project.

Open Web Steel Joists

DESCRIPTION OF WORK:

Work includes all labor, material, equipment and services necessary for furnishing, fabricating and erecting steel joist for all roof framing.

PRODUCTS:

Steel Prime Paint: Provide standard primer. Roof joists shall be standard K-series. KCS joists will be used in snowdrift areas and with mechanical rooftop units. Provide standard bridging per SJI requirements.

General Contractor to track recycled content and regional materials for LEED credits pursued by Project.

Steel Deck

DESCRIPTION OF WORK:

Work includes all labor, material, equipment and services necessary to furnish, fabricate and install all metal deck. Deck support around openings shall be part of this section.

PRODUCTS:

Floor Deck: 2" x 20ga. Composite Floor Deck.

Roof deck: 1.5"x20ga. Type B, wide rib painted steel deck spanning 6'-0" maximum.

General Contractor to track recycled content and regional materials for LEED credits pursued by Project.

Metal Fabrications

DESCRIPTION OF WORK:

Work includes all labor, material, equipment and services necessary to furnish, fabricate and install all miscellaneous metals, such as stairs, handrails, edge angles, etc. Brick shelf angles in exterior walls shall be hot-dip galvanized.

PRODUCTS:

Wide Flange Shapes:

ASTM A992

HSS Shapes:

ASTM A500,

Grade B or ASTM A1085

Pipe:

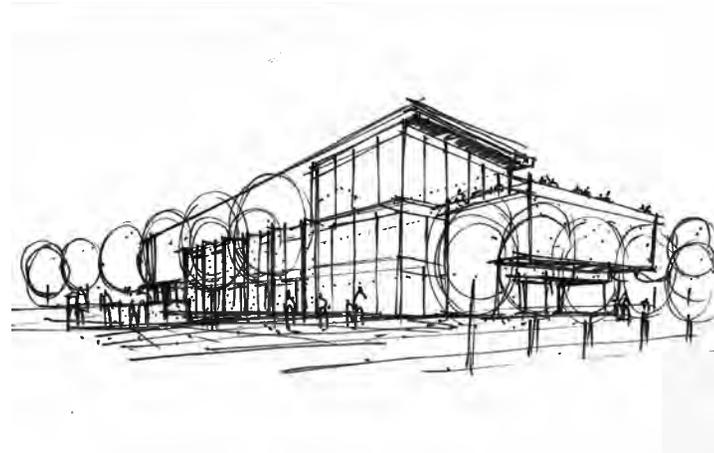
ASTM A53,

Grade B

Plate/Angle/Channel

ASTM A36

General Contractor to track recycled content and regional materials for LEED credits pursued by Project.



Mechanical Narrative

General:

The mechanical systems for the New Richardson Design Center will meet the requirements of the facility user's along with meeting the needs of project budget, energy conservation, sustainable design and building maintenance. The mechanical design will comply with the most recent version of the CSU Building Design Standards; the latest adopted International Building, Plumbing and Mechanical codes and applicable requirements of NFPA.

Environment:

Temperature ranges should be 72° F for heating and cooling (note: CSU Standards require the ability to adjust cooling set point to 78° F). Humidity control needs to be reviewed with the owner in detail, as adding and/or removing humidity is a large energy cost. The new Gallery may require humidification and will need to be confirmed with CSU.

Supply Air:

Air handling unit(s) will reside on the roof or in a penthouse mechanical room and provide the building with conditioned air. Based on the current design, the anticipated total airflow for the building is 63,000 cfm. Air distribution will be by medium pressure duct work to the floors and then distributed to the spaces by variable air volume boxes with reheat coils and low pressure duct work. Air handling units are proposed as either two equal sized units (31,500 cfm) or one large 63,000 cfm air handling unit.

Exhaust Air:

Exhaust will be slightly higher than the supply for the Prototype Lab in order to create a pressure gradient to control contaminants and odors. This is anticipated to be multiple exhaust systems to keep the wood shop exhaust separate from the metal shop, as well as other unique area's that have special exhaust needs.

General exhaust systems will exhaust the restrooms, janitor closets, copier rooms and other sources of contaminants.

The total exhaust airflow is anticipated to be approximately 8,000 cfm.

Return Air:

Return air will be brought back and recover as much air as possible. Low velocity duct work and plenums will be used. The return fan for the associated air handling unit will use fan wall technology and variable speed drives. Based on the current design, the anticipated total return airflow for the proposed building is approximately 48,000 cfm. The remainder of air not returned or exhausted is required for building pressurization.

Energy Monitoring:

The building automation system shall have metering in place to allow energy monitoring and therefore give building operators an ability to identify inappropriately high energy use.

Air Handling Units:

The air handling units serving the new Richardson Design Center will be equipped with pre-filters, final filters, heating coils, cooling coil, and supply fan section. All fans in these air handlers will have variable speed drives. Fan wall construction is anticipated.

Heating Hot Water:

Supply and return heating water piping will be distributed from the steam/hot water converters to the terminal air boxes, baseboard perimeter heaters, unit heaters, and fan coil units. The heat exchangers and pumps shall be sized to accommodate 100% redundancy.

Chilled Water:

Chilled water piping will be provided from the campus district cooling plant system which will be distributed to air handling units and fan coil units. Delta-P control valves are required for all cooling coils.

Steam:

The Campus district heating system serving this building will provide required steam for heating and domestic hot water loads. Steam to hot water converters will be used for heating water and domestic water heaters.

Controls:

This facility will allow either Johnson Controls or Alerton Controls DDC system which will be tied to the campus-wide building automation system.

Site Mechanical Utilities:

A new steam and chilled water connection will be required. The district cooling loop extends west towards Visual Arts, and terminates on the North side of Gifford. The main 16" piping will need to be extended to the west to a location where the taps for this new building can be provided. The steam piping terminates in a vault to the south and west of Gifford Building. A 6" steam and 2-1/2" condensate is routed north of this vault to the Visual Arts Building. It is unknown if this 6" steam is large enough to accommodate Visual Arts and the new Richardson Design Center.

For this program plan, it will be assumed that steam will need to be brought from the vault where the 12" steam pipe terminates. The total projected loads for this building are as follows:

Heating & Domestic Hot Water Load = 3,400 MBH = 3650 lb/hour steam

Cooling Load = 150 Tons = 240 gpm (based on a 15 deg delta T)

Plumbing Narrative*Water:*

Domestic cold water service will be provided from the campus utilities. The services will enter the building and be provided with dual backflow preventers per CSU Standards. It will then be distributed to a potable water system for restrooms, janitors closets, break rooms, etc. The domestic water line serving this new building is anticipated to be a 2" pipe.

Hot water will be generated from steam heat exchangers and will be distributed to the building and will be re-circulated by means of pumps. The hot water line serving this building is anticipated to be a 1-1/2" pipe.

Waste and Vent:

Waste and vent will be collected in a cast iron piping system and routed to the sanitary sewer. The building main sewer pipe is anticipated to be a 4" pipe.

Water Conservation:

Plumbing fixtures will be selected to provide substantially reduced water use (Water Closet = 1.28 gallons/flush; Urinals = 1/8 gallon/flush; Lavatories = 0.5 gpm).

Roof Drainage:

Primary roof drainage will be piped to the campus storm water system. Overflow roof drainage will be piped to a location at the exterior wall for visual observation by the owner.

Fire Protection Systems:

The building will be sprinkled throughout. The majority of the building will be served by a light hazard sprinkler system; however there are several spaces that will require Ordinary hazard. Ordinary hazard coverage is anticipated for the spaces where wood working, metal working occur as well as storage rooms. It is anticipated the building height will not require standpipes and therefore not require a fire pump.

Electrical Narrative

General:

The new Colorado State University ("CSU") Richardson Design Center will be designed to meet the requirements of the facility users along with the needs of the project budget, energy conservation, sustainable design and building maintenance. The design will comply with the most recent version of the CSU Building Design Standards Manual, the 2012 International Building Code, the 2014 National Electrical Code and applicable requirements of the NFPA. The various aspects of the Electrical Systems design will be discussed within this portion of the narrative.

Building Electrical Service:

A new pad mounted, oil-filled 13.2kV-480 volt transformer will provide service to the building from the existing 13.2kV, CSU owned, primary system. The primary electrical system will be designed by CSU Facilities, including primary feeders, the utility transformer and utility meter. CSU will be responsible for the raceway, conductors and duct bank from the primary termination points to the building transformer. CSU will make cable terminations at junction/termination points and will supervise termination of the building secondary conductors at the transformer.

An Elster utility meter, consistent with CSU Standards, will be provided and connected to the MDC.

Building Electrical Distribution:

Service to the building will be 277/480 volts, 3 phase, 4 wire obtained from the pad-mounted transformer. The underground secondary service feeders will feed an anticipate 1600A rated, 480/277V, 3-phase, 4-wire main distribution switchboard (MDC). The switchboard will be equipped with a 1600-amp adjustable-trip, ground fault main circuit breaker and molded case adjustable trip electronic feeder breakers. Circuit breakers will be provided with fully adjustable settings. The MDC will be equipped with

an alternative maintenance switch (AMS) per the NEC to temporarily reduce the short-time delay setting of the main circuit breaker for maintenance purposes and reduced arc flash potential. Spare circuit breakers will be provided for future load connections. The MDC will also be equipped with an external surge suppression device.

Digital metering will be provided on the individual feeder circuit breakers and will be connected to the building management system for monitoring and reporting electrical demand, energy usage, etc.

Dry-type step-down transformers will be sized to provide code-defined demand load. In order to help mitigate harmonic currents which will be generated by the personal computers and workshop equipment, all transformers except those used for low voltage mechanical and emergency loads, will be K-rated type.

Branch panelboards, sub-distribution boards, and the main distribution switchboard will have copper bus bars. All circuit breakers will be bolt-in type. These may be plug-in type provided they have a positive locking mechanism. All lighting and power panels will be door-in-door type construction and provided with minimum 30% spare circuit breakers. The main electric room will be located on the first floor and contain the main distribution switchboard, the first floor branch circuit panelboards and associated step-down transformers. Branch electric rooms located on the second and third floors will contain branch circuit panelboards and associated step-down transformers.

All feeder conductors will be copper.

A generator and emergency power distribution system is not anticipated for this building.

General Power:

Lab and workshop areas will be equipped with dedicated receptacles/power connections as necessary for equipment. Additional receptacles will be provided throughout each lab and workshop type space for convenience purposes.

Each private office will be equipped with a minimum of four (4) duplex receptacles.

Each conference room will be equipped with a minimum of four (4) duplex receptacles for general convenience purposes. Additionally, one (1) combination power-tele/data floor mounted device will be centered under the conference room table.

Power will be provided in each location as necessary for ceiling mounted projectors, projection screens; wall mounted digital displays, audio/visual equipment, motorized shades, etc.

Duplex receptacles will be provided throughout the building for general convenience purposes in corridors, lobbies, mechanical rooms, electrical rooms, janitor closets, restrooms, machine rooms and other similar spaces. Additional devices and circuits will be provided as required for electric water coolers, copy machines, refrigerators, coffee makers, dishwashers, garbage disposals, microwaves and other owner furnished equipment.

Duplex receptacles with integral 5-VDC/2.1-amp, "USB" charging ports are anticipated to be located in gathering areas and collaborative work areas. These devices shall be "USB 2.0/3.0 compatible" class 2. A minimum of thirty (30) USB receptacles are anticipated. Exact locations of these devices will be determined as the design progresses.

Telecommunications rooms will be equipped with one (1) general convenience receptacle and additional power connections and specialty receptacles as necessary for equipment racks, access control equipment, etc. per CSU Standards.

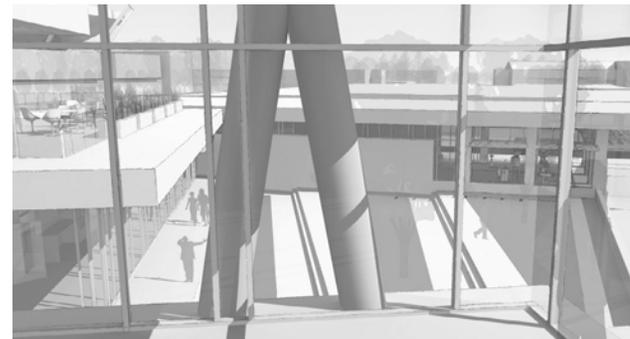
Power will be provided for building mechanical equipment, the elevator(s), elevator ancillary equipment, etc. as required. A fire pump is not anticipated for this building.

Weatherproof, GFI type receptacles will be provided around the perimeter of the building as necessary for exterior convenience. Additional receptacles will be provided at exterior gathering/plaza locations. All exterior receptacles will be equipped with in-use type weatherproof covers.

EMT conduit shall be used throughout the building for electrical feeders, electrical branch circuits, low voltage systems, etc. EMT conduit smaller than ¾" will not be allowed.

MC cable is not allowed for use, per CSU Standards, unless specifically defined otherwise. MC cable will be allowed for whips (not exceeding 6-ft in length) for connection to individual luminaires.

All branch circuit conductors will be copper.



Lighting:

The following luminaire types are anticipated to be provided. Base design will be 28W/T8, 3500 K color temperature and 85 coloring rendering index (CRI) minimum for fluorescent lamps and energy efficient electronic ballasts in the individual spaces.

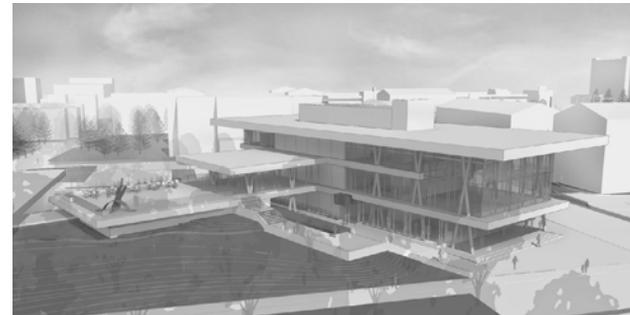
- 1) Labs/Workshop Areas (with lay-in type ceilings): Recessed, linear fluorescent luminaires. The lighting system will be designed to provide 50-footcandles on the work surfaces.
- 2) Labs/Workshop Areas (with open structure ceilings): Surface or pendant mounted LED luminaires. The lighting system will be designed to provide 50-footcandles of the work surfaces.
- 3) Offices and Computer Areas: Pendant mounted direct/indirect linear fluorescent luminaires.
- 4) Conference Rooms: Compact fluorescent downlights connected to dimmers to provide a source of illumination for presentations and specific tasks. Fluorescent pendant mounted direct/indirect lighting for general lighting.
- 5) Corridors: Recessed linear fluorescent luminaires spaced evenly through the public corridor areas for general illumination. Recessed compact fluorescent downlights are anticipated in drywall ceiling areas.
- 6) Lobbies (standard ceiling heights): Recessed, compact fluorescent downlights will be used in the lobbies in areas with standard ceiling heights, less than 12-ft.
- 7) Lobbies (high ceilings): Due to the need for a high output lighting solution in these areas and difficult maintenance access, recessed LED downlights will be used to provide general lighting. Designated luminaires in these areas will be equipped with emergency battery packs. It may be necessary to remotely mount the LED drivers and emergency battery packs to more accessible locations.

8) Mechanical/Electrical/Telephone/Storage Rooms: Lighting will be 2-lamp fluorescent strip fixtures or, where conditions warrant, 2-lamp surface fixtures with wraparound lenses.

9) Restrooms: Recessed linear fluorescent luminaires are anticipated to be located along the walls above the restroom fixtures. Additionally, recessed compact fluorescent downlights will be located in the center of the restrooms.

10) Emergency Egress Lighting: Designated luminaires will be equipped with emergency battery packs to provide code required emergency egress illumination along the paths of egress. Exit signs will be provided throughout the building as required and will be equipped with emergency battery packs and self-diagnostic electronics.

11) Exterior: Weatherproof wall mounted LED luminaires are anticipated to be located around the perimeter of the building and recessed LED downlights are anticipated at entry canopy locations. Pedestrian circulation areas are anticipated to be illuminated using pole mounted LED luminaires per CSU Standards (Kim Archetype LED). All exterior luminaires will have sharp cut-off distribution characteristics. An emergency battery inverter unit is anticipated for connection of building mounted exterior lighting located at building egress points.



Lighting Controls:

Means for automatic lighting controls are anticipated to be added throughout the project area to comply with the requirements of the 2012 International Energy Conservation Code (IECC) for interior lighting.

Individual offices, conference rooms, computer labs and other similar spaces are anticipated to be equipped with vacancy sensors and manual switches. Spaces equipped with three (3) or more luminaires located along perimeter walls are anticipated to be equipped with daylight harvesting photocells as required by the 2012 International Energy Conservation Code (IECC). The photocells will be low voltage, ceiling mounted devices in these locations.

Luminaires located in corridors and public areas will be controlled by a lighting relay panels located on each floor.

Lab/Workshop spaces will be equipped with low voltage manual switching in a zoned arrangement. These spaces will not be equipped with occupancy/vacancy sensors.

Exterior lighting will be controlled by a relay based lighting control system by a photocell and integral time clock.

The following matrix describes the intent of the lighting control system as required by the 2012

<u>Building Area Type</u>	<u>Control Method</u>									
	<u>Time Clock (ON)</u>	<u>Time Clock (OFF)</u>	<u>Manual Override (ON / OFF)</u>	<u>Occupancy Sensors (Auto ON / OFF)</u>	<u>Vacancy Sensors (Auto OFF)</u>	<u>Photocell</u>	<u>Dimming</u>	<u>Dual-Level Control</u>	<u>A/V System Interface</u>	<u>Zoned Control</u>
Corridors	X	X	X							
Common Areas	X	X	X							
Lobbies	X	X	X							
Lobbies/Common Areas (Exterior zones)	X	X	X			X	X			
Offices (Interior zones)			X		X			X		
Offices (Exterior zones)			X		X			X		
Storage			X		X					
Conference Rooms			X		X		X			X
Labs/Workshops			X							X
Exterior Lighting		X				X				

Fire Alarm System:

The fire alarm system in this building will be a Notifier NFS2-3030 "smart" system with Notifier digital voice audible sounders (voice evacuation). The system will be capable of monitoring the sensitivity and calibration of each detection device and reporting alarms by an alpha-numeric display and on a remote printer. Each detection device and manual pull station will be addressable and report to the control panel as an individual device. Addressable interface models will be used to connect the sprinkler system flow and tamper devices to the system. All fire alarm cabling to be installed in conduit.

The fire alarm control panel display screen will indicate which device is in alarm and if there is trouble on the system.

Because the building will be sprinkled, devices will be located as follows:

1) Manual Stations: Double action pull stations will be located at each exit door and where required to meet the travel distance limitations per NFPA.

2) Photoelectric Smoke Detectors: In all electrical and telephone closets, main electrical room, emergency electrical room, fire pump room, elevator lobbies, elevator machine room, top of the elevator shaft, and the top of stairs. Thermal detectors to be provided in janitor closets.

3) Duct Detectors: In all supply and return ducts required by code. Sequence of operation to be coordinated with CSU Facilities personnel for fan shut down and damper operations.

4) Audible and Visual Notification Devices: Audible and visual notification devices will be located throughout the building as required to comply with current codes, ADA documents and CSU Standards. Notification devices shall be ceiling mounted, white with red "ALERT" marking.

5) Remote Test Stations: Remote test stations shall be the magnetic type as required by CSU Standards.

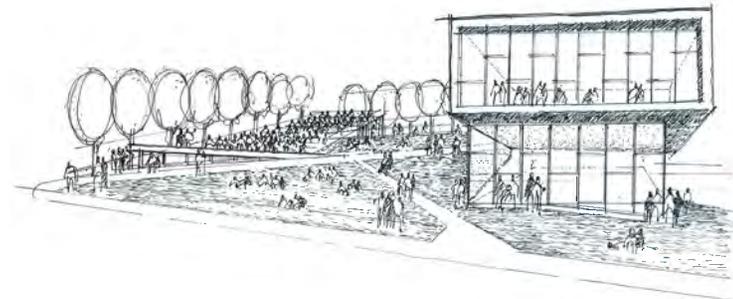
6) Fire Alarm Cabling: All fire alarm system cabling shall be routed in EMT conduit.

A fire pump is not anticipated for this building.

Refer to the currently adopted CSU Standards, project specifications, and drawings for additional information and requirements.

Lightning Protection System:

A lightning protection system is not anticipated for this building. Lightning protection system are not typically utilized on the CSU Campus.



Sustainability Narrative

Senate Bill 07-051 directs that state buildings undergoing new construction conform to the High Performance Certification Program. The Office of the State Architect has stated that USGBC LEED-NC Gold is the targeted minimum standard of this program.

USGBC LEED-NC Gold is the targeted minimum standard of this program.

The most current LEED publication at the time of design will be used. The inclusion of high performance standards is an integral part of the project, beginning at the program plan stage.

It is anticipated that the LEED (NC) New Construction Certification Path will be pursued on the project.

The CSU Richardson Design Center sustainable strategies

Through the program process and beyond, the CSU Richardson Design Center is ideally positioned to embrace a regenerative based design methodology that responds to natural and contextual flows, and, ultimately, contributes an inimitable, intrinsic value to CSU.

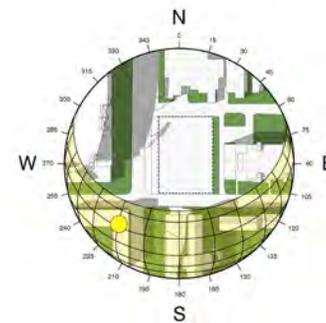
The CSU Richardson Design Center will strive to provide efficient, performance based solutions that enhance the human spirit, share resources, embrace the natural environment and protect the project's economic constraints; all the while minimizing waste.

Design solutions, such as passive solar interfacing and smart footprints, will add significant value without adding cost. Specifically, there is a first cost savings and operational savings. Through the filter of performance based design, we can engage the architecture in terms of space and operation in such a way that one element can contribute to multiple project benefits; in other words, doing more with less.

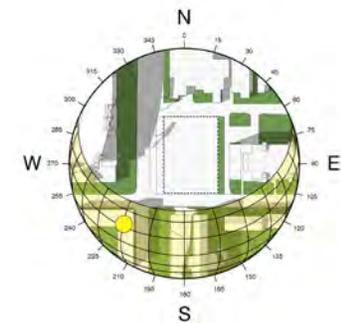
Under the direction of the CSU Climate Action Plan, the Design Center has the potential to be a significant, marketable example of CSU moving towards carbon neutrality. Deriving innovation and inspiration from site characteristics, the CSU Richardson Design Center would be an integrated, enduring model that ultimately shifts behaviors and future expectations towards a more comprehensive environmental stewardship.

Metrics and Methods

- Early team commitments on project goals;
- Parametric, real time performance analysis of assumptions;
- Solutions grow from place. A thorough analysis and understanding of natural and contextual site flows / amenities will provide the most inclusive solution;
- Cradle to Cradle thinking and acting. Evaluating the life cycle cost, embodied energy, compatibility and durability of system and material solutions;
- Utilize sustainable metrics which include, but are not limited to, the Living Building Challenge, 2030 Challenge and LEED.



Equinox 9am



Equinox 4pm

Standards

The CSU Standards are to be used as guidelines for design. They are divided into 3 parts for use by Architects and Engineers: the first part is administrative; the second part discusses requirements for design and deliverable at each stage of the design process; the third part consists of the technical standards arranged by CSI division. The Standards are a work in progress, and as such, any question about the applicability of a standard should be discussed with the project manager. The Standards should never be referenced or copied in Contract Documents - the design is expected to embody and conform to the Standards. Contractors are not to be directed to review the Standards as a contract requirement.

Project Cost Estimate

Project cost estimate and total project budget included in Section VI.

Project Budget

The total estimated project budget is \$19.3-21M. The project budget is expected to be funded through donations, Intercept bonds and university resources.

In order to maximize the available project budget and realize the complete project scope outlined herein, a number of "cost/scope safety valve" strategies have been envisioned for this project. These strategies include:

- Design-Build Delivery Method due to a favorable and competitive bid climate;
- Potentially divide the project into phases;
- Design-Build competition with a not-to-exceed budget;
- Develop the design around a series of Project Additive Alternates that allow for program components to be added into the project scope at varying intervals throughout the construction phase, without negatively impacting the overall project schedule and / or requiring re-design;
- Implement a series of design/cost/value

building systems that improve overall building performance / life cycle costs and maximize the available initial project budget.

Project Schedule

Pending funding and State and University approvals, the DB project is expected to take 20 months.





CSU Richardson Design Center
Fort Collins, CO

Updated to Reflect 40,605 GSF and Other Savings Strategies

Conceptual Statement of Probable Cost Statement of Probable Cost
October 12, 2015
Cumming Project No. 15-00769.00

Prepared for 4240 Architecture, Inc.

INTRODUCTION

Project Description

The Portion of Work for this estimate involves the construction of a new 3-story building plus adjacent single story facility, housing academic, lab, public, and administrative functions. Façade is a combination of storefront and stone veneer walls, articulated with exterior overhanging soffits and roof decks. Sitework costs have been included under a separate cost segregation. Baseline scope entails complete core & shell construction plus level 1 fit-out - costs for the fit-out of levels 2 and 3 have been isolated at the design team's direction.

Basis of Estimate

This estimate is based on the conceptual drawing package dated 8/11/15, received from 4240 Architects on 8/11/15.

- 1 **Floorplans:** Sketch floorplans, levels 1 through 3 (3 pages)
- 2 **Exterior Renderings:** High-level exterior rendering packet (8 pages)
- 3 **Program:** Program breakout, last updated 7/30/15, totaling 41,917 gross square feet
- 4 **SketchUp Model:** As received 8/13/15

Construction Schedule

Costs included herein have been based upon a construction period of 15 months. Any costs for excessive overtime to meet accelerated schedule milestone dates are not included in this estimate.

Basis for Quantities

This estimate combines an approach of detailed line items (when possible for scope to be ascertained from design information) along with high-level parametric pricing for scope yet to be designed (structural, mechanical, electrical, etc.)

Basis for Unit Costs

Unit costs as contained herein are based on current Fort Collins prices for on-campus work. Subcontractor's overhead and profit is included in each line item unit cost. This overhead and profit covers each subcontractor's cost for labor burden, materials and equipment sales taxes, field overhead, home office overhead, and profit. The general contractor's overhead and profit is shown separately on the Summary.

Sources for Pricing

This estimate was prepared by a team of qualified cost consultants experienced in estimating construction costs at all stages of design. These consultants have used pricing data from Cumming's database for construction, updated to reflect current conditions in the Fort Collins, CO area. In some cases, quotes were solicited from outside sources to substantiate in-house pricing data.

Subcontractor's Mark-ups

Depending on the trade, subcontractor mark-ups can range from 5% to 15% of the raw cost for that particular item of work. It should be noted that Design Assist Sub Contractors may influence Sub Contractor costs.

Design Allowances

An allowance of 10.0% for undeveloped design details has been included in the summary of this estimate. As the design of each system is further developed, details which historically increase cost became apparent and must be incorporated into the estimate.

INTRODUCTION

General Contractor's Overhead and Profit

Jobsite general conditions, home office overhead, profit, and bond are shown on the Summary of this estimate. It is our opinion that for this project, a rate of 13.0% is appropriate to cover these mark-ups. (7.0% for General Conditions, 2.0% for Bonds & Insurance and 4.0% for Overhead and Profit)

Escalation Allowance

All subcontract prices herein are reflective of current prices. Escalation has been included on the summary level to take through to a mid point of construction.

Estimated start date:	May-17
Estimated completion date:	Aug-18
Midpoint of construction:	Dec-17
Year	Rate
2015	3.5%
2016	3.0%
2017	3.0%

Construction Contingency

Construction contingency is carried at the summary level at 5%.

Items Included in the Estimate

- 1 Complete core and shell costs
- 2 Boxes, conduit, and pull-string for tele/data system (equipment / cabling excluded)
- 3 Complete audio-visual system, including cabling and equipment
- 4 Site utilities are included as allowances only pending further design
- 5 Skylight at main atrium, allow 10'-0" x 20'-0"
- 6 Power, water, and waste connections for level 2 coffee cart
- 7 General conditions / requirements reflect premium costs associated with attaining LEED Gold

Items Excluded from the Base Estimate

- 1 Escalation beyond mid-point of construction
- 2 Costs of hazardous material surveys, abatements, and disposals
- 3 Costs of offsite construction
- 4 Costs of existing building / modular demolition
- 5 Substantial site utility rework other than minor allowances included in estimate
- 6 Professional fees, inspections and testing
- 7 Plan check fees and building permit fees
- 8 Furnishings, fixtures, and equipment (FF&E)
- 9 Plant investment fees
- 10 Tele/data cabling / equipment
- 11 Coffee cart at level 2 "Coffee Spot Lounge" (though connections for power, water, and waste are included)
- 12 Green roofs
- 13 Fees associated with tying in to campus loop
- 14 Modifications to asphalt paving at Maker's Alley
- 15 Connection or covered walkway between buildings
- 16 PV panels
- 17 Geothermal heat at outdoor seating area

INTRODUCTION

Items Affecting the Cost Estimate

- 1 Modifications to the scope of work included in this estimate
- 2 Restrictive technical specifications or excessive contract conditions
- 3 Any specified item of equipment, material, or product that cannot be obtained from at least 3 different sources
- 4 Any other non-competitive bid situations
- 5 Bids delayed beyond the projected schedule
- 6 Floor-to-floor height assumed to be 16'-0" at levels 1 & 2, and 12'-0" at level 3
- 7 Mechanical pricing assumes tie-in to campus loop
- 8 Structural system is a built-up allowance based on a steel superstructure on shallow foundation substructure
- 9 Mechanical, electrical, and low-voltage systems are allowances only pending further design
- 10 For the purposes of this estimate, the level 2 / level 3 fit-out is assumed to happen concurrently with the balance of the construction scope, and therefore is included at the same escalation rate

Statement of Probable Cost

Cumming has no control over the cost of labor and materials, the general contractor's or any subcontractor's method of determining prices, or competitive bidding and market conditions. This opinion of the probable cost of construction is made on the basis of the experience, qualifications, and best judgment of a professional consultant familiar with the construction industry. Cumming, however, cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from this or subsequent cost estimates.

Cumming has no control over the quality, completeness, intricacy, constructability, or coordination of design documents. Cumming also has no control over the amount of funds available for the project. We, therefore, cannot be responsible for any design revision costs incurred in the event that this estimate is in excess of the budget.

Cumming's staff of professional cost consultants has prepared this estimate in accordance with generally accepted principles and practices. This staff is available to discuss its contents with any interested party.

Recommendations for Cost Control

Cumming recommends that the Owner and the Architect carefully review this entire document to insure that it reflects their design intent. Requests for modifications of any apparent errors or omissions to this document must be made to Cumming within ten days of receipt of this estimate, otherwise, it will be understood that the contents have been concurred with and accepted. If the project is over budget, or there are unresolved budgeting issues, alternate systems/schemes should be evaluated before proceeding into further design phases.

It is recommended that further cost estimates be prepared throughout design by Cumming to determine overall cost changes subsequent to the preparation of this preliminary estimate. These future estimates will have detailed breakdowns indicating materials by type, kind, and size, priced by their respective units of measure.

EXECUTIVE SUMMARY

Element	Area	Cost / SF			Total		
		Low	Median	High	Low	Median	High
Baseline							
A BUILDING	40,605 SF	\$269.29	\$263.46	\$297.63	\$10,934,365	\$11,509,858	\$12,085,351
B FIT-OUT LEVELS 2 AND 3	17,450 SF	\$130.81	\$137.80	\$144.69	\$2,284,402	\$2,404,634	\$2,524,666
C FIT-OUT CAFÉ	381 SF	\$101.32	\$106.65	\$111.98	\$38,602	\$40,634	\$42,665
D REDUCTION FOR SALES TAX EXEMPTION					(\$185,603)	(\$195,372)	(\$205,140)
SITWORK							Not Included
CONSTRUCTION CONTINGENCY (5%)							Not Included
SUB-TOTAL CONSTRUCTION COST	40,605 SF	\$321.93 / SF	\$338.87 / SF	\$355.81 / SF	\$13,071,767	\$13,759,755	\$14,447,742

CSU Richardson Design Center
 Fort Collins, CO
 Estimate Summary by Category (4-Story Option)
 Conceptual Statement of Probable Cost

10/12/15

Element	A BUILDING 40,605 sf			B FIT-OUT LEVELS 2 AND 3 17,450 sf			TOTAL 40,605 sf		
	Subtotal	Total	Cost/SF	Subtotal	Total	Cost/SF	Subtotal	Total	Cost/SF
A) Shell (1-5)		\$4,528,099	\$111.52					\$4,528,099	\$111.52
1 Foundations	\$233,890		\$5.78				\$233,890		\$5.78
2 Vertical Structure	\$597,950		\$14.73				\$597,950		\$14.73
3 Floor & Roof Structures	\$909,419		\$22.40				\$909,419		\$22.40
4 Exterior Cladding	\$2,210,210		\$54.43				\$2,210,210		\$54.43
5 Roofing and Waterproofing	\$576,640		\$14.20				\$576,640		\$14.20
B) Interiors (6-7)		\$633,864	\$15.61		\$478,830	\$27.44		\$1,112,694	\$27.40
6 Interior Partitions, Doors and Glazing	\$286,863		\$7.06	\$194,260		\$11.13	\$481,143		\$11.85
7 Floor, Wall and Ceiling Finishes	\$347,001		\$8.55	\$284,550		\$16.31	\$631,551		\$15.55
C) Equipment and Vertical Transportation (8-9)		\$559,833	\$13.79		\$179,423	\$10.28		\$739,256	\$18.21
8 Function Equipment and Specialties	\$209,333		\$5.16	\$179,423		\$10.28	\$388,756		\$9.57
9 Stairs and Vertical Transportation	\$350,500		\$8.63				\$350,500		\$8.63
D) Mechanical and Electrical (10-13)		\$2,911,917	\$71.71		\$1,145,498	\$65.64		\$4,262,415	\$104.97
10 Plumbing Systems	\$286,619		\$7.30	\$135,143		\$7.74	\$431,763		\$10.63
11 Heating, Ventilation and Air Conditioning	\$1,379,398		\$33.97	\$383,900		\$22.00	\$1,763,298		\$43.43
12 Electrical Lighting, Power and Communications	\$1,117,731		\$27.53	\$597,663		\$34.25	\$1,920,394		\$47.29
13 Fire Protection Systems	\$118,169		\$2.91	\$29,793		\$1.65	\$148,961		\$3.62
E) Site Construction (14-16)								\$411,020	\$10.12
14 Site Preparation and Demolition							\$91,888		\$2.26
15 Site Paving, Structures & Landscaping							\$234,925		\$5.77
16 Utilities on Site							\$85,000		\$2.09
Subtotal Cost		\$8,633,712	\$212.63		\$1,803,751	\$103.37		\$11,953,484	\$272.22
General Conditions 7.0%		\$604,360	\$14.88		\$126,263	\$7.24		\$773,744	\$19.06
Bonds & Insurance 2.0%		\$194,761	\$4.65		\$38,600	\$2.21		\$238,546	\$5.83
General Contractor Fee 4.0%		\$376,913	\$9.28		\$78,745	\$4.51		\$482,551	\$11.88
Design Contingency 10.0%		\$879,975	\$24.13		\$204,736	\$11.73		\$1,254,632	\$30.80
Escalation to MQC, 12/15/17 6.77%		\$730,137	\$18.23		\$152,540	\$8.75		\$934,772	\$23.02
Total Construction Cost		\$11,509,858	\$285.48		\$2,404,834	\$129.06		\$14,735,727	\$362.90

CSU Richardson Design Center
Schedule of Areas and Control Quantities
Conceptual Statement of Probable Cost

10/12/15

Schedule of Areas

SF

1. Enclosed Areas (x 100%)

Level 1	23,155
Level 2	10,550
Level 3	6,900

Total Enclosed 40,605

PROJECT SUMMARY - BUILDING

Element	Subtotal	Total	Cost / SF	Cost / SF
A) Shell (1-5)		\$4,528,099		\$111.52
1 Foundations	\$233,880		\$5.76	
2 Vertical Structure	\$597,950		\$14.73	
3 Floor & Roof Structures	\$909,419		\$22.40	
4 Exterior Cladding	\$2,210,210		\$54.43	
5 Roofing and Waterproofing	\$576,640		\$14.20	
B) Interiors (6-7)		\$633,864		\$15.61
6 Interior Partitions, Doors and Glazing	\$286,863		\$7.06	
7 Floor, Wall and Ceiling Finishes	\$347,001		\$8.55	
C) Equipment and Vertical Transportation (8-9)		\$559,833		\$13.79
8 Function Equipment and Specialties	\$209,333		\$5.16	
9 Stairs and Vertical Transportation	\$350,500		\$8.63	
D) Mechanical and Electrical (10-13)		\$2,911,917		\$71.71
10 Plumbing Systems	\$296,619		\$7.30	
11 Heating, Ventilation and Air Conditioning	\$1,379,398		\$33.97	
12 Electrical Lighting, Power and Communications	\$1,117,731		\$27.53	
13 Fire Protection Systems	\$118,169		\$2.91	
E) Site Construction (14-16)				
14 Site Preparation and Demolition				
15 Site Paving, Structures & Landscaping				
16 Utilities on Site				
Subtotal		\$8,633,712		\$212.63
General Conditions	7.0%	\$604,360		\$14.88
Subtotal		\$9,238,072		\$227.51
Bonds & Insurance	2.0%	\$184,761		\$4.55
Subtotal		\$9,422,834		\$232.06
General Contractor Fee	4.0%	\$376,913		\$9.28
Subtotal		\$9,799,747		\$241.34
Design Contingency	10.0%	\$979,975		\$24.13
Subtotal		\$10,779,722		\$265.48
Escalation	6.77%	\$730,137		\$17.98
TOTAL ESTIMATED CONSTRUCTION COST		\$11,509,858		\$283.46

PROJECT SUMMARY - FIT-OUT LEVELS 2 AND 3

Element	Subtotal	Total	Cost / SF	Cost / SF
A) Shell (1-5)				
1 Foundations				
2 Vertical Structure				
3 Floor & Roof Structures				
4 Exterior Cladding				
5 Roofing and Waterproofing				
B) Interiors (6-7)				
6 Interior Partitions, Doors and Glazing	\$194,280		\$11.13	
7 Floor, Wall and Ceiling Finishes	\$284,550		\$16.31	
C) Equipment and Vertical Transportation (8-9)				
8 Function Equipment and Specialties	\$179,423		\$10.28	
9 Stairs and Vertical Transportation				
D) Mechanical and Electrical (10-13)				
10 Plumbing Systems	\$135,143		\$7.74	
11 Heating, Ventilation and Air Conditioning	\$383,900		\$22.00	
12 Electrical Lighting, Power and Communications	\$597,663		\$34.25	
13 Fire Protection Systems	\$28,793		\$1.65	
E) Site Construction (14-16)				
14 Site Preparation and Demolition				
15 Site Paving, Structures & Landscaping				
16 Utilities on Site				
Subtotal		\$1,803,751		\$103.37
General Conditions	7.0%	\$126,263		\$7.24
Subtotal		\$1,930,014		\$110.60
Bonds & Insurance	2.0%	\$38,600		\$2.21
Subtotal		\$1,968,614		\$112.81
General Contractor Fee	4.0%	\$78,745		\$4.51
Subtotal		\$2,047,358		\$117.33
Design Contingency	10.0%	\$204,736		\$11.73
Subtotal		\$2,252,094		\$129.06
Escalation	6.77%	\$152,540		\$8.74
TOTAL ESTIMATED CONSTRUCTION COST		\$2,404,634		\$137.80

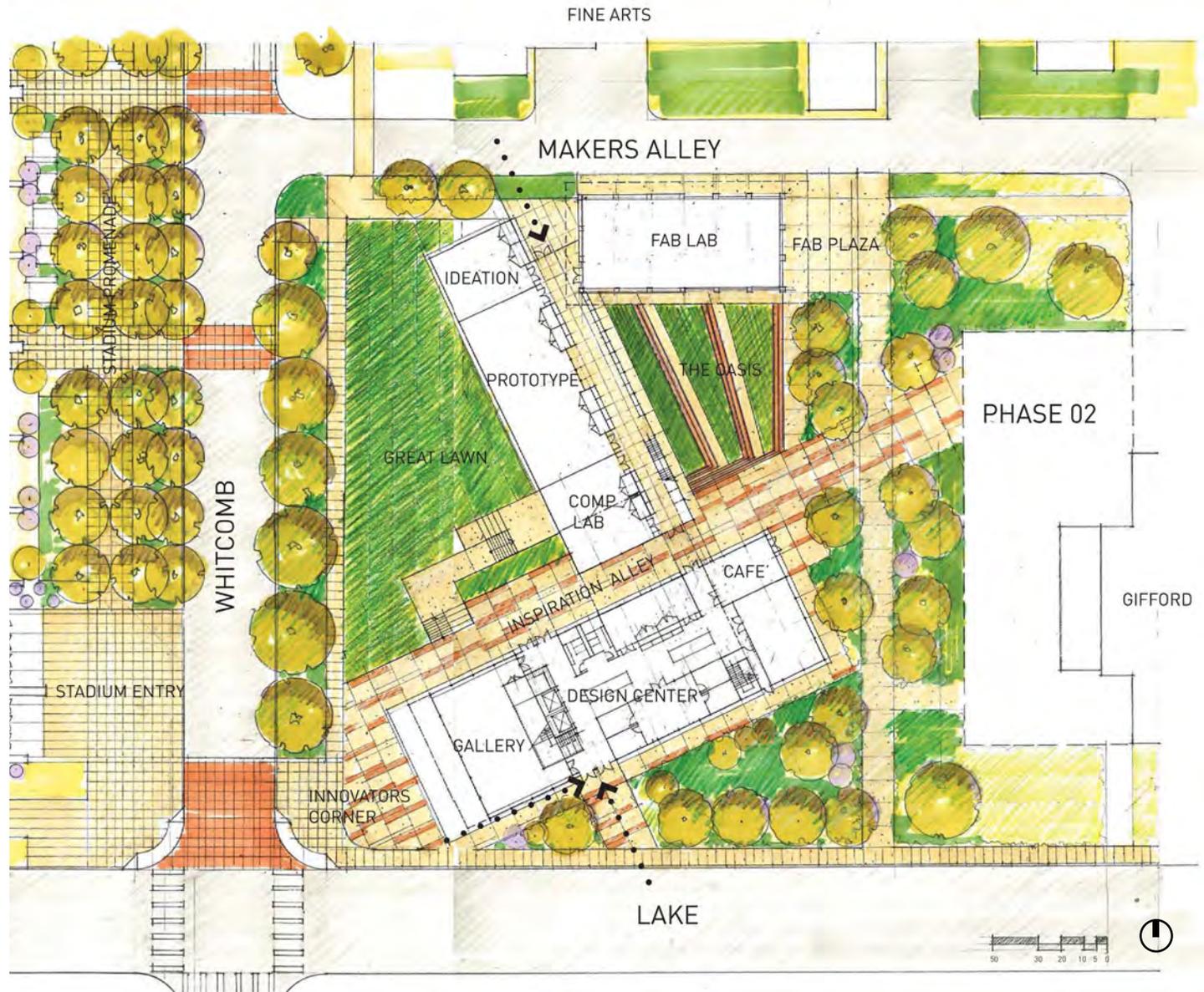
VI. Project Description

Project Title: Richardson Design Center				
Budget: Core Cell 2 & 3				
13-01-15				
Project Budget	Estimated Costs-low	Estimated Costs-medium	Estimated Costs-high	Remarks
Professional Services				
Site Survey, Geotechnical	\$ 35,000	\$ 35,000	\$ 35,000	
Consultants - Architects, Engineers, Vibration, Acoustics	\$ 1,293,526	\$ 1,355,803	\$ 1,418,081	10.5%--assumes DB lump sum delivery
Advertisements	\$ 1,500	\$ 1,500	\$ 1,500	
CSU Facilities Project Management	\$ 340,000	\$ 340,000	\$ 340,000	
Independent Code Review	\$ 24,000	\$ 24,000	\$ 24,000	
Construction code inspections	\$ 20,000	\$ 20,000	\$ 20,000	
Construction materials inspections	\$ 125,000	\$ 125,000	\$ 125,000	
PFA plan review fee	\$ 27,236	\$ 27,236	\$ 27,236	For \$11.9M building
DB RFP preparation	\$ 200,000	\$ 200,000	\$ 200,000	
Total Professional Services	\$ 2,066,262	\$ 2,128,539	\$ 2,190,817	
Construction				
New Space -40605 sqft @\$264.70/\$278.64/\$292.57/sqft	\$ 10,748,763	\$ 11,314,487	\$ 11,880,211	assumes DB lump sum delivery
Renovation Space - ____@\$/sqft	\$ -			
Site Work Service/Utilities	\$ 550,000	\$ 550,000	\$ 550,000	estimated cost to move 42" storm and other utilities
Site Improvements/Landscaping	\$ 520,530	\$ 547,926	\$ 575,322	
Parking Replacement- 100 spaces @ 5000/space	\$ 500,000	\$ 500,000	\$ 500,000	
Subtotal Construction Costs	\$ 12,319,292	\$ 12,912,413	\$ 13,506,534	
Equipment & Furnishings				
Fixed Equipment	\$ 731,702	\$ 731,702	\$ 731,702	Design Center fabrication equip
Moveable Equipment/Furniture	\$ 100,000	\$ 100,000	\$ 100,000	studio, classroom, office furniture
CSU Communications (estimate from telecom)	\$ 170,000	\$ 170,000	\$ 170,000	1st level only
Total Equipment and Furnishings Costs	\$ 1,001,702	\$ 1,001,702	\$ 1,001,702	
Miscellaneous				
Relocation Costs-	\$ 10,000	\$ 10,000	\$ 10,000	
Total Miscellaneous Costs	\$ 10,000	\$ 10,000	\$ 10,000	
Subtotal Project Cost	\$ 15,397,256	\$ 16,052,654	\$ 16,708,053	
Project Contingency				
Project Contingency 5% for New Construction	\$ 769,863	\$ 802,633	\$ 835,403	
Total Contingency	\$ 769,863	\$ 802,633	\$ 835,403	
Subtotal Budget- midpoint of construction at 12/2017	\$ 16,167,119	\$ 16,855,287	\$ 17,543,455	includes 7.37% from 8/2015 to 12/2017
				assumes Design Build (DB) lump sum
Art in Public Places	\$ -			
Project Budget-South Addition - Dec 2017 construction midpoint	\$ 16,167,119	\$ 16,855,287	\$ 17,543,455	
Escalation to Dec 2018-4.0%	\$ 16,813,804	\$ 17,529,499	\$ 18,245,194	
Escalation to Dec 2019-4%	\$ 17,486,356	\$ 18,230,679	\$ 18,975,001	
Escalation to Dec 2020-4%	\$ 18,185,810	\$ 18,959,906	\$ 19,734,001	
This opinion of probable cost is made on the basis of the experience, qualifications and best judgement of a professional cost consultant familiar with the construction industry, combined with the professional experience of Facilities Management. FM cannot guarantee that proposals, bids or actual construction costs will not vary from this cost estimate due to market conditions at the time of bid. Scope and schedule changes during design and/or construction will result in higher cost.				
Total Project Cost / sqft	\$ 398.16	\$ 415.10	\$ 432.05	

Project Title: Richardson Design Center				
Budget: Full build out				
13-Oct-15				
Project Budget	Estimated Costs-low	Estimated Costs-medium	Estimated Costs-high	Remarks
Professional Services				
Site Survey, Geotechnical	\$ 35,000	\$ 35,000	\$ 35,000	
Consultants - Architects, Engineers, Vibration, Acoustics	\$ 1,537,441	\$ 1,612,557	\$ 1,687,672	10.5%--assumes DB lump sum delivery
Advertisements	\$ 1,500	\$ 1,500	\$ 1,500	
CSU Facilities Project Management	\$ 380,000	\$ 380,000	\$ 380,000	
Independent Code Review	\$ 24,000	\$ 24,000	\$ 24,000	
Construction code inspections	\$ 20,000	\$ 20,000	\$ 20,000	
Construction materials inspections	\$ 125,000	\$ 125,000	\$ 125,000	
PFA plan review fee	\$ 33,600	\$ 33,600	\$ 33,600	For \$14.5M building
DB RFP preparation	\$ 200,000	\$ 200,000	\$ 200,000	
Total Professional Services	\$ 2,356,541	\$ 2,431,657	\$ 2,506,772	
Construction				
New Space -40,605 sqft @\$321.93/\$338.87/\$355.81/sqft	\$ 13,071,767	\$ 13,759,755	\$ 14,447,743	assumes DB lump sum delivery
Renovation Space - _____@\$_____/sqft	\$ -			
Site Work Service/Utilities	\$ 550,000	\$ 550,000	\$ 550,000	estimated cost to move 42" storm and other utilities
Site Improvements/Landscaping	\$ 520,530	\$ 547,926	\$ 575,322	
Parking Replacement- 100 spaces @ 5000/space	\$ 500,000	\$ 500,000	\$ 500,000	
Subtotal Construction Costs	\$ 14,642,297	\$ 15,357,681	\$ 16,073,065	
Equipment & Furnishings				
Fixed Equipment	\$ 731,702	\$ 731,702	\$ 731,702	Design Center fabrication equip
Moveable Equipment/Furniture	\$ 300,000	\$ 300,000	\$ 300,000	studio, classroom, office furniture
CSU Communications (estimate from telecom)	\$ 300,000	\$ 300,000	\$ 300,000	
Total Equipment and Furnishings Costs	\$ 1,331,702	\$ 1,331,702	\$ 1,331,702	
Miscellaneous				
Relocation Costs-	\$ 50,000	\$ 50,000	\$ 50,000	
Total Miscellaneous Costs	\$ 50,000	\$ 50,000	\$ 50,000	
Subtotal Project Cost	\$ 18,380,540	\$ 19,171,040	\$ 19,961,539	
Project Contingency				
Project Contingency 5% for New Construction	\$ 919,027	\$ 958,552	\$ 998,077	
Total Contingency	\$ 919,027	\$ 958,552	\$ 998,077	
Subtotal Budget- midpoint of construction at 12/2017	\$ 19,299,567	\$ 20,129,591	\$ 20,959,616	Includes 7.37% from 8/2015 to 12/2017 assumes Design Build (DB) lump sum
Art in Public Places	\$ -			
Project Budget-South Addition - Dec 2017 construction midpoint	\$ 19,299,567	\$ 20,129,591	\$ 20,959,616	
Escalation to Dec 2018-4.0%	\$ 20,071,550	\$ 20,934,775	\$ 21,798,000	
Escalation to Dec 2019-4%	\$ 20,874,412	\$ 21,772,166	\$ 22,669,920	
Escalation to Dec 2020-4%	\$ 21,709,388	\$ 22,643,053	\$ 23,576,717	
This opinion of probable cost is made on the basis of the experience, qualifications and best judgement of a professional cost consultant familiar with the construction industry, combined with the professional experience of Facilities Management. FM cannot guarantee that proposals, bids or actual construction costs will not vary from this cost estimate due to market conditions at the time of bid. Scope and schedule changes during design and/or construction will result in higher cost.				
Total Project Cost / sqft	\$ 475.30	\$ 495.74	\$ 516.18	



Concept Site Plan



VII. Concept Exploration

First Level Floor Plan



Further refinements of the Preliminary Space Program looked at reducing area through greater collaboration across departments and programmed spaces. The initial space allocated for "Ideation" and "Prototyping" was more specifically defined by the intended use rather than process, all of which cycled through a prototyping and fabrication workflow - Wood shop, Metal shop, Textiles/Metal arts and Digital fabrication. These uses were seen as the core programs of Design Center, thus reducing the need for a separate "Fabrication" lab for cross-campus "Flex/Fabrication" since this lab would share the resources already "on-site".

- Interior Design Department
- Design Center
- Computer laboratories
- Gallery/Circulation/Presentation
- Social/Collaboration
- Service
- Retail

VII. Concept Exploration

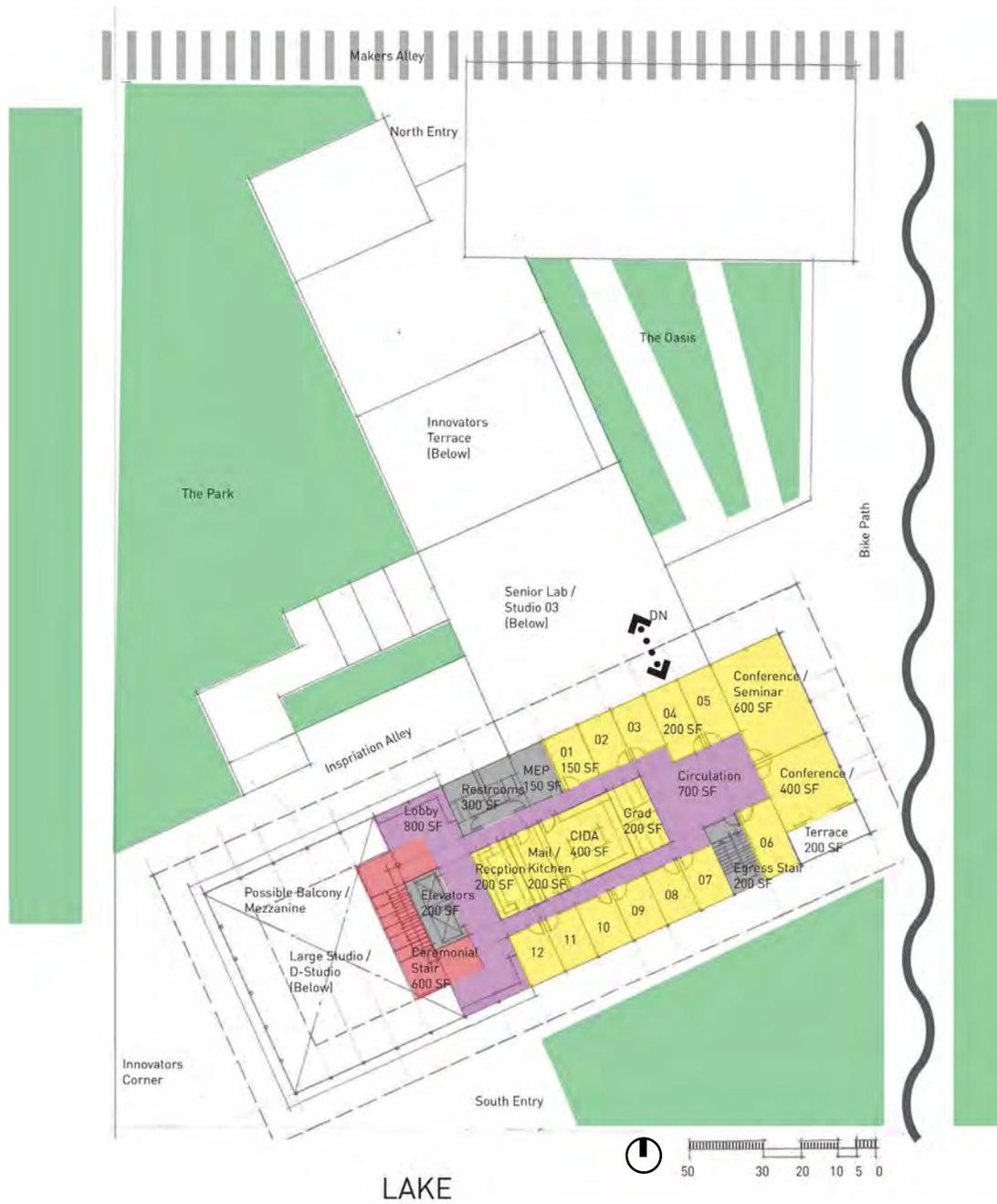
Second Level Floor Plan



The second level houses the primary teaching spaces for the Interior Design Department. Special attention was given to the overall organization and layout of the Class Lab / Studio spaces to foster greater collaboration and design synergy. Each studio incorporates a 'Storage / Presentation wall' with operable doors which also function as student pin-up space. Outside the studio, the storage wall is transformed into an undulating (standing/sitting) workbench where students can pull up to or recline into to or plug into to further the spirit of open / collaborative work environments.



Third Level Floor Plan



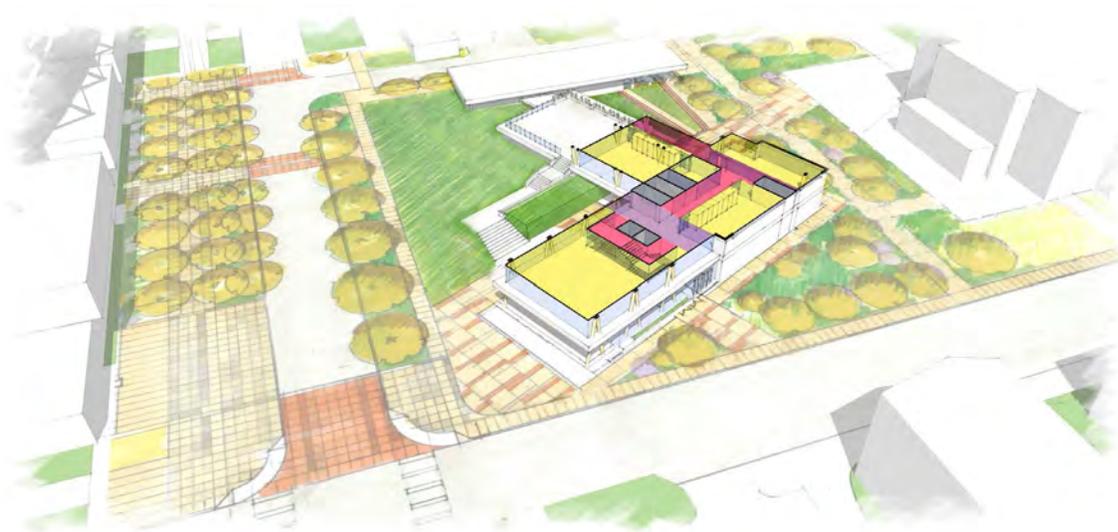
The third level houses the primary administrative functions for the interior design department, as well as conference / seminar rooms. The proximity to the Class Lab/ Studio spaces immediately below help promote an open learning environment between faculty and student. Off the elevator lobby is a mezzanine overlooking the D-Lab Studio below, heightening the importance of this cross-campus / cross-discipline Lab and uniting students, faculty and community members in the creative and innovative culture of the CSU Richardson Design Center.

- Interior Design Department
- Design Center
- Computer laboratories
- Gallery/Circulation/Presentation
- Social/Collaboration
- Service
- Retail



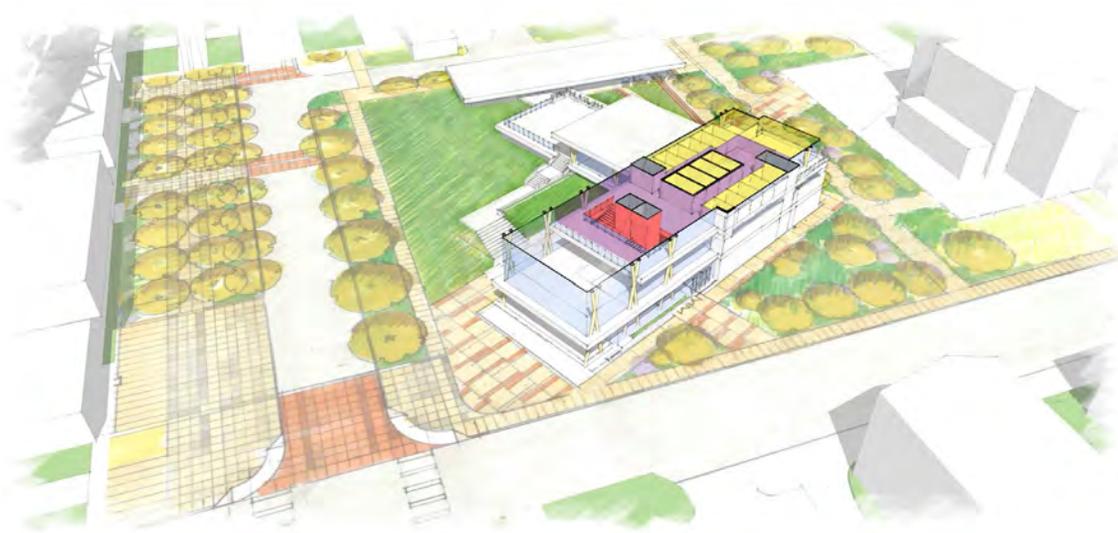
Level 1 Floor Plate

- Gallery / Presentation gsf: 20,000
- Computer Labs gsf: 1,800
- Design Center gsf: 8,500
- Cafe gsf: 600
- Social / Collaboration gsf: 800



Level 2 Floor Plate

- Gallery / Presentation gsf: 800
- Interior Design Studios gsf: 8,000
- Social / Collaboration gsf: 2,700



Level 3 Floor Plate

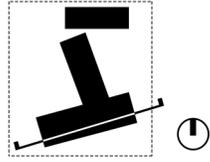
-  Gallery / Presentation gsf: 1,500
-  ID Faculty Offices gsf: 3,600
-  Social / Collaboration gsf: 600

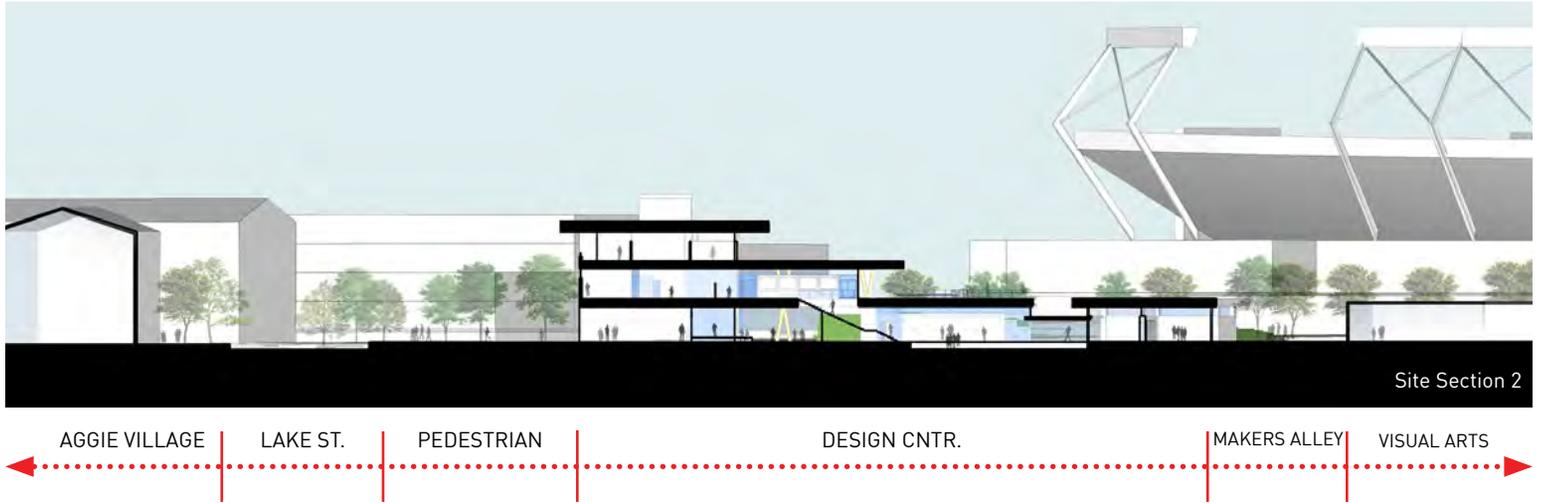
Program Allocation



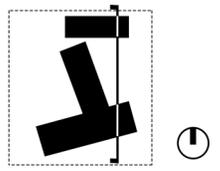


By studying the sections through the site we can begin to see opportunities of stepping buildings horizontally and vertically to create places for public interaction with student galleries and a relationship between the community and creativity within the building program.





We can see how buildings can be sculpted in efficient ways to promote cross pollination between private and public spaces. Pockets formed within the site create thoroughfares from one end to another embracing the energy of public circulation. A multifaceted first floor encourages the building to accept student arrival from all directions.





Character Study

I would ask how do I
make a gateway for
campus arrival.



Character Study

I would ask how I
relate to my context.

Character Study

I would ask how to
inspire creativity.

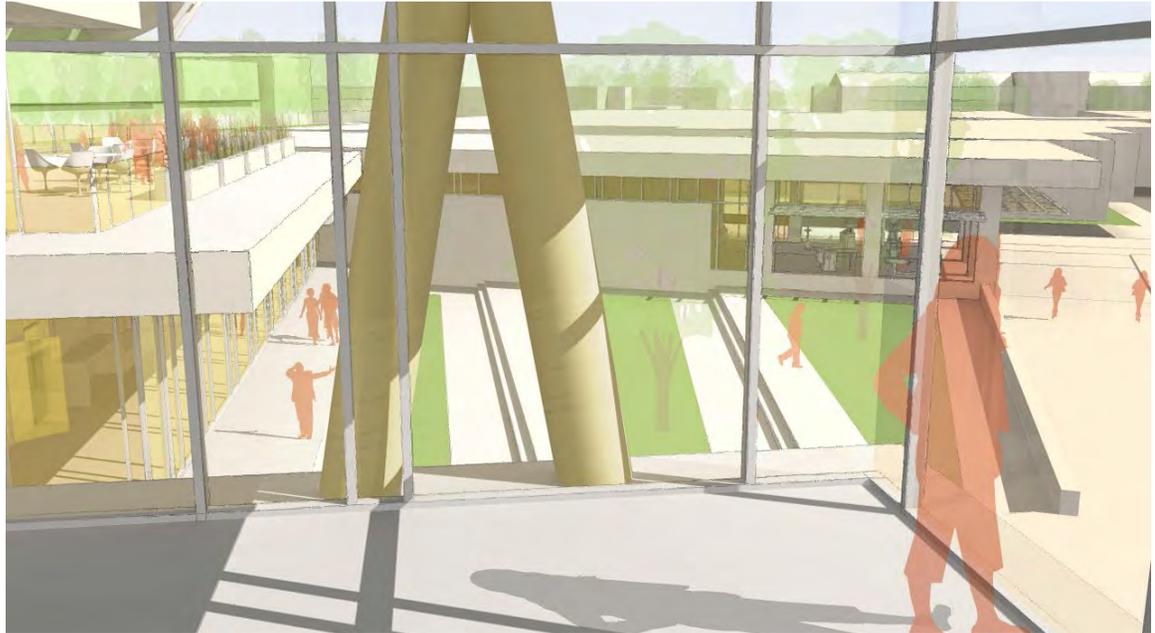




Character Study

I would connect neighboring sites by encouraging direct circulation





Character Study

I would ask how do I connect interior and exterior spaces.





Character Study

I would ask what makes a building iconic.



LEED 2009 for New Construction and Major Renovation Project Scorecard

Project Name: CSU Richardson Design Center
Project Address Colorado State University, Fort Collins, CO

Yes	?	No		
22	4	2	SUSTAINABLE SITES	26 Points

Y			Prereq 1	Construction Activity Pollution Prevention	Required
1			Credit 1	Site Selection	1
5			Credit 2	Development Density and Community Connectivity	5
		1	Credit 3	Brownfield Redevelopment	1
6			Credit 4.1	Alternative Transportation - Public Transportation Access	6
1			Credit 4.2	Alternative Transportation - Bicycle Storage and Changing Rooms	1
3			Credit 4.3	Alternative Transportation - Low-Emitting and Fuel-Efficient Vehicles	3
2			Credit 4.4	Alternative Transportation - Parking Capacity	2
	1		Credit 5.1	Site Development - Protect or Restore Habitat	1
1			Credit 5.2	Site Development - Maximize Open Space	1
1	1		Credit 6.1	Stormwater Design - Quantity Control	1
1	1		Credit 6.2	Stormwater Design - Quality Control	1
1			Credit 7.1	Heat Island Effect - Nonroof	1
		1	Credit 7.2	Heat Island Effect - Roof	1
	1		Credit 8	Light Pollution Reduction	1

Yes	?	No		
6		2	WATER EFFICIENCY	10 Points

Y			Prereq 1	Water Use Reduction	Required
2			Credit 1	Water Efficient Landscaping	2 to 4
		2		Reduce by 50%	2
				No Potable Water Use or Irrigation	4
		2	Credit 2	Innovative Wastewater Technologies	2
4			Credit 3	Water Use Reduction	2 to 4
				Reduce by 30%	2
				Reduce by 35%	3
		4		Reduce by 40%	4

14	14	7	ENERGY & ATMOSPHERE	35 Points
----	----	---	--------------------------------	------------------

Y			Prereq 1	Fundamental Commissioning of Building Energy Systems	Required
Y			Prereq 2	Minimum Energy Performance	Required
Y			Prereq 3	Fundamental Refrigerant Management	Required
10	6	3	Credit 1	Optimize Energy Performance	1 to 19
				Improve by 12% for New Buildings or 8% for Existing Building Renovations	1
				Improve by 14% for New Buildings or 10% for Existing Building Renovations	2
				Improve by 16% for New Buildings or 12% for Existing Building Renovations	3
				Improve by 18% for New Buildings or 14% for Existing Building Renovations	4
				Improve by 20% for New Buildings or 16% for Existing Building Renovations	5
				Improve by 22% for New Buildings or 18% for Existing Building Renovations	6
				Improve by 24% for New Buildings or 20% for Existing Building Renovations	7
				Improve by 26% for New Buildings or 22% for Existing Building Renovations	8
				Improve by 28% for New Buildings or 24% for Existing Building Renovations	9
		10		Improve by 30% for New Buildings or 26% for Existing Building Renovations	10
				Improve by 32% for New Buildings or 28% for Existing Building Renovations	11
				Improve by 34% for New Buildings or 30% for Existing Building Renovations	12
				Improve by 36% for New Buildings or 32% for Existing Building Renovations	13
				Improve by 38% for New Buildings or 34% for Existing Building Renovations	14
				Improve by 40% for New Buildings or 36% for Existing Building Renovations	15
				Improve by 42% for New Buildings or 38% for Existing Building Renovations	16
				Improve by 44% for New Buildings or 40% for Existing Building Renovations	17
				Improve by 46% for New Buildings or 42% for Existing Building Renovations	18
				Improve by 48%+ for New Buildings or 44%+ for Existing Building Renovations	19



LEED 2009 for New Construction and Major Renovation Project Scorecard

Project Name: CSU Richardson Design Center
Project Address Colorado State University, Fort Collins, CO

Yes ? No

	3	4
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Credit 2

On-Site Renewable Energy

- 1% Renewable Energy
- 3% Renewable Energy
- 5% Renewable Energy
- 7% Renewable Energy
- 9% Renewable Energy
- 11% Renewable Energy
- 13% Renewable Energy

1 to 7

- 1
- 2
- 3
- 4
- 5
- 6
- 7

2		
---	--	--

Credit 3

Enhanced Commissioning

2		
---	--	--

Credit 4

Enhanced Refrigerant Management

	3	
--	---	--

Credit 5

Measurement and Verification

	2	
--	---	--

Credit 6

Green Power

- 2
- 2
- 3
- 2

Yes ? No

5	2	7
---	---	---

MATERIALS & RESOURCES

14 Points

Y		
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Prereq 1

Storage and Collection of Recyclables

Required

		3
--	--	---

Credit 1.1

Building Reuse - Maintain Existing Walls, Floors and Roof

1 to 3

- Reuse 55%
- Reuse 75%
- Reuse 95%

- 1
- 2
- 3

		1
--	--	---

Credit 1.2

Building Reuse - Maintain Interior Nonstructural Elements

1

2		
---	--	--

Credit 2

Construction Waste Management

1 to 2

- 50% Recycled or Salvaged
- 75% Recycled or Salvaged

- 1
- 2

		2
--	--	---

Credit 3

Materials Reuse

1 to 2

- Reuse 5%
- Reuse 10%

- 1
- 2

1	1	
---	---	--

Credit 4

Recycled Content

1 to 2

- 10% of Content
- 20% of Content

- 1
- 2

1	1	
---	---	--

Credit 5

Regional Materials

1 to 2

- 10% of Materials
- 20% of Materials

- 1
- 2

		1
--	--	---

Credit 6

Rapidly Renewable Materials

1

1		
---	--	--

Credit 7

Certified Wood

1

Yes ? No

12	1	2
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INDOOR ENVIRONMENTAL QUALITY

15 Points

Y		
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Prereq 1

Minimum Indoor Air Quality Performance

Required

Y		
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Prereq 2

Environmental Tobacco Smoke (ETS) Control

Required

		1
--	--	---

Credit 1

Outdoor Air Delivery Monitoring

1

	1	
--	---	--

Credit 2

Increased Ventilation

1

1		
---	--	--

Credit 3.1

Construction Indoor Air Quality Management Plan - During Construction

1

1		
---	--	--

Credit 3.2

Construction Indoor Air Quality Management Plan - Before Occupancy

1

1		
---	--	--

Credit 4.1

Low-Emitting Materials - Adhesives and Sealants

1

1		
---	--	--

Credit 4.2

Low-Emitting Materials - Paints and Coatings

1

1		
---	--	--

Credit 4.3

Low-Emitting Materials - Flooring Systems

1

1		
---	--	--

Credit 4.4

Low-Emitting Materials - Composite Wood and Agrifiber Products

1

1		
---	--	--

Credit 5

Indoor Chemical and Pollutant Source Control

1

1		
---	--	--

Credit 6.1

Controllability of Systems - Lighting

1

1		
---	--	--

Credit 6.2

Controllability of Systems - Thermal Comfort

1

1		
---	--	--

Credit 7.1

Thermal Comfort - Design

1

		1
--	--	---

Credit 7.2

Thermal Comfort - Verification

1

1		
---	--	--

Credit 8.1

Daylight and Views - Daylight

1

1		
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Credit 8.2

Daylight and Views - Views

1



LEED 2009 for New Construction and Major Renovation Project Scorecard

Project Name: CSU Richardson Design Center
Project Address Colorado State University, Fort Collins, CO

Yes ? No
Yes ? No

6			INNOVATION IN DESIGN	6 Points
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5			Credit 1	Innovation in Design	1 to 5
				Innovation or Exemplary Performance	1
				Innovation or Exemplary Performance	1
				Innovation or Exemplary Performance	1
				Innovation	1
				Innovation	1
1			Credit 2	LEED® Accredited Professional	1

Yes ? No

2	2		REGIONAL PRIORITY	4 Points
---	---	--	--------------------------	-----------------

2	2		Credit 1	Regional Priority	1 to 4
				Regionally Defined Credit Achieved	1
				Regionally Defined Credit Achieved	1
				Regionally Defined Credit Achieved	1
				Regionally Defined Credit Achieved	1

Yes ? No

67	23	20	PROJECT TOTALS (Certification Estimates)	110 Points
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Certified: 40-49 points Silver: 50-59 points Gold: 60-79 points Platinum: 80+ points

TOPIC: RECOMMEND APPROVAL OF CASH FUNDED REVENUE BOND INTERCEPT CAPITAL PROGRAM PLAN – COLORADO STATE UNIVERSITY, FORT COLLINS – JBS FOOD INNOVATION CENTER

PREPARED BY: LAUREN LOPEZ, LEAD FINANCE ANALYST

I. SUMMARY

This agenda item requests approval of the JBS Food Innovation Center program plan for Colorado State University Fort Collins (CSU-FC). Phase I of the project did not require CCHE approval of a program plan, since it was cash-funded via donations. However, CSU-FC has elected to use the Higher Education Revenue Bond Intercept Program (Intercept) to fund phase II of the project, mandating program plan approval. A summary of the project is included below.

II. BACKGROUND

Under current law, CCHE must approve a program plan before any capital construction commences at Institutions of Higher Education (IHEs) per C.R.S. 23-1-106. Solely cash-funded projects are exempted from this process, unless funded through Intercept bonds established pursuant to C.R.S. 23-5-139. This program allows IHEs to bond for a project using the State's credit rating.

III. STAFF ANALYSIS

The addition of the JBS Food Innovation Center capital construction project to CSU-FC's two-year cash list was approved by CCHE in August 2016. Since the \$14.1 million project was to be funded completely using university cash-funds from gifts and donations, a program plan was not required. This phase was estimated around core and shell space. CSU-FC did produce an internal program plan similar to the one attached.

Phase II of the project would have been funded by a donation, but that fell through. CSU-FC is now pursuing Intercept funding for this phase. Phase II will cost an additional \$7.0 million and will fully fit out the identified space. Intercept funded projects may not commence without program approval from CCHE. Since the full fitting out of the JBS Food Innovation Center falls within CSU-FC's original internal JBS Global Food Innovation Center program plan, that is what is being approved

The program plan for CSU-FC's JBS Global Food Innovation Center is described below:

“JBS Global Food Innovation Center” will cost \$21,100,000. \$14,100,000 was funded using gifts and donations, and the remaining \$7,000,000 will be funded using Intercept bonds. The project will construct a 38,000 gsf addition to the south of the existing Animal Sciences Building.

This project will create an integrated facility to provide hands-on instruction for students, which is currently lacking. The project will include a livestock arena with Temple Grandin designed livestock handling, meat harvest and processing, classroom and laboratory spaces, culinary research and sensory analysis, and a retail store. It will replace the Stock Pavilion that was deconstructed for the new Chemistry Building. Phase II is slated to begin in September 2018 and commence in January 2019.

IV. STAFF RECOMMENDATIONS

Staff recommends that the Commission approve the JBS Food Innovation Center program plan for Colorado State University, Fort Collins.

V. STATUTORY AUTHORITY

C.R.S. 23-1-106 (3) The commission shall review and approve facility master plans for all state institutions of higher education on land owned or controlled by the state or an institution and capital construction or capital renewal program plans for projects other than those projects described in subsection (9) of this section. The commission shall forward the approved facility master plans to the office of the state architect. Except for those projects described in subsection (9) of this section, no capital construction or capital renewal shall commence except in accordance with an approved facility master plan and program plan.

(9)(b) Except as provided in paragraph (d) of this subsection (9), a capital construction or capital renewal project for an academic facility initiated by the governing board of a state institution of higher education that is contained in the most recent two-year projection approved pursuant to subparagraph (II) of paragraph (c) of subsection (7) of this section, as the projection may be amended from time to time, and that is to be acquired or constructed solely from cash funds held by the institution and operated and maintained from such funds or from state moneys appropriated for such purpose, or both, is not subject to additional review or approval by the commission, the office of state planning and budgeting, the capital development committee, or the joint budget committee; except that, if the capital construction or capital renewal project for an academic facility is to be acquired or constructed in whole or in part using moneys subject to the higher education revenue bond intercept program established pursuant to section 23-5-139, then the governing board of a state institution of higher education must obtain approval from the general assembly as specified in that section. Any capital construction or capital renewal project subject to this paragraph (b) must comply with the high performance standard certification program established pursuant to section 24-30-1305.5, C.R.S.

ATTACHMENTS:

ATTACHMENT A – JBS Food Innovation Center Program Plan - Colorado State University - Fort Collins



**JBS GLOBAL FOOD INNOVATION CENTER IN HONOR OF
GARY AND KAY SMITH**

APRIL 2017

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Appendices

- a. Site map
- b. Utility map
- c. Floor plans
- d. Budget
- e. Flood Plain Map
- f. LEED Scoresheet

Executive Summary

Colorado State University's Meat Science Program involves expertise in all aspects of the production to consumer continuum, including animal handling and well being, nutrition and health, food safety and security, value-added and culinary and international collaboration. This project will create an integrated facility to provide hands-on instruction for students, which is currently lacking. The project will include a livestock arena with Temple Grandin designed livestock handling, meat harvest and processing, classroom and laboratory space, culinary research and sensory analysis, and a retail store. The building is planned as an approximately 38,000 gsf addition to the south of the existing Animal Sciences Building. This project will also replace the Stock Pavilion that was deconstructed for the new Chemistry Building. As stated by Mitchell B. Bowling, PhD, Director, Regulatory Compliance, Market Access and Regulatory Affairs, U.S. Dairy Export Council *"Colorado State has among the best Meat Science faculty in the world, but learning in today's interactive environment requires more than knowledgeable and dedicated faculty. CSU has the opportunity to be the pre-eminent institution for educating the next generation of Meat Science professionals. Construction of the JBS Global Food Innovation Center in honor of Gary and Kay Smith is of paramount importance to the education of future leaders in the field and will firmly establish CSU as the premier institution for education in Meat Science"*. The estimated project cost with full fit out is approximately \$21M, to be funded with donations and University resources.

Justification

Program mission and history

Animal agriculture is a major economic sector in the United States and the red meat industry contributes substantially to the U. S. economy. Remaining competitive requires that the industry provide consumers with products that meet their demands for safety, wholesomeness, quality, convenience, and price. Efforts in meat science focus upon the manner in which food animals are produced, harvested, processed and presented to consumers in order to be safe and desirable for consumption, and on appearance and palatability of fresh beef, pork and lamb. A specific need is to assure that US fresh meat is acceptable to both domestic and international markets and performs beyond expectation when consumed. It will be increasingly important that proactive scientific investigations occur for policy-makers and regulators to have access to the necessary factual information from which sound regulatory decisions may be made. Additional efforts will enhance consumer confidence that livestock producers, packers, and processors generate products from animals that are reared in a compassionate manner, handled appropriately, and produced with environmentally responsible methods.

The CSU Center for Meat Safety and Quality consists of a multidisciplinary group of scientists in the Department of Animal Sciences striving to address national and global issues related to meat safety and quality. These issues originate from meat safety and quality problems or research needs arising among those in the consuming public, government agencies, public health authorities, commodity groups and industry.

Colorado State University is in a strong position to assist with the economic development of Colorado's livestock and meat industry and to enhance the public health of citizens by educating meat industry scientists and professionals, by researching technical and economic issues related to improved product quality, safety and international competitiveness, and by being actively involved with the livestock and meat industry and governmental agencies to assure that the latest knowledge is incorporated in management, education and regulatory decisions.

Relation to Academic Strategic Plan

The College of Animal Sciences Strategic Plan for the Meat Science and Animal Food Product Safety section states: Colorado State University will enhance its focus and depth in undergraduate education, graduate education, research and outreach in meat science and animal product food safety and be recognized nationally as one of the top three university programs. This will include experiential learning in the animal science BS degree designed to add practical experience in meat science and microbiology and to prepare students for leadership positions in the meat production and food manufacturing industries and regulatory agencies. Graduate education, research, and outreach will focus on pre-harvest management of livestock to prevent acquisition of human pathogens in livestock production and handling, post-harvest detection and management systems to prevent and control contamination of meat products with human pathogens, assessment of production systems and regulatory protocols for effective food safety results and domestic and international credibility of the meat products, and producer, consumer, and food handler education in food safety to prevent or control contamination and food safety risks.

Physical Condition/functionality of Existing Space

As noted by Mike Lesiak of JBS USA, a lead donor to this project, *“Industry needs research capability and it needs trained personnel. Colorado State University has the intellectual horsepower to meet this need, but they lack the facilities horsepower”*. The existing meat lab is currently located in approximately 5,000 gsf in the Animal Sciences building. This space was the former dairy processing laboratory and has not had significant upgrades since the 1960s. It was not renovated with the recent building revitalization project, in anticipation of the construction of the Food Innovation Center. The current facilities are undersized and outdated. Food Safety concerns limit the limit the types of products that can be produced for teaching and research. CSU is also the only major meat science program without a fully functional meat-processing facility (harvest capability has been absent since 1993). In addition, the construction of the new Chemistry Building required deconstruction of the existing Stock Pavilion. Classes requiring use of this facility have been relocated to the ARDEC Campus for the interim, but that is not an acceptable long-term solution due to the distance that students have to travel.

New Space Requirements

Space requirements are identified below:

Space Type	GSF
Auditorium	3855
Retail	775
Culinary	1910
Livestock Holding	2426
Meat Harvest	2818
Processing	3624
Ready to Eat	1989
Atrium	2975
Laboratory	1200
Office/conference	3060
Sensory Testing	800
Operations/restroom/circulation	12,568
Total	38,000

Equipment List

Existing stainless steel equipment including tables, scales, grinders, slicers, injector and some kitchen equipment will be reused. Significant new equipment included in the new project includes:

- thermal processing ovens (2)
- kitchen equipment
- livestock and poultry harvest equipment

Alternative analysis

A CSU committee chaired by the Vice President for University Operations conducted an analysis of the feasibility and desirability of having an Animal Harvest and Processing Facility located on main campus, versus an off-campus location. The recommendation from the committee was that an on-campus facility was the best option for the program (the memo dated 9/4/2012 is on file). A number of facility iterations were developed during programming, but site constraints dictated the final footprint.

Benefits of the Project

Learning in today's interactive environment requires hands-on facilities, and the Food Innovation Center will provide experience in areas ranging from animal handling to processing to sales.

Students: The facility will enhance laboratory sections of existing courses and add laboratory sections to ANEQ 360 (Principles of Meat Science). CSU will serve as the "first stop" for industry related troubleshooting and research, enhancing existing relationships with producers and processors while helping students connect with future employers.

Industry: The facility will have a product development and sensory evaluation area for development, marketing and customer-service efforts; a culinary center with state-of-the-art product preparation capabilities, and retail display investigation capability. The university can access a "network" of 30k students, as well as the local community, for trained and/or consumer taste panels, focus groups, etc. Industry clients could access CSU facilities for joint confidential product development and/or problem solving as well as training.

Community: The facility will provide outreach and education activities with key constituent groups throughout the state.

Design Criteria

See conceptual floor plans and building elevations in Appendix.

Site Constraints

The site is constrained on all four sides including: service and bicycle/pedestrian movement on the west and east, ADA parking needs that must be met within the existing parking to the south, the existing Animal Sciences Building to the north and access to the Animal Sciences dock to the east. In addition, the university greenhouses to the east of the site were concerned about potential shading from the new building. The CSU Master Plan Committee met in June 2015 to discuss this project footprint in light of all the constraints, and approved the very compact footprint that is the basis of this conceptual design.

Flood Mitigation Analysis

The first Master Drainage Plan for CSU was completed by Ayres Associates in June 1996. On July 28, of the following year, Fort Collins experienced a significant storm event that caused approximately \$150 million in damages to campus facilities. Very few of the master planned facilities were constructed prior to the 1997 flood. A draft Master Plan Update was completed in January 2001 with the purpose of identifying the best possible drainage improvement alternatives. The current Master Plan Update was completed by Ayres Associates in April 2008 and includes the as-built analysis of the Phase I and II improvements that were constructed.

The existing floodplain on the CSU campus is the result of the following:

- Off-site flows entering the CSU campus from the City of Fort Collins Canal Importation Basin. These flows enter campus from the west side of Shields with a particular concentration at the Shields and Elizabeth Street intersection.
- CSU campus encompasses approximately 375 acres of mixed use development. Much of the campus is developed and highly impervious (which generates a lot of runoff) with the exception of the open space and recreation fields.
- Existing storm drainage system is small and complex, and provides very little conveyance capacity during large storm events, so most of the storm flows travel via overland or surface flow.

The current Master Drainage Plan document is a summary of the work that has been done, and also provides a guide for additional work that still needs to be done. This Master Plan also serves as a warning as to the complexity and sensitivity of CSU's storm drainage system. No additional work of any kind should be done without looking at the impacts to the storm drainage conveyance and flooding elevations.

Specific to the Food Innovation Center: The entire site lies outside 100-Year floodplain as shown on the flood plain map in the appendix.

LEED Goal

Senate Bill 07-051 directs that state buildings undergoing substantial renovation or new construction conform to the High Performance Certification Program. The Office of the State Architect has stated that USGBC LEED-NC Gold is the targeted standard of this program, or at a minimum, the highest obtainable LEED standard. The most current LEED publication at the time of design will be used. The inclusion of high performance standards is an integral part of the project, beginning at the program plan stage.

The goal of this project is LEED Gold.

Architectural

The building is envisioned as a steel frame, pre-manufactured metal building tied to the existing Animal Sciences' building by a light-filled atrium. Approximately 2/3 of the addition will be high bay space wrapped in signature CSU stone and metal panels with clerestory windows for daylighting. Within the high bay portion of the addition the Global Food Innovation Center will include a 200 seat auditorium, a retail space and a meat harvesting facility. The retail space will be adjacent to the revitalized quad between Behavioral Sciences, Clark and Animal Sciences' providing a welcoming atmosphere for the local community. Located off of the atrium on the ground floor, a state-of-the-art culinary kitchen will be utilized for catering and demonstrations. On the second level, open to atrium, the remaining 1/3 of the building will accommodate visitor and faculty offices, laboratories, sensory and tasting areas and conference facilities.

Utilities

The following are impacts of the proposed building renovation and addition to existing utilities are based on location and available capacity. The estimates represent a general magnitude of total development cost for budget purposes and are not intended to be cost estimates or quotes. Meters, transformers, building services, water quality features and other standard expenses required to connect the utilities to the building are not included in the scope of the analysis unless the expected cost is considered to be out of the ordinary.

General

Total Estimated Impacts - \$1,113,000

Letters in parentheses () are map references for the Utilities Map in the appendix.

Electrical - \$30,000

- The FIC addition should be fed electrically via the existing Animal Science service.
- (a) – \$30,000 Upsize transformer to Animal Science to accommodate the addition.

Lighting

- Remove existing and install new as necessary.

Water - \$128,000

- (b) – \$120,000 Relocate approximately 370 lf of existing 6" water main.
- (c) – \$8,000 Replace hydrant MC27, which falls within the building footprint. Coordinate final hydrant location with PFA.
- Feed the addition from the relocated main with a combined fire and domestic service.
- Verify during design that there are sufficient fire hydrant locations around the building.

Sanitary Sewer - \$350,000

- (d) – \$240,000 Relocate approximately 580 lf of existing 10" sanitary main.
- (e) – \$110,000 Upsize approximately 270 lf of existing 8" sanitary main to accommodate the load of the addition.

Stormwater - \$215,000

- (f) – \$190,000 Relocate approximately 460 lf of existing 8" storm main.
- Regional Detention Pond – \$25,000. Stormwater detention is required for the project. This building site will need to invest in regional detention projects elsewhere on Main Campus.
- Address site drainage locally as necessary and include water quality measures on site (e.g. rain gardens, permeable pavers).

Natural Gas

- The FIC addition should utilize the existing Animal Science service. Route piping through the building as necessary.

District Heating - \$80,000

- Per campus master plan, this building site will be served by the central steam utility.
- (g) - \$80,000 Install approximately 125 lf new steam and condensate line. Use the connection point shown within the steam tunnel to the east and follow the approximate route shown.
- Central Plant Capacity: Available.

District Cooling - \$310,000

- Per campus master plan, this building site will be served by the central chilled water utility.
- (h) - \$160,000 Run a new 8” chilled water service approximately 400 lf from the existing tap in Pitkin Street to the service entry via the route shown.
- Central Plant Capacity: \$150,000 This project will need to invest in a utility efficiency project in order to make central plant capacity available.

Telecom

- Consult CSU Telecom for impacts.

Irrigation

- Consult CSU Outdoor Services for impacts.

CSU Standards

The CSU Building Construction Standards Manual is available at:

http://www.facilities.colostate.edu/index.asp?url=construction/constr_standards

The CSU Standards are to be used as guidelines for design. They are divided into 3 parts for use by Architects and Engineers: the first part is administrative; the second part discusses requirements for design and deliverables at each stage of the design process; the third part consists of the technical standards arranged by CSI division. The Standards are a work in progress, and as such, any question about the applicability of a standard should be discussed with the project manager. The Standards should never be referenced or copied in Contract Documents – the design is expected to embody and conform to the Standards. Contractors are not to be directed to review the Standards as a contract requirement.

List of applicable codes

The following approved building codes and standards have been adopted by State Buildings Programs (SBP) as the minimum requirements to be applied to all state-owned buildings and physical facilities including capital construction and controlled maintenance construction projects.

The 2015 edition of the International Building Code (IBC)
is adopted by the Colorado State Buildings Programs as follows: Chapter 1 is amended; Chapters 2-35 and Appendices C and I

The 2015 edition of the International Mechanical Code (IMC)
is adopted by the Colorado State Buildings Programs as follows: Chapters 2-15 and Appendix A

The 2015 edition of the International Electrical Code (IECC) is adopted by the Colorado State Buildings Programs

The 2014 edition of the National Electrical Code (NEC)
National Fire Protection Association standard 70 is adopted by the Colorado State Buildings Programs

The 2012 edition of the International Plumbing Code (IPC)
is adopted by the Colorado State Buildings Programs as follows: Chapter 1, sections 101.2, 102, 105, 107; Chapters 2-13 and Appendices E, F and G

The 2012 edition of the International Fuel Gas Code (IFGC)
is adopted by the Colorado State Buildings Programs as follows: Chapter 1, sections 101, 102, 105, 107; Chapters 2-8 and Appendixes A through C

The National Fire Protection Association standards (NFPA)
is adopted by the Colorado State Buildings Programs as follows: Chapter 1, sections 101, 102, 105, 107; Chapters 2-8 and Appendixes A through C
NFPA-1: 2006, 11, 2005, 12, 2005, 12A, 2004, 13, 2002, 13, 2002, 13R, 2002, 14, 2003, 15, 2001, 16, 2003, 17, 2002, 17A, 2002, 20, 2003, 22, 2003, 24, 2002, 25, 2002, 72, 2002, 409, 2004, 423, 2004, 750, 2003, and 2001, 2004

The 2010 edition of the ASME Boiler and Pressure Vessel Code

is adopted by the Board of the International Brotherhood of Fire Protection and Prevention, Division 1 and 2 and 31 and including the 2011 addendum and 31 of 2010 edition.

The 2011 edition of the National Fire Protection Association (NFPA)

is adopted by the Board of the International Brotherhood of Fire Protection and Prevention.

The 2012 edition of the Controls and Devices for Automatic Fire Alarms Code-1

is adopted by the Board of the International Brotherhood of Fire Protection and Prevention.

The 2011 edition of the Boiler and Combustion Systems Hazards Code NFPA 85

is adopted by the Board of the International Brotherhood of Fire Protection and Prevention.

The 2013 edition of ASME A17.1 Code for Elevators and Escalators

is adopted by the Board of the International Brotherhood of Fire Protection and Prevention and is added by ASME International.

The 2005 edition of ASME A17.3 Code for Existing Elevators and Escalators

is adopted by the Board of the International Brotherhood of Fire Protection and Prevention and is added by ASME International.

The 2011 edition of ASME A18.1 Code and Standard for Platform Lifts and Staircase Chairlifts

is adopted by the Board of the International Brotherhood of Fire Protection and Prevention and is added by ASME International.

The current edition of the Rules and Regulations Governing the Operation of Food Service Establishments

is adopted by the Board of the International Brotherhood of Fire Protection and Prevention.

The 2003 edition of ICC/ANSI A117.1 Accessible and Usable Buildings and Facilities

is adopted by the Board of the International Brotherhood of Fire Protection and Prevention and is added by ASME International.

Note: Additional codes, standards and codes may be adopted by the state agencies and institutions in addition to the codes and standards herein adopted by the Building Program.

1. The 2015 edition of the IBC becomes effective on July 1, 2016. Consult the state electrical and plumbing boards and the state boiler inspector and commissioner of the Division of Fire Prevention and Control for additional current editions and amendments to their codes.
2. Projects should be designed and constructed in accordance with the approved codes at the time of A/E contract execution. Contractors to design to different code sections after edition of code that the Building Program is not yet adopted the approved code. If approved and then the A/E contract is revised Exhibit C Approved State Building Codes. Please note that the state plumbing and electrical boards enforce the editions of their codes that are in effect at the time of construction of the design.
3. The state code review acts of the state Building Program approved the building codes shall review all documents for compliance with the codes stipulated herein. Note: The Board of Public Health and Environmental Division of Consumer Protection will review documents for food service related projects.
4. This code does not prohibit the application of various life safety codes as established by the state or state building codes and codes require NFPA 101 and other standards. If it is a standard approved codes will supersede where their jurisdiction require acts are the most restrictive in the situation. In conflict arises that state Building Program resolution.
5. It is anticipated that compliance with the Federal Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG) and Code of Revised Titles Section 9-5-101 will be set by compliance with the 2015 International Building Code and ICC/ANSI A117.1. However, it is not intended to have undue effects that require individual attention to these legislated codes.
6. The 2015 edition of the International Building Code (IBC) is to be applied to new-built residential structures as established by the Division of Housing of the Board of the International Brotherhood of Fire Protection and Prevention.

A. Appendices

Appendices are provided to supplement the basic provisions of the codes. Approved IBC Appendices are as follows:

1. Model Code
IBC Appendix C - Agricultural Buildings IBC Appendix C - Part Covers

2. Other

All information published in the Interim Building Code shall be utilized at the discretion of the Use Committee. All information shall be indicated in the Interim Building Code.

Appendix

1. Interim Building Code Chapter 1 is added

Project schedule, cost estimates and financing

Schedule/phasing

Once necessary approvals and financing are in place, the project is estimated to take 18 months to complete using a design build procurement.

Financing

The project will be funded through donations and University resources.

Cost estimate/methodology

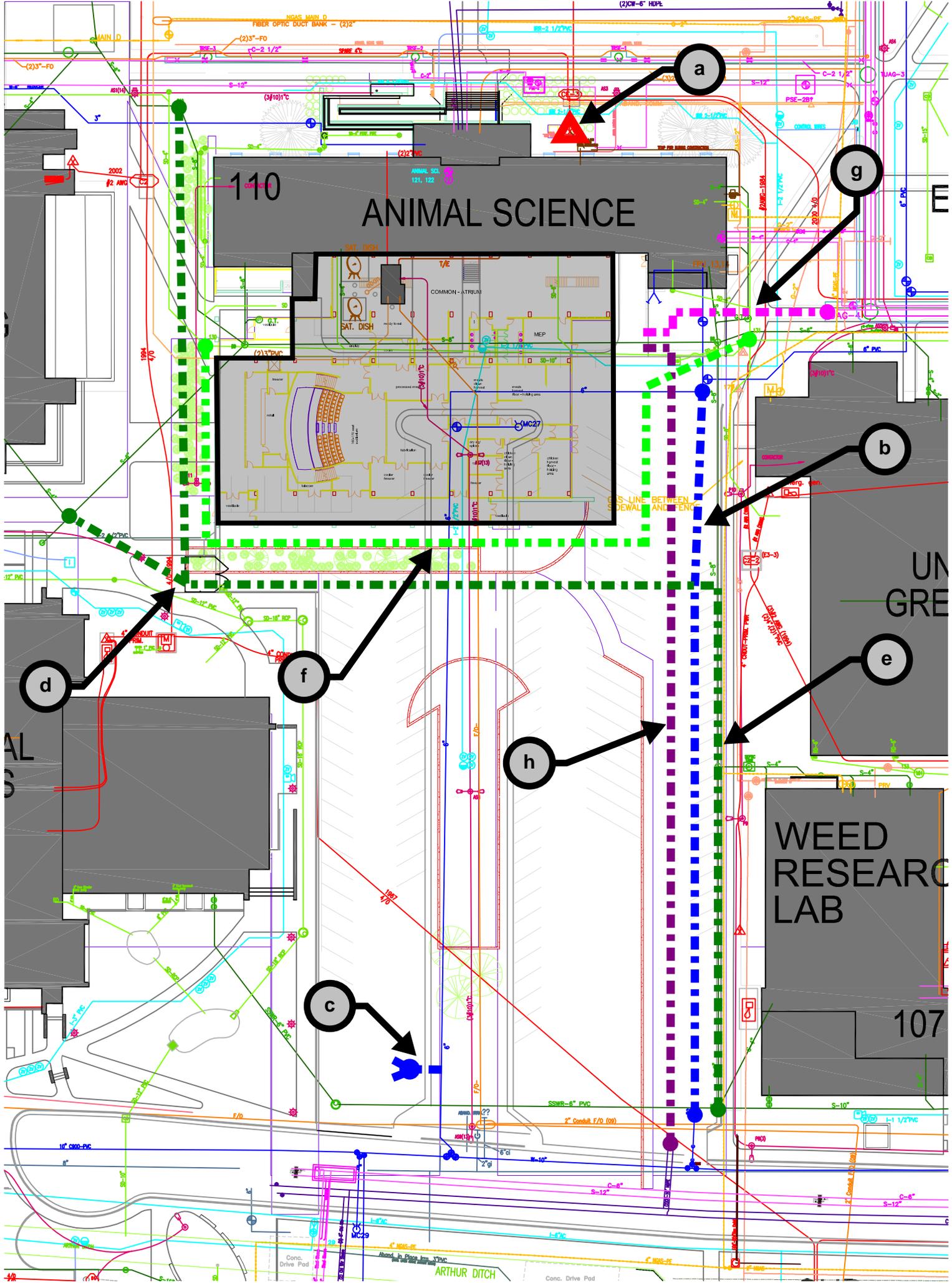
Cost estimates are embedded in the REVIT model that was used to produce the conceptual design. CSU standards specify that the A/E document 20% of the construction budget in bid alternates, to cover potential volatility in the construction market as the project progresses.

Appendices

- a. Site map**
- b. Utility map**
- c. Floor plans**
- d. Budget**
- e. Flood Plain Map**
- f. LEED Scoresheet**
- g. Animal Harvest and Processing Facility memo**

Appendix A

Appendix B



110
ANIMAL SCIENCE

107
WEED RESEARCH LAB

d

f

h

c

a

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b

e

2002
#2 AWC

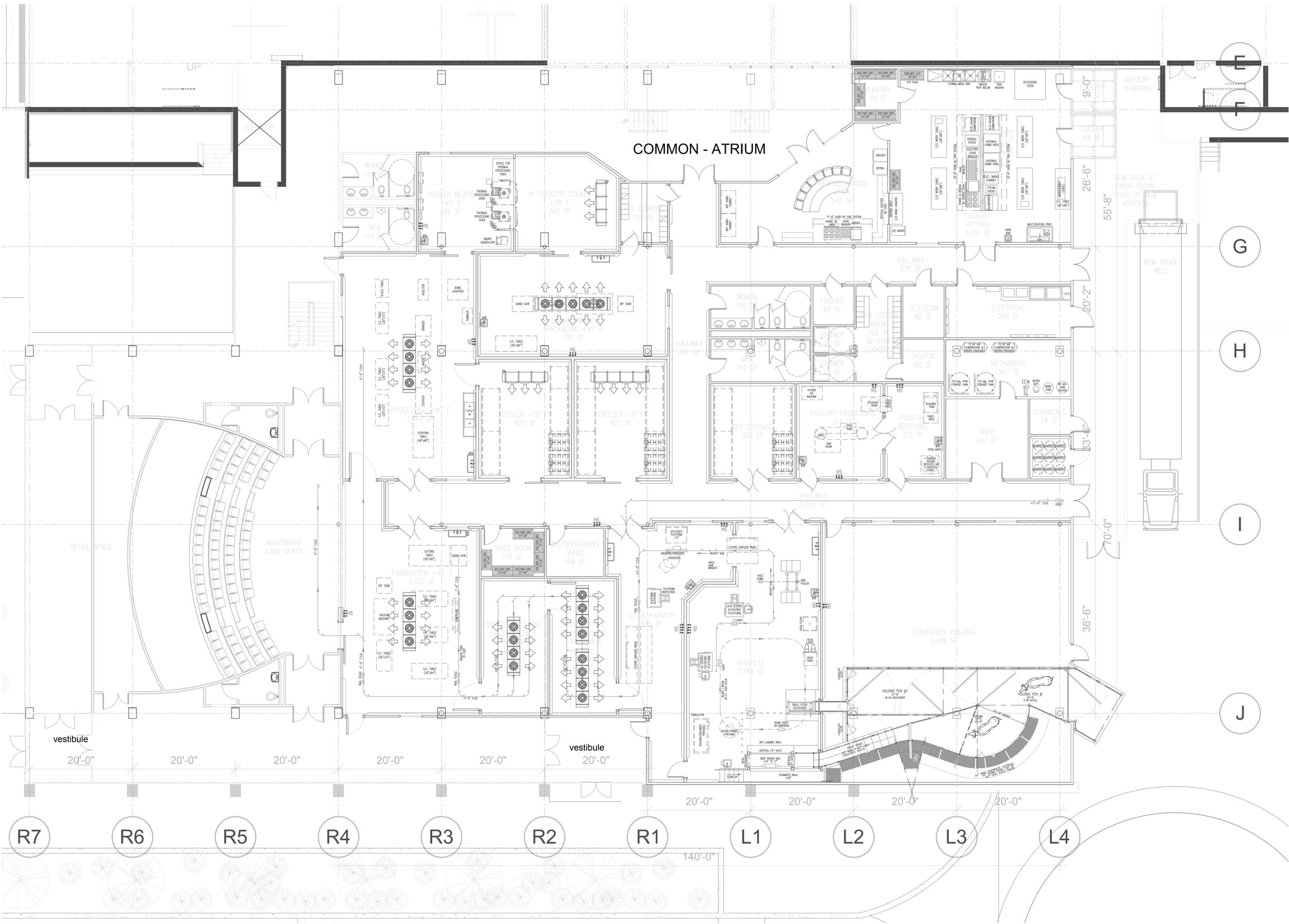
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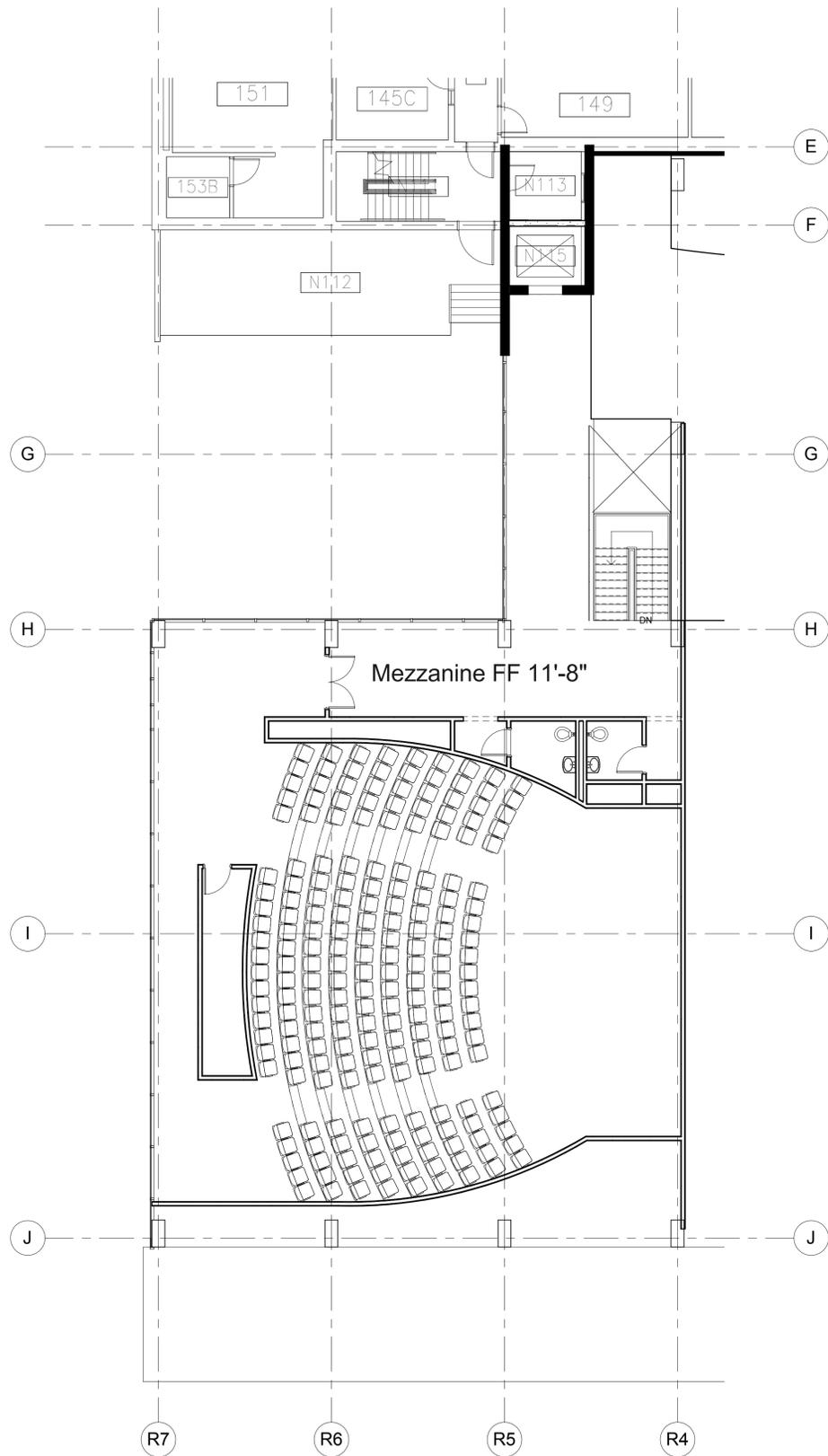
ARTHUR DITCH



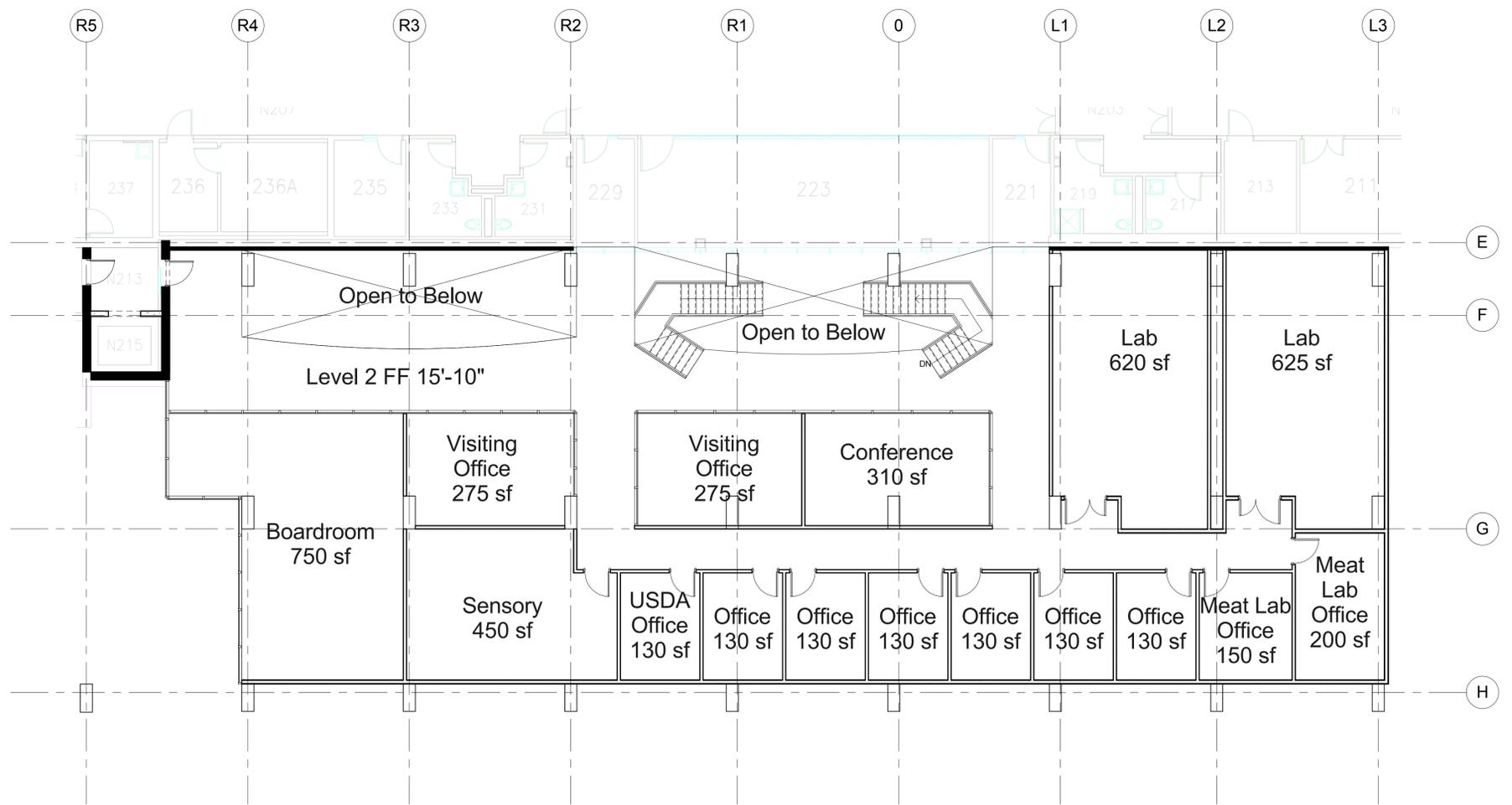
Appendix C



Preliminary Ground Floor



Preliminary Mezzanine



Preliminary Second Level

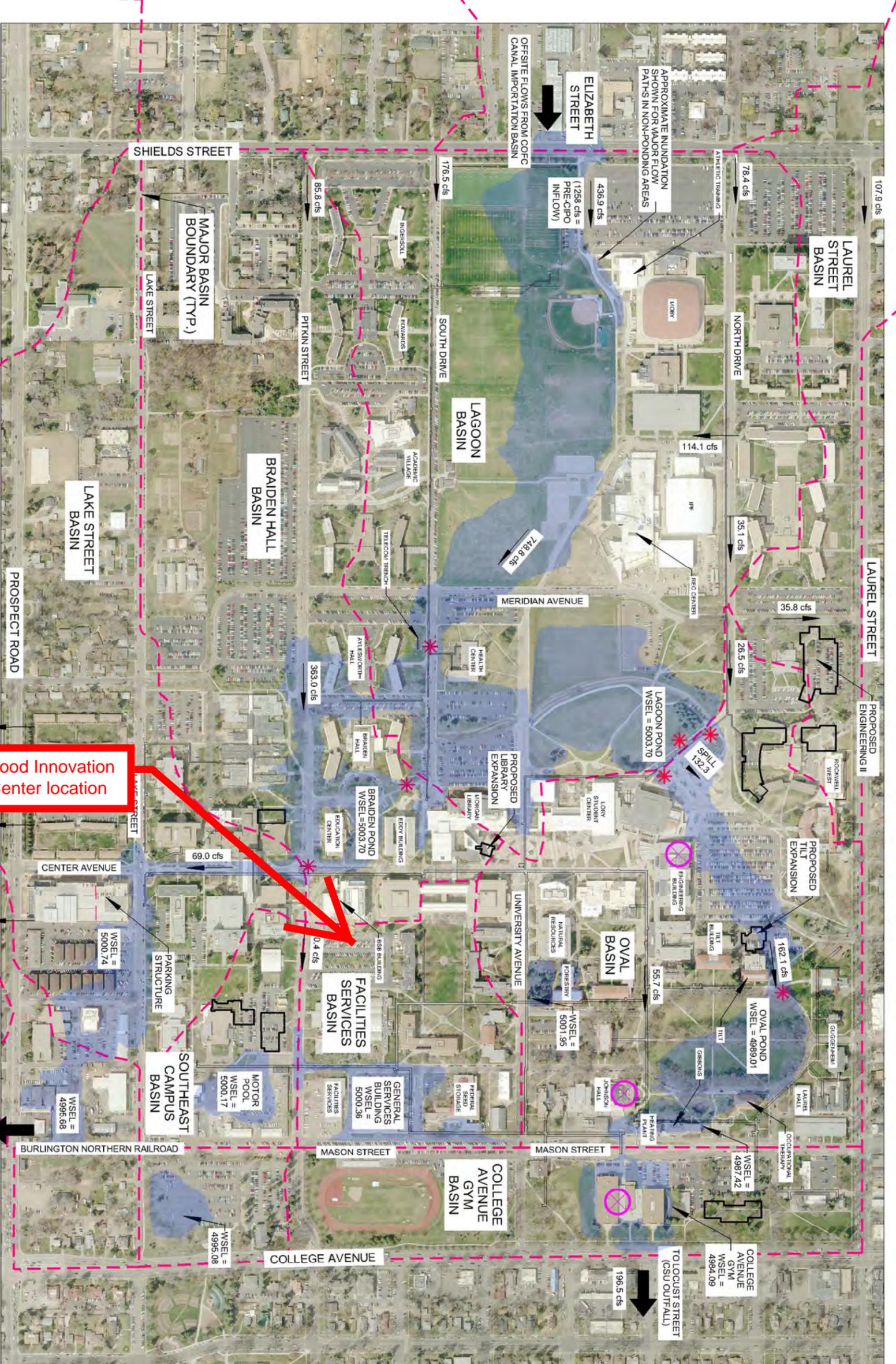
Appendix D

Project Title: JBS Global Food Innovation Center

Budget
3-A-17

Project Budget	Estimated Costs-low	Estimated Costs-medium	Estimated Costs-high	Remarks
				Reference also space Analysis
Professional Services				
Site Survey, Geotechnical	\$ 35,000	\$ 35,000	\$ 35,000	
Professional Design Consultants	\$ 1,124,881	\$ 1,184,085	\$ 1,243,289	
Advertisements	\$ 1,500	\$ 1,500	\$ 1,500	
CSU Facilities Project Management	\$ 184,275	\$ 184,275	\$ 184,275	
Independent Code Review	\$ 24,000	\$ 24,000	\$ 24,000	
Construction code inspections	\$ 20,000	\$ 20,000	\$ 20,000	
Construction materials inspections	\$ 75,000	\$ 75,000	\$ 75,000	
PFA plan review fee	\$ 23,075	\$ 23,075	\$ 23,075	For \$10.0M building
DB RFP preparation	\$ 100,000	\$ 100,000	\$ 100,000	
Total Professional Services	\$ 1,587,731	\$ 1,646,935	\$ 1,706,139	
Construction				
New Space -38,000 gsf @ \$256, \$269, \$282/sqft	\$ 9,710,900	\$ 10,222,000	\$ 10,733,100	assumes DB lump sum delivery w/prefab metal building
Renovation Space	\$ -	\$ -	\$ -	
Site Work Service/Utilities	\$ 741,000	\$ 780,000	\$ 819,000	
Site Improvements/Landscaping	\$ 261,250	\$ 275,000	\$ 288,750	
Asbestos abatement	\$ -	\$ -	\$ -	
Subtotal Construction Costs	\$ 10,713,150	\$ 11,277,000	\$ 11,840,850	
Equipment & Furnishings				
Fixed Equipment Allowance	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	
Moveable Equipment/Furniture	\$ 150,000	\$ 150,000	\$ 150,000	
CSU Communications (estimate from telecom)	\$ 275,000	\$ 275,000	\$ 275,000	
Total Equipment and Furnishings Costs	\$ 5,425,000	\$ 5,425,000	\$ 5,425,000	
Miscellaneous				
Relocation Costs-	\$ 35,000	\$ 35,000	\$ 85,000	
Total Miscellaneous Costs	\$ 35,000	\$ 35,000	\$ 85,000	
Subtotal Project Cost	\$ 17,760,881	\$ 18,383,935	\$ 19,056,989	
Project Contingency				
Project Contingency 5% for New	\$ 888,044	\$ 919,197	\$ 952,849	
Total Contingency	\$ 888,044	\$ 919,197	\$ 952,849	
Subtotal Budget-	\$ 18,648,925	\$ 19,303,132	\$ 20,009,839	
Art in Public Places		\$ -		
Project Budget-July 2016	\$ 18,648,925	\$ 19,303,132	\$ 20,009,839	
Escalation to July 2017-4.0%	\$ 19,394,882	\$ 20,075,257	\$ 20,810,232	
Escalation to July 2018-5%	\$ 20,364,626	\$ 21,079,020	\$ 21,850,744	
Escalation to July 2019-4%	\$ 21,179,211	\$ 21,922,181	\$ 22,724,774	
This opinion of probable cost is made on the basis of the experience, qualifications and best judgement of a professional cost consultant familiar with the construction industry, combined with the professional experience of Facilities Management. FM cannot guarantee that proposals, bids or actual construction costs will not vary from this cost estimate due to market conditions at the time of bid. Scope and schedule changes during design and/or construction will result in higher cost.				
Total Project Cost / sqft	\$ 509.53	\$ 527.41	\$ 546.72	

Appendix E



Food Innovation Center location

LEGEND

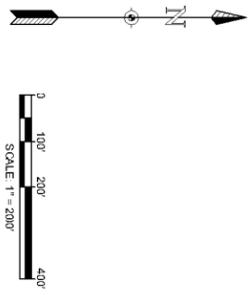
- PROPOSED BUILDING FOOTPRINT (ACCOUNTED FOR IN MODEL)
- - - MAJOR BASIN BOUNDARY
- FLOODPLAIN BOUNDARY
- * CRITICAL CONVEYANCE LOCATION
- ⊗ ACTIVE FLOOD PROTECTION REQUIRED TO PROTECT BUILDING IN A FLOOD EVENT
- ELEVATIONS BASED ON NGVD 29 DATUM

OVAL FLOODPLAIN PROTECTION NOTES:

1. OCCUPANT HALL THERMIST IS PROTECTED TO A 50 YR EVENT.
2. GIBBONS IS PROTECTED TO A 2 YR EVENT.
3. HEATING PLANT IS PROTECTED TO LESS THAN 2 YR EVENT. 100 YR PROTECTION CAN BE ACHIEVED IF NO RTH DOOR IS FLOODED PROOFED.
4. JOHNSON HALL HAS 100 YR P PROTECTION.
5. LAUREL HALL HAS 100 YR PROTECTION.

NOTES:

1. FOR MOTOR POOL PROPOSED IMPROVEMENTS SEE ALTERNATIVE ANALYSIS FOR THE DESIGN OF THE MASON STREET OUTFALL (PREPARED BY AVRES, 2010).
2. FLOODPLAIN DOWNSTREAM OF LAKE STREET IS APPROXIMATE. DETAILED MODELING IS REQUIRED OF THIS AREA TO FINALIZE THE FLOODPLAIN.



AYRES ASSOCIATES Engineers/Scientists/Surveyors
 3665 JFK Parkway, Building 2, Suite 200
 P.O. Box 270460
 Fort Collins, CO 80527
 (970) 223-5556

100 YR FLOOD INUNDATION
 (EX. CONDITIONS W/ CIPD & MASON ST. BRT)

COLORADO STATE UNIVERSITY
TUNNEL RISK ASSESSMENT

Revisions	Date

Project Mgr. AHF
Designed By: DAS
Drawn By: DAS
Approved By: AHF
Date: 01/04/2011

PROJECT NO. **32-1540.00**
 DRAWING NO. **FIGURE 1**
 SHEET 1 OF 1

Appendix F



LEED for New Construction v2.2 Registered Project Checklist

Project Name: Global Food Innovation Center
 Project Address: Colorado State University

Yes No Res Not Attainable

8 2 3 Sustainable Sites 14 Points

Y	Prereq	Credit	Description	Points	Notes
	1	Prereq 1	Construction Activity Pollution Prevention	Required	
		Credit 1	Site Selection	1	
		Credit 2	Development Density & Community Connectivity	1	
		Credit 3	Brownfield Redevelopment	1	1 site does not qualify
1		Credit 4.1	Alternative Transportation Public Transportation Access	1	
1		Credit 4.2	Alternative Transportation Bicycle Storage & Changing Rooms	1	
1		Credit 4.3	Alternative Transportation Low-Emitting & Fuel-Efficient Vehicles	1	
1		Credit 4.4	Alternative Transportation Parking Capacity	1	
		Credit 5.1	Site Development, Protect or Restore Habitat	1	
		Credit 5.2	Site Development, Minimize Open Space	1	
1		Credit 6.1	Stormwater Design, Quality Control	1	
		Credit 6.2	Stormwater Design, Quantity Control	1	1 connected to site's site
1		Credit 7.1	Heat Island Effect, Non-Roofs	1	
1		Credit 7.2	Heat Island Effect, Roofs	1	
1		Credit 8	Light Pollution Reduction	1	

2 3 Water Efficiency 5 Points

Y	Prereq	Credit	Description	Points	Notes
1		Credit 1.1	Water Efficient Landscaping Reduce by 50%	1	
		Credit 1.2	Water Efficient Landscaping No Potable Use or No Irrigation	1	
		Credit 2	Innovative Wastewater Technologies	1	
1		Credit 3.1	Water Use Reduction 20% Reduction	1	
		Credit 3.2	Water Use Reduction 30% Reduction	1	

9 8 Energy & Atmosphere 17 Points

Y	Prereq	Description	Points	Notes
Y	1	Fundamental Commissioning of the Building Energy Systems	Required	
Y	2	Minimum Energy Performance	Required	
Y	3	Fundamental Refrigerant Management	Required	

*Note for EAc1: All LEED or New Construction projects registered after June 26th 2007 are required to achieve at least two 2 points under EAc1

Y	Prereq	Credit	Description	Points	Notes
4	6	Credit 1	Optimize Energy Performance	1 to 10	
			10.5 New Buildings or 3.5 Existing Building Renovations	1	
			14 New Buildings or 7 Existing Building Renovations	2	
			17.5 New Buildings or 10.5 Existing Building Renovations	3	
4			21 New Buildings or 14 Existing Building Renovations	4	
			24.5 New Buildings or 17.5 Existing Building Renovations	5	
			28 New Buildings or 21 Existing Building Renovations	6	
			31.5 New Buildings or 24.5 Existing Building Renovations	7	
			35 New Buildings or 28 Existing Building Renovations	8	
			38.5 New Buildings or 31.5 Existing Building Renovations	9	
			42 New Buildings or 35 Existing Building Renovations	10	
1	2	Credit 2	On-Site Renewable Energy	1 to 3	
			2.5 Renewable Energy	1	
			7.5 Renewable Energy	2	
			12.5 Renewable Energy	3	
1		Credit 3	Enhanced Commissioning	1	
1		Credit 4	Enhanced Refrigerant Management	1	
1		Credit 5	Measurement & Verification	1	
1		Credit 6	Green Power	1	

TOPIC: RECOMMEND APPROVAL OF CASH FUNDED REVENUE BOND INTERCEPT CAPITAL PROGRAM PLAN – COLORADO STATE UNIVERSITY, FORT COLLINS – CSU CENTERS FOR RESEARCH, EXTENSION AND ENGAGEMENT

PREPARED BY: LAUREN LOPEZ, LEAD FINANCE ANALYST

I. SUMMARY

This agenda item requests approval of the Colorado State University (CSU) Centers for Research, Extension and Engagement program plan. This project will expand/create both the CSU High Plains Campus and the CSU Western Campus. CSU will fund this program through the Higher Education Revenue Bond Intercept Program (Intercept). A summary of the project is included below.

II. BACKGROUND

Under current law, CCHE must approve a program plan before any capital construction commences at Institutions of Higher Education (IHEs) per C.R.S. 23-1-106. Solely cash-funded projects are exempted from this process, unless funded through Intercept bonds, established pursuant to C.R.S. 23-5-139. This program allows IHEs to bond for a project using the State's credit rating.

III. STAFF ANALYSIS

In 2017, the Joint Budget Committee provided new base funding of \$875,000 per year to assist CSU in meeting its statewide research, extension and engagement mission. With a goal of better serving constituents in western Colorado and along the eastern plains, CSU will create two Centers for Research, Extensions and Engagement. Both projects will be funded through Intercept bonds, which the aforementioned State support will help pay off. The centers are described below.

CSU High Plains Campus Expansion: This project will construct a new office and classroom facility at the Arkansas Valley Research Center at Rocky Ford, CO. It will house the CSU Extension Southeastern Regional Office, Otero County Extension Office and CSU Agricultural Experiment Station (AES) administration. The site currently houses CSU's Eastern Slope Diagnostics Lab and AES programs focused on specialty crops and water use. With the construction of this new 7,000 gsf facility, Rocky Ford will function as the CSU High Plains Campus. The project will cost \$2,000,000 funded by Intercept bonds.

CSU Western Campus Expansion: This project will construct two new facilities at the Western Colorado Research Center at Orchard Mesa, CO. A classroom/office building will house the Colorado State Forest Service Grand Junction District Office, the CSU Extension Western

Regional Office and AES administration. The other facility will be the relocated Western Slope Diagnostic Lab. The Orchard Mesa Site already houses AES programs focused on pomology, viticulture, management of specialty crops and pest management. With the construction of the new facilities, Orchard Mesa will function as the CSU Western Campus. The project will add 20,500 gsf at a cost of \$9,650,000 funded by Intercept bonds.

IV. STAFF RECOMMENDATIONS

Staff recommends that the Commission approve the CSU Centers for Research, Extension and Engagement program plan for Colorado State University.

V. STATUTORY AUTHORITY

C.R.S. 23-1-106 (3) The commission shall review and approve facility master plans for all state institutions of higher education on land owned or controlled by the state or an institution and capital construction or capital renewal program plans for projects other than those projects described in subsection (9) of this section. The commission shall forward the approved facility master plans to the office of the state architect. Except for those projects described in subsection (9) of this section, no capital construction or capital renewal shall commence except in accordance with an approved facility master plan and program plan.

(9)(b) Except as provided in paragraph (d) of this subsection (9), a capital construction or capital renewal project for an academic facility initiated by the governing board of a state institution of higher education that is contained in the most recent two-year projection approved pursuant to subparagraph (II) of paragraph (c) of subsection (7) of this section, as the projection may be amended from time to time, and that is to be acquired or constructed solely from cash funds held by the institution and operated and maintained from such funds or from state moneys appropriated for such purpose, or both, is not subject to additional review or approval by the commission, the office of state planning and budgeting, the capital development committee, or the joint budget committee; except that, if the capital construction or capital renewal project for an academic facility is to be acquired or constructed in whole or in part using moneys subject to the higher education revenue bond intercept program established pursuant to section 23-5-139, then the governing board of a state institution of higher education must obtain approval from the general assembly as specified in that section. Any capital construction or capital renewal project subject to this paragraph (b) must comply with the high performance standard certification program established pursuant to section 24-30-1305.5, C.R.S.

ATTACHMENTS:

ATTACHMENT A – CSU Centers for Research Extension and Engagement - Colorado State University - Fort Collins

Colorado State University Centers for Research, Extension
and Engagement

Nov 2017

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Appendices

- a. CSU Western Campus
 - i. Site map
 - ii. Seminar Facility conceptual floor plan
 - iii. Diagnostic Laboratory conceptual floor plan
 - iv. Conceptual Massing and elevations
- b. CSU High Plains Campus
 - i. Site map
 - ii. Seminar Facility conceptual floor plan
 - iii. Conceptual Massing and elevations
- c. Combined project budget
- d. Combined LEED scoresheet

Executive Summary

The Joint Budget Committee of the Colorado General Assembly earlier this year provided new base funding to assist Colorado State University in meeting its statewide research, extension and engagement mission through the reopening of the Agricultural Experiment Station at Rogers Mesa. The revamped and reopened Rogers Mesa site will have an increased emphasis on engagement and Extension activities and community partnerships, including the establishment of an Agricultural Incubator and Training Center. This Center will offer business and scientific training to help new and existing farmers overcome the barriers to farming. Research activities will include comparative studies of organic and conventional production systems, with trials and demonstrations of innovative management practices developed in conjunction with the Orchard Mesa, Fruita, and Yellow Jacket facilities. Research at the Fruita site emphasizes Climate Smart Agriculture and agricultural water use efficiency.

The Rogers Mesa site will functionally integrate with existing and newly redesigned facilities at the Orchard Mesa AES, thereby expanding the availability, scope, and quality of agricultural research, support, and educational services to a multi-county region in Western Colorado. The Orchard Mesa facility will continue to focus on issues of high priority to Western Slope agriculture including pomology, viticulture, management of other specialty crops of local interest, and pest management.

In addition to upholding legislative intent and completing the improvements to the Rogers Mesa facility, we are able to leverage the state's investment to allow a combined \$11.65 million investment in infrastructure improvements at existing and newly redesigned facilities in Orchard Mesa and Rocky Ford.

Approximately \$2M is allocated to construction of a new facility at Rocky Ford to house the CSU Extension Southeastern Regional Office, Otero County Extension Office (as per request from the Otero county commissioners) and CSU Agricultural Experiment Station (AES) administration. The Rocky Ford site currently houses CSU's Eastern Slope Diagnostic Lab and AES programs focused on specialty crops and water use. With the construction of the new facility and some upgrades to the existing facilities, Rocky Ford will function as the CSU High Plains Campus.

Approximately \$9.7M is allocated for two new facilities at Orchard Mesa. One of the facilities will be the Western Slope Diagnostic Lab (relocated from the current site) and the other will be a classroom and office building to house the Colorado State Forest Service Grand Junction District Office, the CSU Extension Western Regional Office and AES administration. The Orchard Mesa site already houses AES programs focused on pomology, viticulture, management of specialty crops and pest management. With the construction of the new facilities, Orchard Mesa will function as the CSU Western Campus.

Total Capital Improvement budget range is \$10-\$12M, with a target budget of \$11.7M. CSU plans to utilize a target value design-build lump sum project delivery method and to engage local contractors.

Justification

Program mission and history

With a goal of better serving our constituents in western Colorado and along the eastern plains, CSU will work with local, county and state government in creating two Centers for Research, Extension and

Engagement. These centers will ensure greater effectiveness in our programs by integrating our expertise to meet local needs, and new investments will consolidate existing resources, thereby improving the efficiency in how we meet these needs. The two regional Centers will provide better access to CSU's key assets in Agricultural and Natural Resources research, Extension, Veterinary Diagnostics and the Colorado State Forest Service. These CSU centers will:

- more actively engage stakeholders and strategic partners,
- target opportunities for mission critical areas that enhance community prosperity, and
- align resources for CSU research and engagement programs to maximize benefits.

The CSU Western Campus: The Western Campus, located in Orchard Mesa, will provide administrative oversight and intellectual leadership for CSU's agricultural experiment stations (AES) located in Western Colorado -- Fruita, Orchard Mesa, Rogers Mesa and Yellow Jacket. Orchard Mesa will also house the CSU Extension western regional office, the regional Veterinary Diagnostic Laboratory and the regional Colorado State Forest Service office.

Specific programs include the following:

Fruita AES Programs will focus more intensely on "Climate Smart Agriculture," emphasizing optimal use of water amidst the pressures of municipal and industrial use, drought, climate variability, and shifting market demands. These efforts will be broadly collaborative with AES, CSU Extension, and the Colorado Water Institute.

Orchard Mesa AES Programs will continue their focus on pomology, viticulture, management of other specialty crops of local interest and pest management. Emphasis will increase on engagement efforts such as service learning projects that result in distribution of fruit produced by research projects to hunger relief programs. Collaborations with Colorado Mesa University (such as the CMU viticulture program) will be expanded.

Rogers Mesa AES Programs include the Agricultural Incubator and Training Center that could address local and regional issues of both organic and conventional production systems. Engagement and Extension will be the primary emphasis of the reopened site with some trials and demonstrations of management practices developed in conjunction with Orchard Mesa, Fruita and Yellow Jacket personnel. The property is ideal for development of a western slope Food Incubator and Accelerator Program that can offer business support from industry, technical assistance and training to help new and existing farmers to overcome barriers to entering farming.

Yellow Jacket AES Programs will emphasize identifying crop species and varieties adapted to the high altitudes and semi-arid environment of southwestern Colorado. The crops to be studied include grasses, clovers, alfalfa, field peas, corn, potatoes, dry beans, sugar beets, small grains, and vegetables. Research will be conducted on both irrigated and dryland systems.

Western Slope Diagnostic Laboratory

The Western Slope Laboratory provides a wide variety of testing services locally and provides handling of samples for all testing available through the CSU Veterinary Diagnostic Laboratory system. This laboratory provides full necropsy capabilities for large and small animals, as well as histopathologic examination of surgical biopsies. The services are offered by a Board Certified Veterinary Pathologist. Consultation with fellow pathologists at the main laboratory is provided as well for difficult or problematic cases.

Colorado State Forest Service Grand Junction District Office

The Colorado State Forest Service Grand Junction District Office serves Delta, Garfield, Mesa, Pitkin and Rio Blanco counties. As a service and outreach agency of the Warner College of Natural Resources at Colorado State University CSFS provides technical forestry assistance, wildfire mitigation expertise, outreach, and education to help landowners and communities achieve their forest management goals.

Colorado State University Extension Western Regional Office

Colorado State University Extension is a trusted resource for building and strengthening Colorado communities, and serves as the front door to the university. Extension provides information and education, and encourages the application of research-based knowledge in response to local, state, and national issues affecting individuals, youth, families, agricultural enterprises and communities of Colorado. Extension staff throughout the state are dedicated to serving current and future needs of Coloradans by providing educational information and programs that are designed to meet the unique needs of each of Colorado's 64 counties. Extension offers a wide variety of programs and educational classes, teaching people how to apply science-based information in their daily lives in order to make informed choices about everything from personal finances and healthy living to community issues.

Similar to the center in western Colorado, the **CSU High Plains Campus** will serve the eastern plains from its home in Rocky Ford. The High Plains Campus will house the regional Veterinary Diagnostic Laboratory, CSU Extension Southeastern Colorado Regional office and Otero County Extension personnel. The EPREC will be the administrative home and intellectual leadership for AES centers:

Eastern Colorado (Akron) AES Programs will focus on beef cattle management with attention to cattle feeding and nutrition. Current facilities include more than 35 fenced pastures of native and seeded rangeland, 22 feedlot pens with 640 feet of bunkspace, enclosed working facilities with chute and scales for working and weighing the livestock.

Arkansas Valley (Rocky Ford) AES Programs will focus on irrigated crop production with a particular emphasis on specialty crops and optimal water use. Alfalfa, corn, dry beans, small grains, soybeans, sorghum, onions, melons, tomatoes, cucumbers, potatoes and peppers are representative of crops grown under irrigation.

Plainsman Research (Walsh) AES Programs will examine full and limited irrigation using furrow, sprinkler, and subsurface drip irrigation, as well as tillage comparisons of no-till, ridge-till, conventional-till, and subsoiling. Crops include wheat, grain sorghum, forage sorghum, corn, sunflower, bean, canola, and alternative crops.

Eastern Slope Diagnostic Laboratory

The Eastern Slope Laboratory provides a wide variety of testing services locally and provides handling of samples for all testing available through the CSU Veterinary Diagnostic Laboratory system. This laboratory provides full necropsy capabilities for large and small animals, as well as histopathologic examination of surgical biopsies. The services are offered by a Board Certified Veterinary Pathologist. Consultation with fellow pathologists at the main laboratory is provided as well for difficult or problematic cases.

Colorado State University Extension Southeastern Colorado Regional Office and Otero County Extension Office

Colorado State University Extension is a trusted resource for building and strengthening Colorado communities, and serves as the front door to the university. Extension provides information and education, and encourages the application of research-based knowledge in response to local, state, and national issues affecting individuals, youth, families, agricultural enterprises and communities of Colorado. Extension staff throughout the state are dedicated to serving current and future needs of Coloradans by providing educational information and programs that are designed to meet the unique needs of each of Colorado's 64 counties. Extension offers a wide variety of programs and educational classes, teaching people how to apply science-based information in their daily lives in order to make informed choices about everything from personal finances and healthy living to community issues.

Relation to Academic Strategic Plan

Inspired by its land-grant heritage, Colorado State University (CSU) is committed to excellence, setting the standard for public research universities in teaching, research, service and extension for the benefit of the citizens of Colorado, the United States and the world. This consolidation project supports the strategic plan goals as follows:

Goal 4: Research and Discovery

Foster and disseminate research, creative artistry and scholarly accomplishments. Nurture and sustain research infrastructure that supports growth of research, artistry, and scholarly accomplishments.

Goal 5: Engagement

Collaborate with stakeholders (campus-wide, local, regional/state, national, global) for the mutually beneficial exchange of knowledge and resources in a context of partnership and reciprocity that increases CSU's relevance and value to the State of Colorado.

Goal 6: Public Interaction/Strategic Partnerships

Enhance community and cultural quality of life through sharing the intellectual life of the university, the arts, and intercollegiate athletics

Goal 10: Physical Resources

Be a model institution for master planning, construction, beautification, and sustainability of our campus buildings and grounds.

Physical Condition/functionality of Existing Space

The majority of the existing buildings at Orchard Mesa and Rocky Ford date from the late 1950s. While they are generally functional, they cannot support the consolidation effort. The Western Slope Diagnostic lab is in need of upgrades at the current site, but that site has become undesirable due to incompatibility of the lab functions with the surrounding development. At Rocky Ford, an old pole barn and several vacant facilities will be deconstructed to make way for the new facility and a new pole barn will be constructed.

New Space Requirements

Western and Eastern Slope Consolidation Space Program

Orchard Mesa			
		asf	gsf
Office & Classroom Bldg.			
Office & conference		4726	
Seminar		2802	
Teaching Kitchen		1040	
	Total	8568	12800
D lab			
Laboratory		2857	
Office/conference		810	
	Total	3575	5500
Rocky Ford			
Office/conference		1665	
Seminar		2348	
Teaching Kitchen		233	
	Total	4246	6733

Equipment List

An allowance of \$80,000 is included for new furnishings and equipment.

Alternative analysis

There is no existing space at either site that could be renovated to accommodate the necessary programs. Construction of new facilities is the only viable option for colocation of Extension Service, Diagnostic Lab and Agricultural Experiment Station personnel.

Benefits of the Project

These centers will ensure greater effectiveness in our research, extension and engagement programs by integrating our expertise to meet local needs. New investments will consolidate existing resource and move some personnel out of leased space, thereby improving the efficiency in how we meet these needs. The two regional Centers will provide better access to CSU's key assets in agricultural and natural resources research, Extension, Veterinary Diagnostics and the Colorado State Forest Service. These CSU centers will:

- develop closer collaboration between CSU AES and CSU Extension
- build stronger and more sustainable ties with local communities
- more actively engage stakeholders and strategic partners
- target opportunities for mission critical areas that enhance community prosperity
- align resources for CSU research and engagement programs to maximize benefits.

Design Criteria

See conceptual floor plans and building elevations in Appendix.

Site Constraints

The proposed facilities are planned as new construction at CSU's existing Research Centers in Orchard Mesa and Rocky Ford. Additional parking will be constructed at each location as budget allows. There are no major site constraints.

Flood Mitigation Analysis

There are no floodplain concerns for this project.

LEED Goal

Senate Bill 07-051 directs that state buildings undergoing substantial renovation or new construction conform to the High Performance Certification Program. The Office of the State Architect has stated that USGBC LEED-NC Gold is the targeted standard of this program, or at a minimum, the highest obtainable LEED standard. The most current LEED publication at the time of design will be used. The inclusion of high performance standards is an integral part of the project, beginning at the program plan stage.

The goal of this project is LEED Silver.

Architectural

The buildings are envisioned as single story pre-engineered metal buildings. The aesthetic will be agricultural in nature with a limited "CSU material palette" to identify the facilities as part of a CSU campus.

Utilities

An allowance for connection to sanitary sewer has been included for the Orchard Mesa site. A leach field allowance has been included for the Rocky Ford site. It is anticipated that other utilities are available at each site.

CSU Standards

The CSU Building Construction Standards Manual is available at:

http://www.facilities.colostate.edu/index.asp?url=construction/constr_standards

The CSU Standards are to be used as guidelines for design. They are divided into 3 parts for use by Architects and Engineers: the first part is administrative; the second part discusses requirements for design and deliverables at each stage of the design process; the third part consists of the technical standards arranged by CSI division. The Standards are a work in progress, and as such, any question about the applicability of a standard should be discussed with the project manager. The Standards should never be referenced or copied in Contract Documents – the design is expected to embody and conform to the Standards. Contractors are not to be directed to review the Standards as a contract requirement.

APPROVED STATE BUILDING CODES

The following approved building codes and standards have been adopted by State Buildings Program (SBP) and other state agencies as identified below as the minimum requirements to be applied to all

state-owned buildings and physical facilities including capital construction and controlled maintenance construction projects.

The 2015 edition of the International Building Code (IBC)

(as adopted by the Colorado State Buildings Program as follows: Chapter 1 as amended, Chapters 2-35 and Appendices C and I)

The 2015 edition of the International Mechanical Code (IMC)

(as adopted by the Colorado State Buildings Program as follows: Chapters 2-15 and Appendix A)

The 2015 edition of the International Energy Conservation Code (IECC) (as adopted by the Colorado State Buildings Program)

The 2014 edition of the National Electrical Code (NEC)

(National Fire Protection Association Standard 70) (as adopted by the Colorado State Electrical Board)

The 2015 edition of the International Plumbing Code (IPC)

(as adopted by the Colorado Examining Board of Plumbers as follows: Chapter 1 Section 101.2,102, 105, 107, Chapters 2-13 and Appendices B, D, E, F and G)

The 2015 edition of the International Fuel Gas Code (IFGC)

(as adopted by the Colorado Examining Board of Plumbers as follows: Chapter 1 Section 101,102, 105, 107, Chapters 2-8 and Appendices A, B, and C)

The National Fire Protection Association Standards (NFPA)

(as adopted by the Department of Public Safety/Division of Fire Prevention and Control as follows with editions shown in parentheses: NFPA-1 (2006), 11 (2005), 12 (2005), 12A (2004), 13 (2002), 13D (2002), 13R (2002), 14 (2003), 15 (2001), 16 (2003), 17 (2002), 17A (2002), 20 (2003), 22 (2003), 24 (2002), 25 (2002), 72 (2002), 409 (2004), 423 (2004), 750 (2003) and 2001 (2004))

The 2010 edition of the ASME Boiler and Pressure Vessel Code

(as adopted by the Department of Labor and Employment/Boiler Inspection Section as follows: sections I, IV, V, VIII-Divisions 1 and 2 and 3, 1X, X including the 2011 addenda and B31.1, 2010 edition.)

The 2011 edition of the National Boiler Inspection Code (NBIC)

(as adopted by the Department of Labor and Employment/Boiler Inspection Section)

The 2012 edition of the Controls and Safety Devices for Automatically Fired Boilers CSD-1 (as adopted by the Department of Labor and Employment/Boiler Inspection Section)

The 2011 edition of the Boiler and Combustion Systems Hazards Code, NFPA 85 (as adopted by the Department of Labor and Employment/Boiler Inspection Section)

The 2013 edition of ASME A17.1 Safety Code for Elevators and Escalators

(as adopted by the Department of Labor and Employment/Conveyance Section and as amended by ASME International)

The 2005 edition of ASME A17.3 Safety Code for Existing Elevators and Escalators

(as adopted by the Department of Labor and Employment/Conveyance Section and as amended by ASME International)

Note: Additional codes, standards and amendments may be adopted by the state agencies and institutions in addition to the codes and standards herein adopted by the Buildings Program.

1. The 2015 edition of the IBC becomes effective on July 1, 2016. Consult the state electrical and plumbing boards and the state boiler inspector and approve code administrator and the Division of Fire Prevention and Control for additional current editions and amendments to their codes.
2. Projects should be designed and specs and specifications should be reviewed based upon the approved codes at the time the A/E contract is executed. The designers to design to different code sections of the edition code that the Buildings Program is not yet adopted the code must adopt the P or approved and then amend the A/E contract with the revised Exhibit C Approved State Building Codes. Please note that the state plumbing and electrical boards enforce the editions of their codes that are in effect at the time of the construction of the design.
3. The states code review acts for the state Buildings Program approved code building codes shall review all documents for any change to the codes stipulated herein. Note: The Department of Public Health and Environment Division of Consumer Protection will review documents for food service related projects.
4. This code does not prohibit the application of various life safety codes as established by the code or specific building codes and codes require acts NFPA 101 and other standards. If it is standard approved codes will supersede where their jurisdiction require acts are the most restrictive in the situation. In conflict arises that state Buildings Program resolutions.
5. It is noted that any change to the Federal Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG) and Chapter Revised Articles 9-5-101 will be set back change to the 2015 International Building Code and ICC/ANSI A117.1. However, the code or code approve unique sections that require individual attention to these legislated codes.
6. The 2015 edition of the International Building Code (IBC) is to be applied to retro-built residential structures as established by the Division of Housing of the Department of Labor Affairs.

Amendments

Amendments are provided to supplement the basic provisions of the codes. Approved IBC Amendments are as follows:

Modeling

IBC Amendment Chapter C - Agricultural Buildings

IBC Amendment Chapter I - Patio Covers

Other

Approved modeling amendments published in the International Building Code may be utilized at the discretion of the code. Use of amendments will be indicated in the project code structure.

Amendments

1. International Building Code Chapter 1 is amended

Project schedule, cost estimates and financing

Schedule/phasing

Once necessary approvals and financing are in place, the project is estimated to take 18 months to complete, utilizing a target value design-build lump sum project delivery method.

Financing

The project will be funded through a bond supported by new base funding allocated by the Legislature. The estimated budget range is \$11-\$12M.

Cost estimate/methodology

Cost estimates were provided by a cost estimator for the office facilities and CSU Remodel and Construction Services for the laboratory facility. CSU standards specify that the A/E document 20% of the construction budget in scope ladder items, to cover potential volatility in the construction market as the project progresses.

Appendices

- a. CSU Western Campus @ Orchard Mesa
 - i. Site map
 - ii. Seminar Facility conceptual floor plan
 - iii. Diagnostic Laboratory conceptual floor plan
 - iv. Conceptual Massing and elevations
- b. CSU High Plains Campus @ Rocky Ford
 - i. Site map
 - ii. Seminar Facility conceptual floor plan
 - iii. Conceptual Massing and elevations
- c. Combined project budget
- d. Combined LEED scoresheet

Appendix A

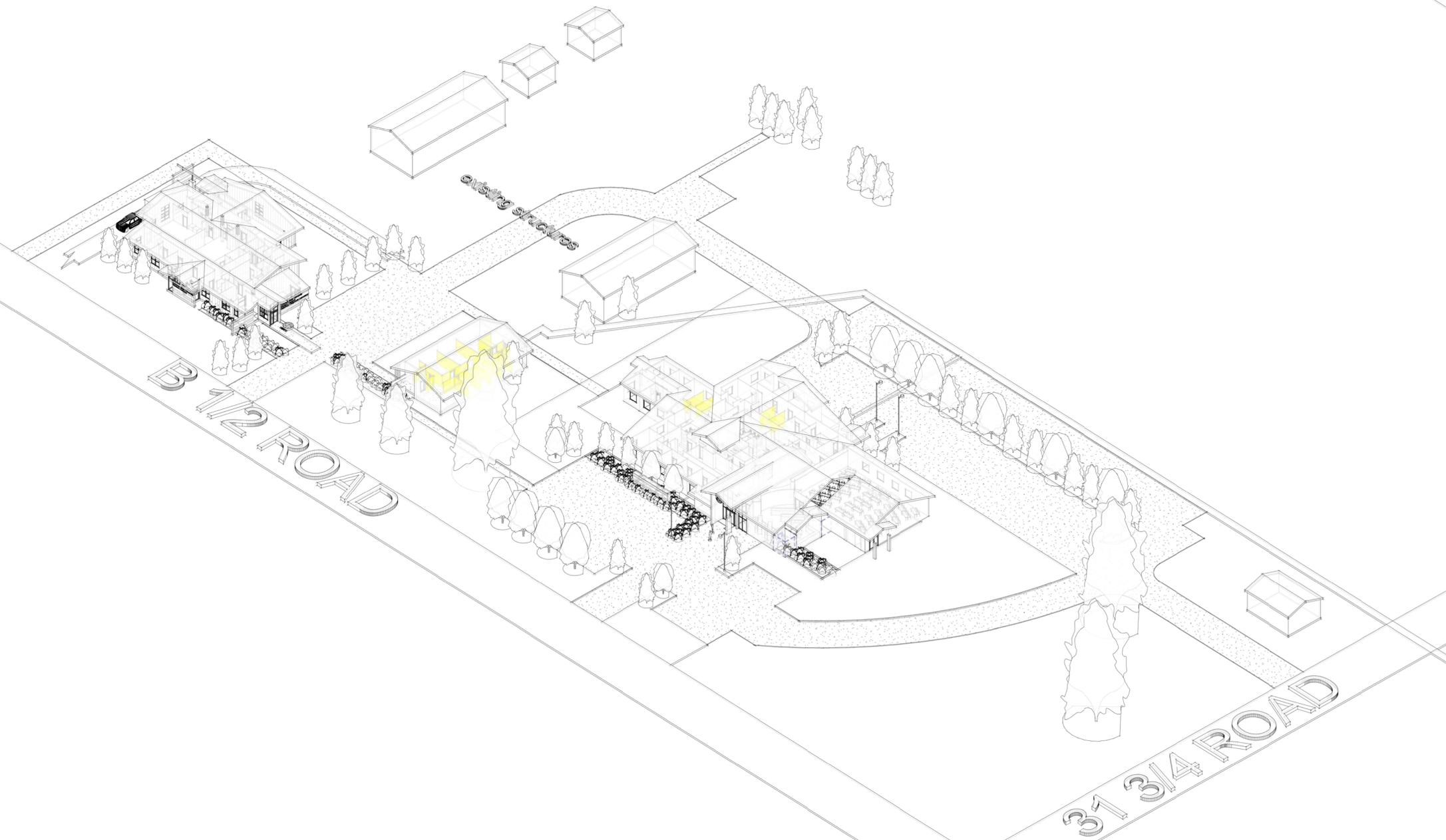
COLORADO STATE UNIVERSITY WESTERN CAMPUS



□ EASTERN COLORADO RESEARCH CENTER

□ 12 ROA □

□ 31 34 ROA □
□ 32 ROA □



Planning Design and
Construction - Remodels and
Construction Services
Colorado State University

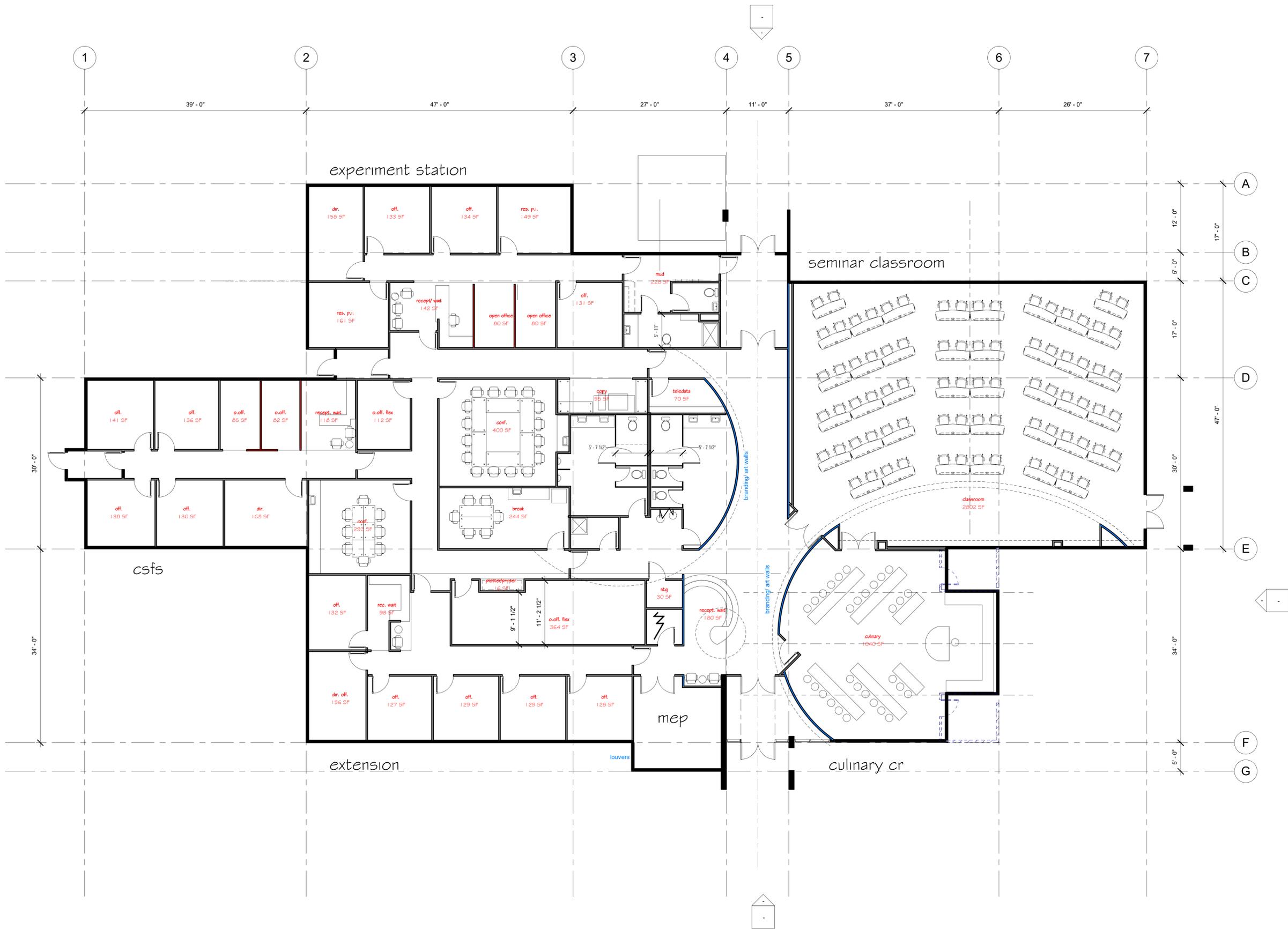
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① Level 1
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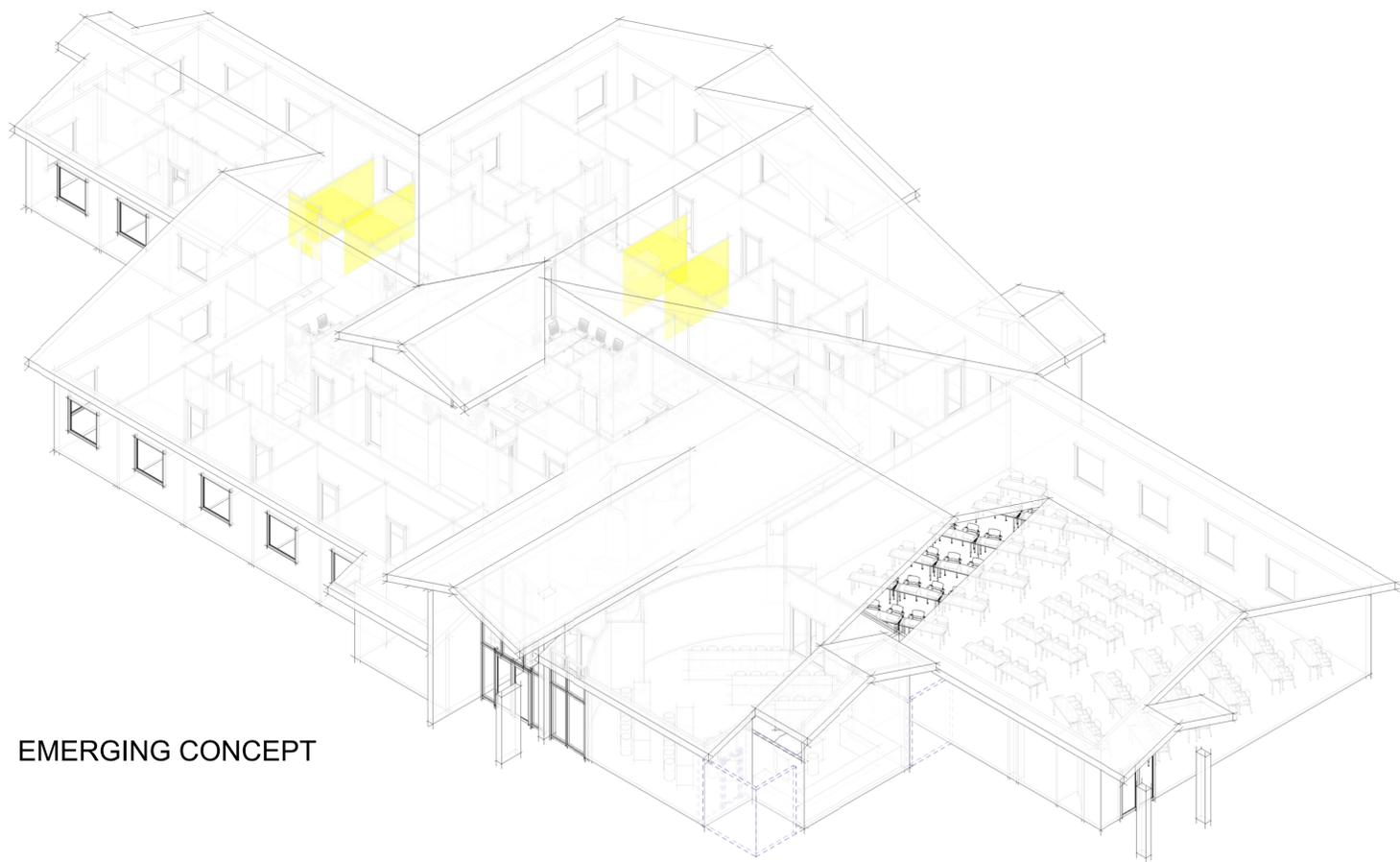
Planning Design and
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Colorado State University

Seminar Building
Floor Plan

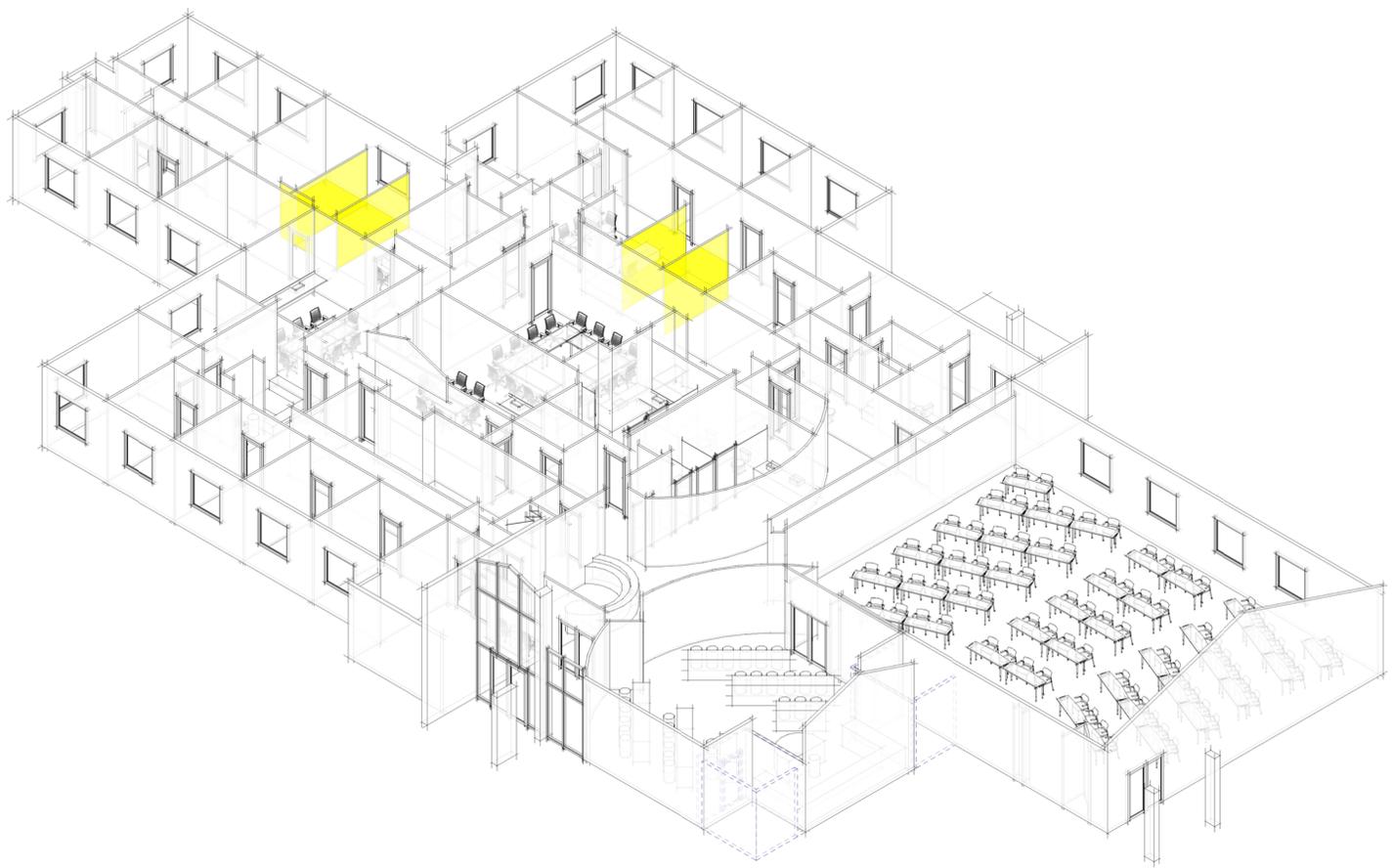
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EMERGING CONCEPT



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Construction Services
Colorado State University

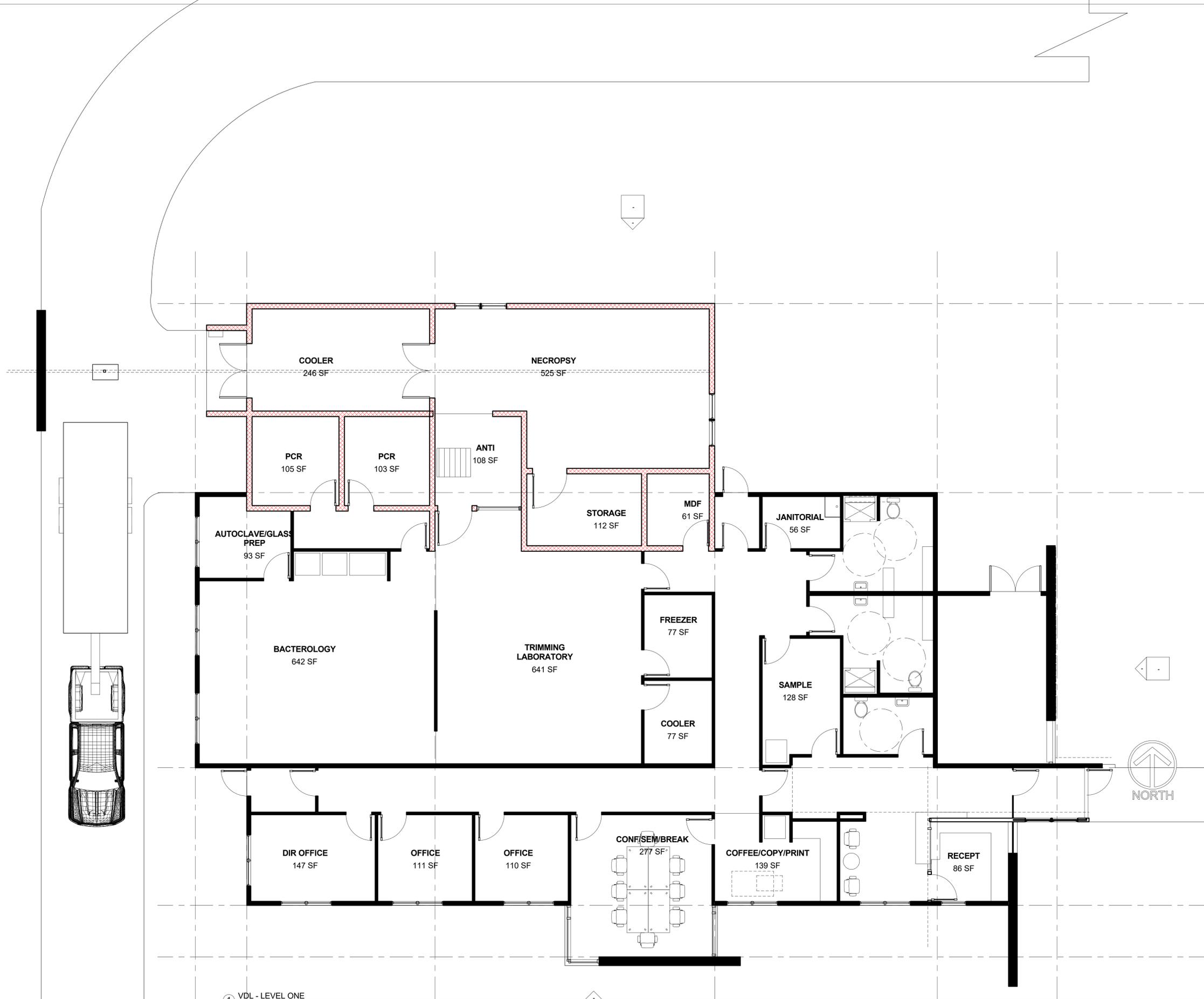


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FACILITIES MANAGEMENT

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① VDL - LEVEL ONE
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COLORADO STATE UNIVERSITY WESTERN CAMPUS
 FACILITIES MANAGEMENT

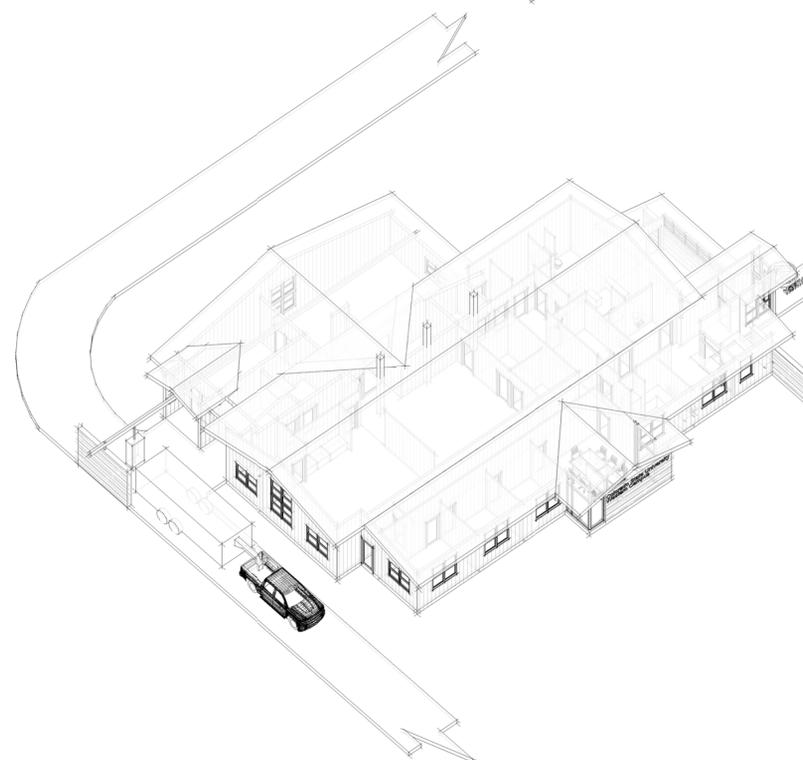
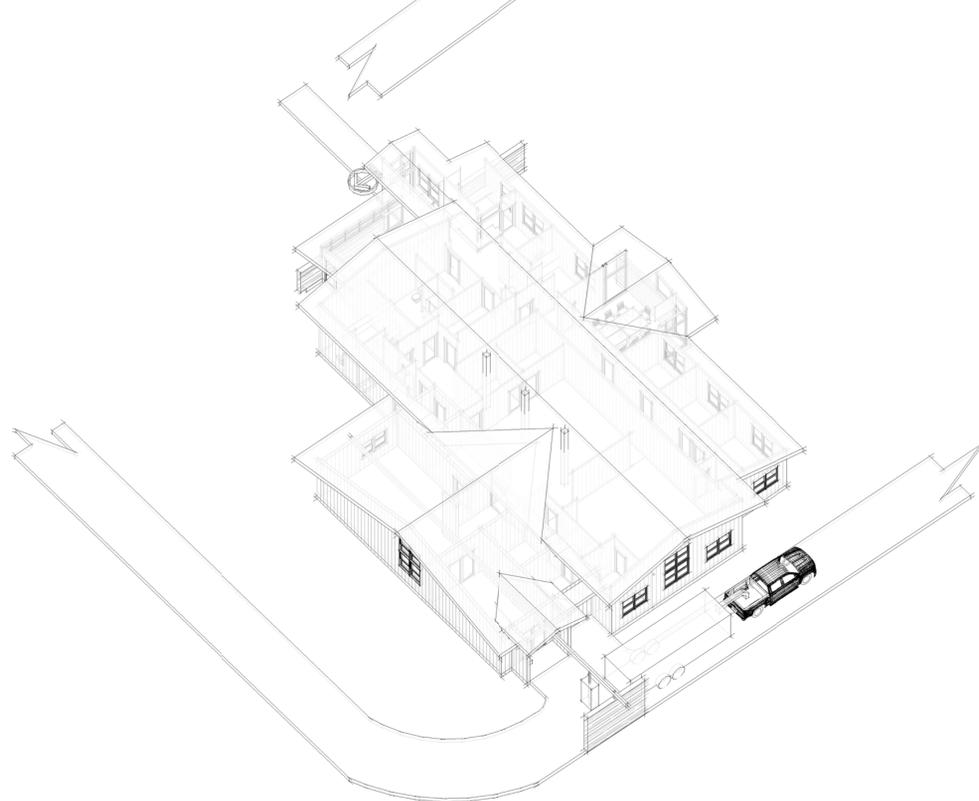
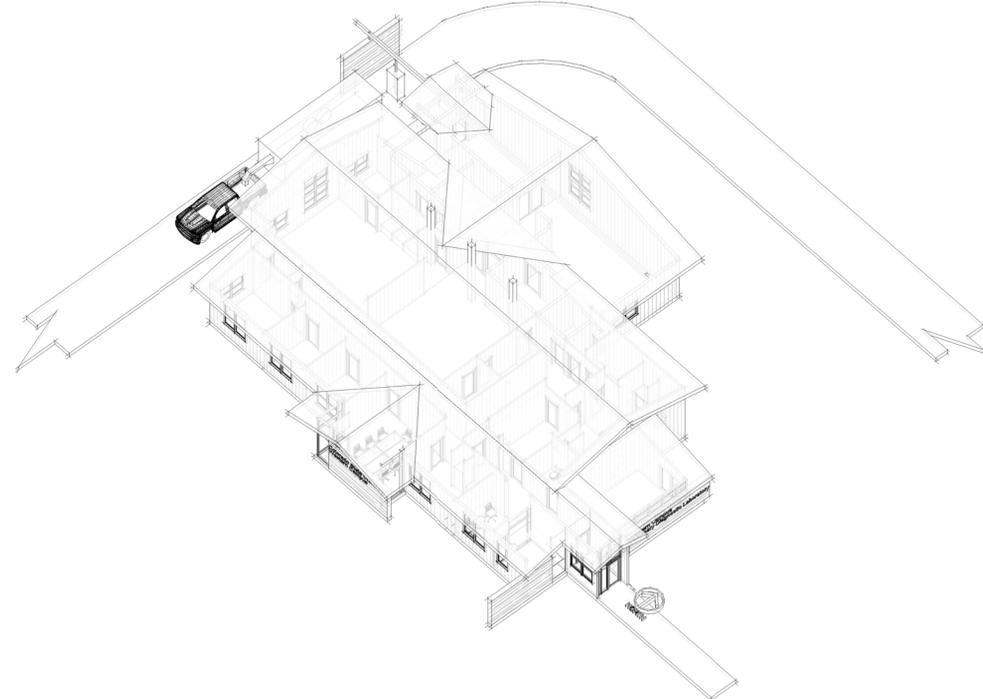
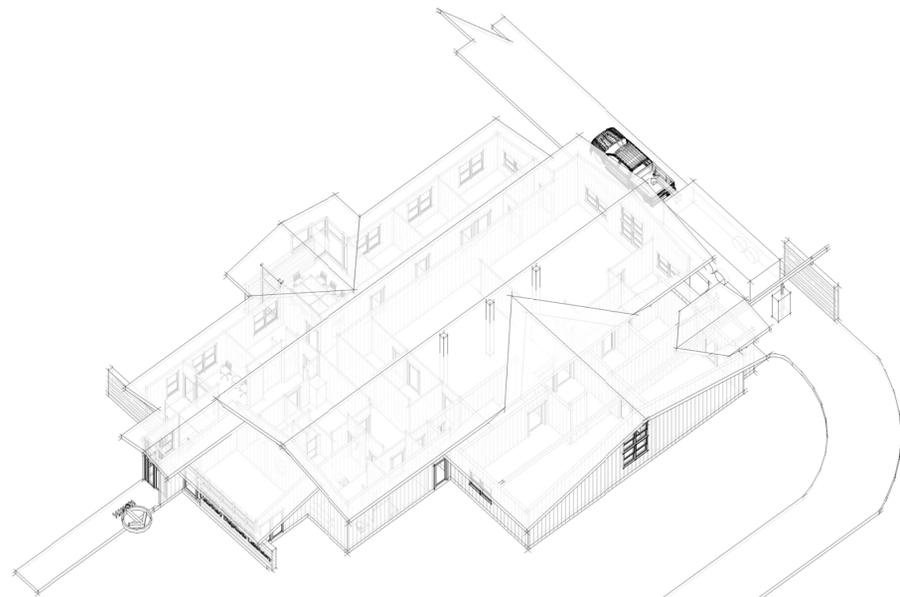
Planning Design and Construction - Remodels and Construction Services
 Colorado State University

VDC

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Construction Services
Colorado State University

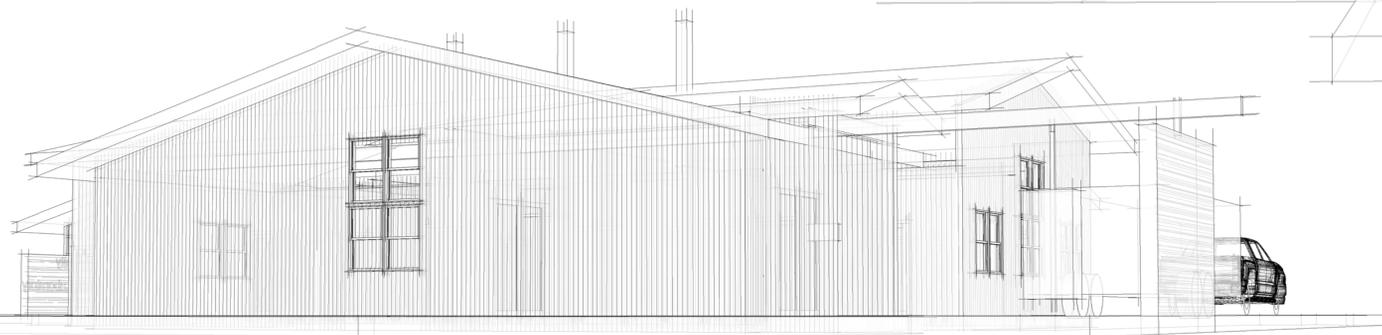
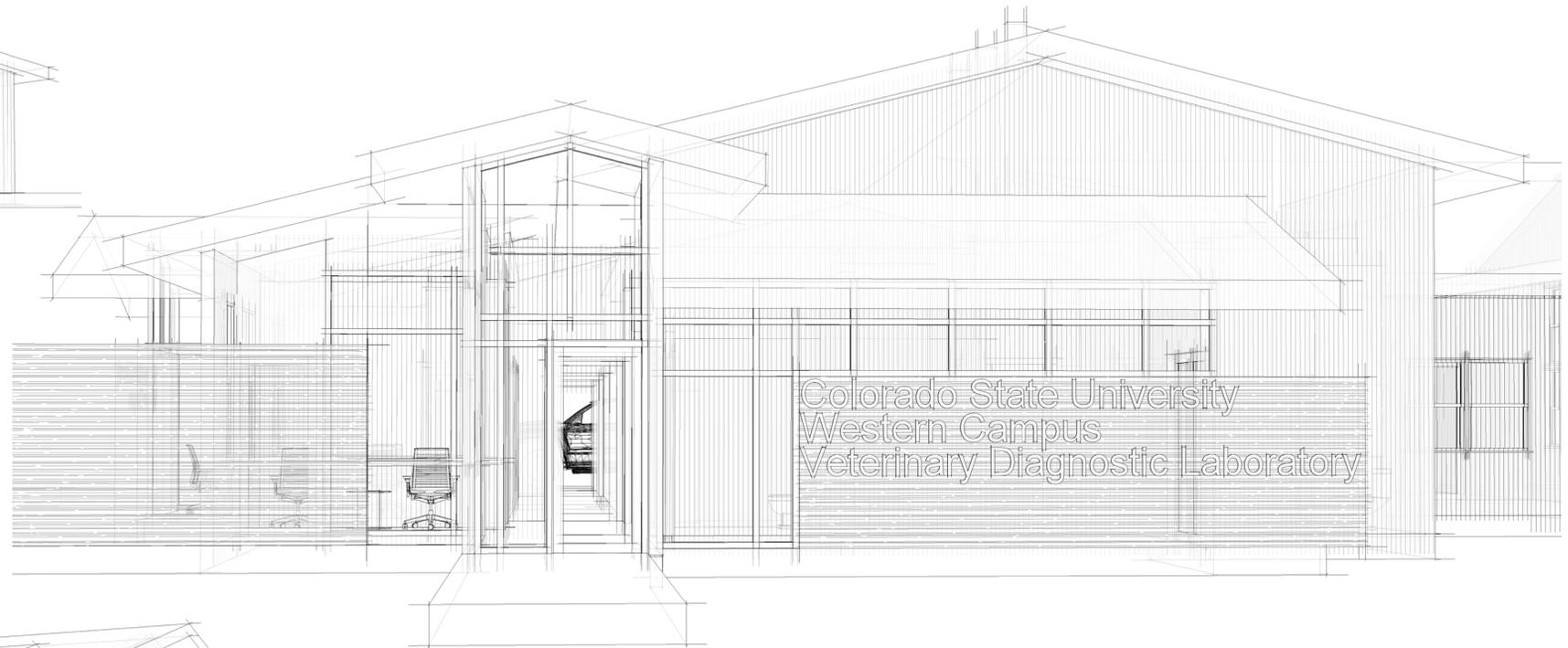
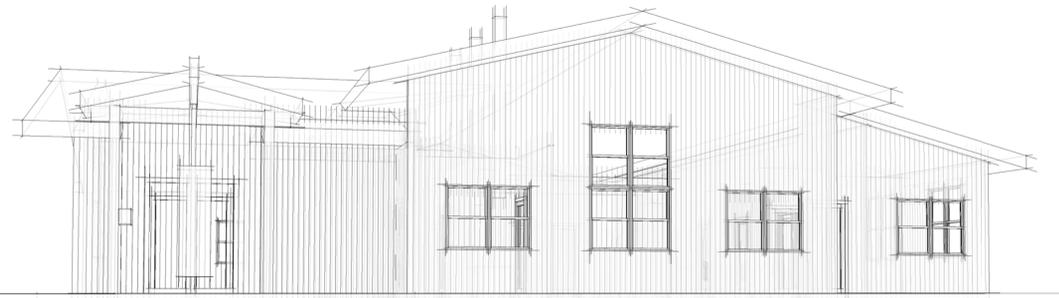
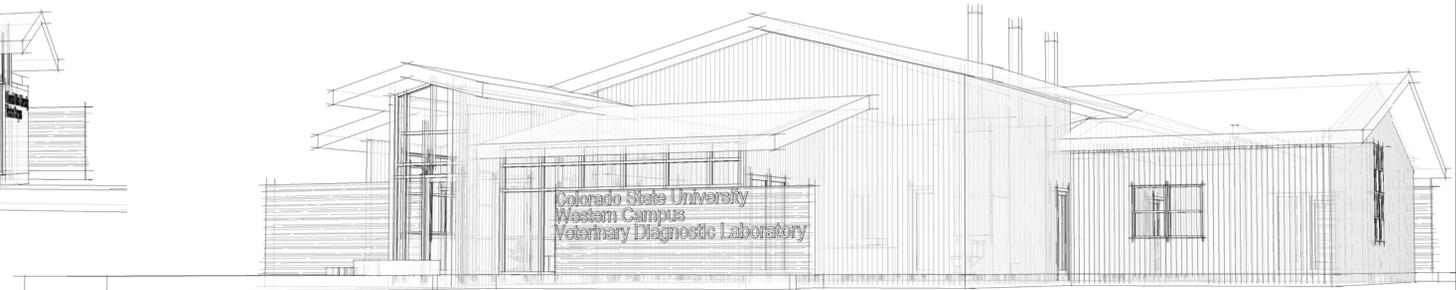
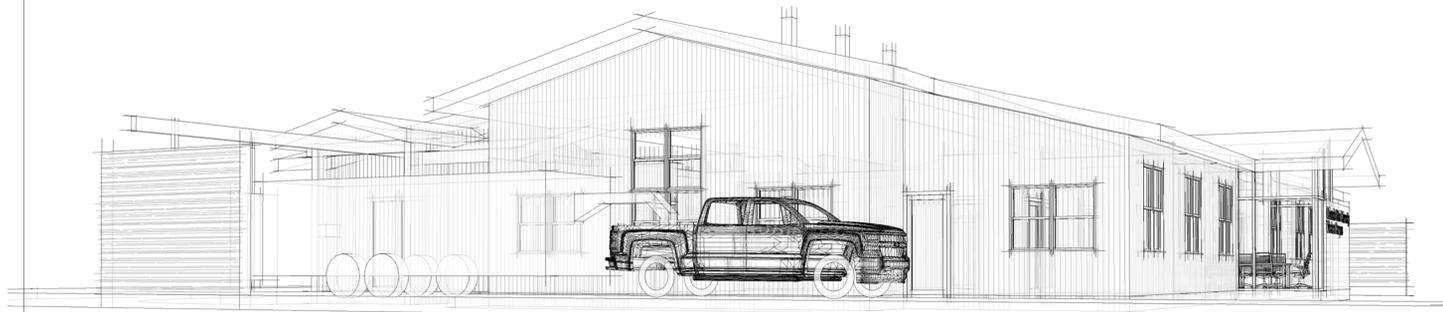


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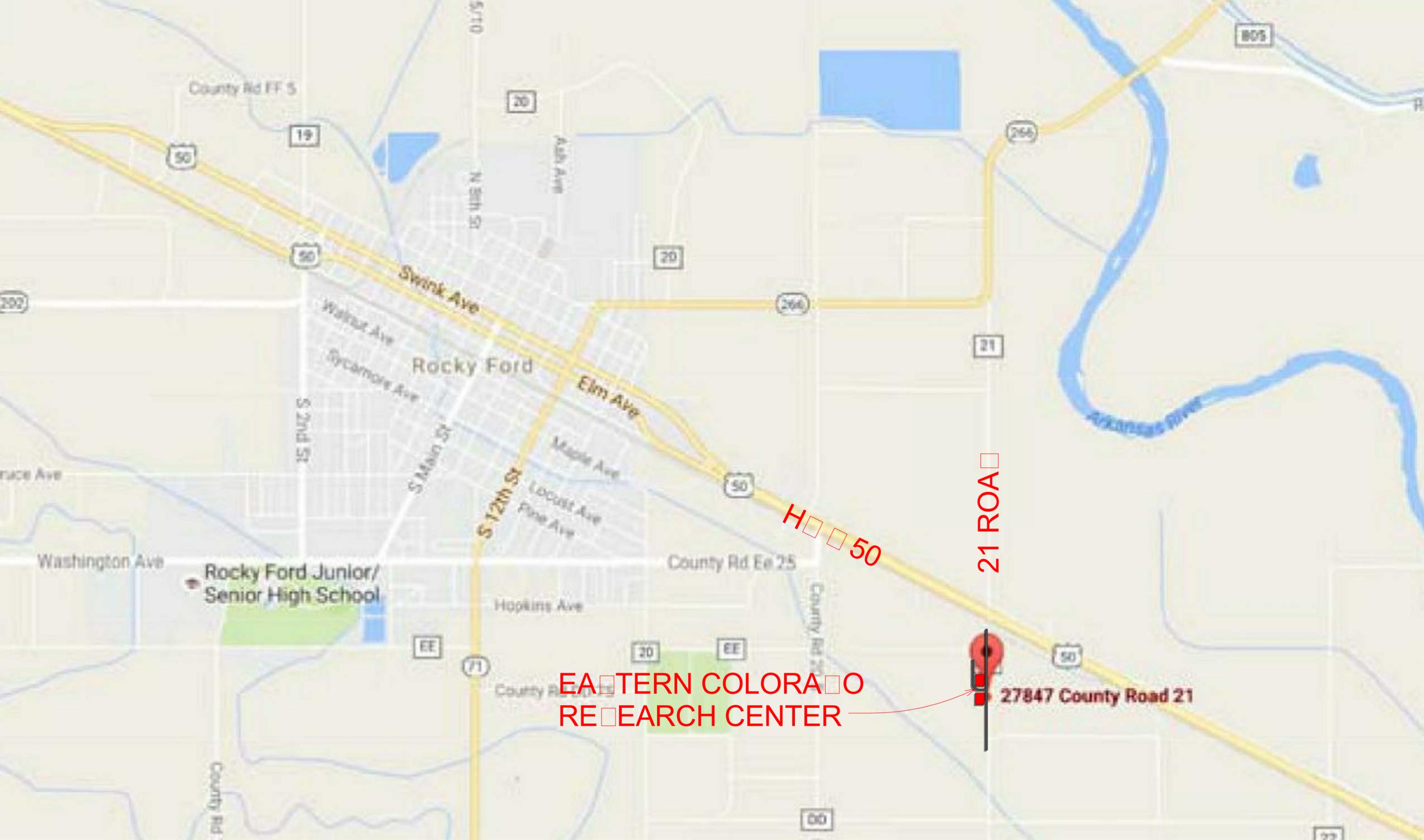
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Colorado State University

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Appendix B

HIGH PLAINS CAMPUS

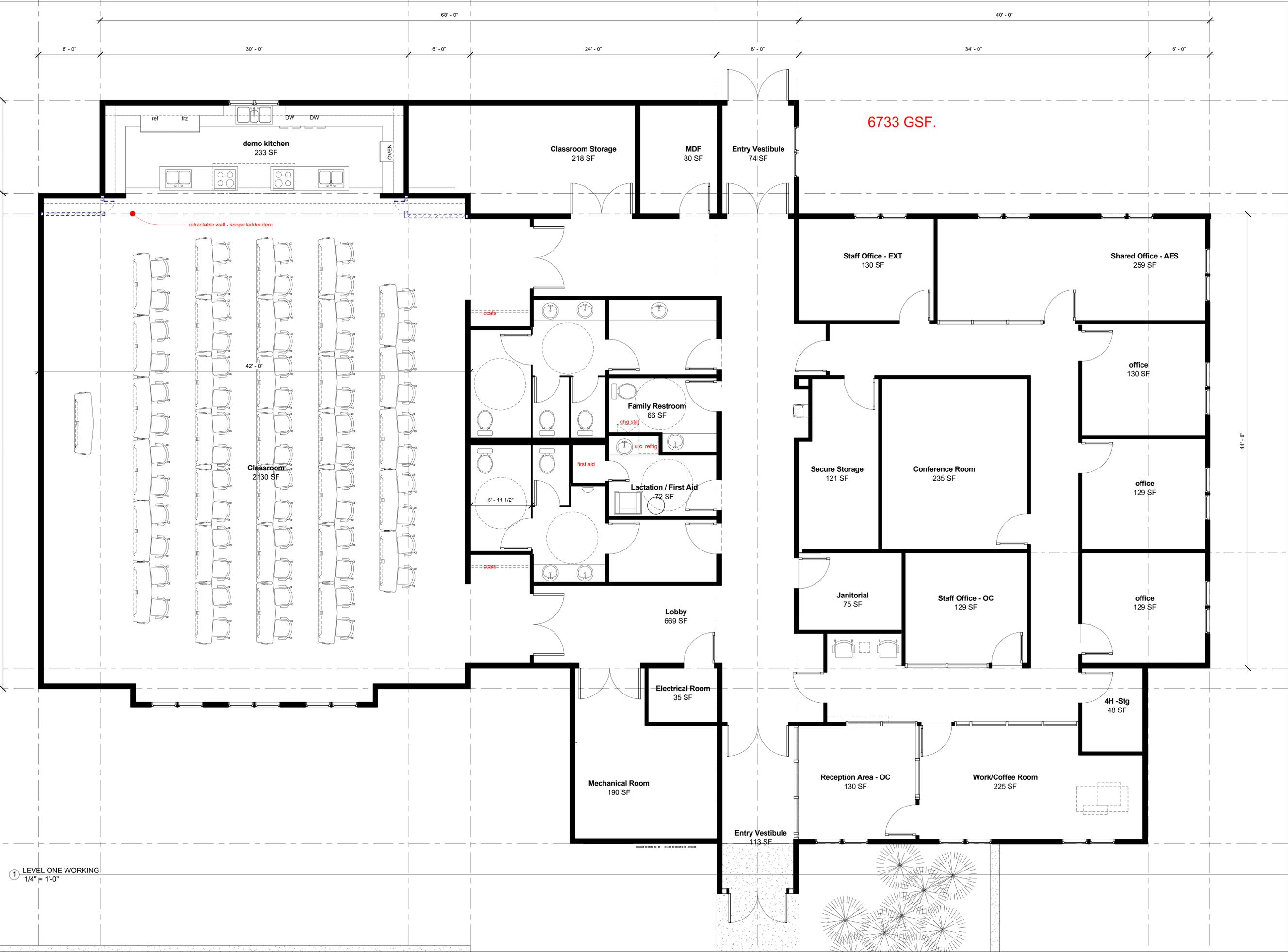


SEMINAR FLOOR
PLAN

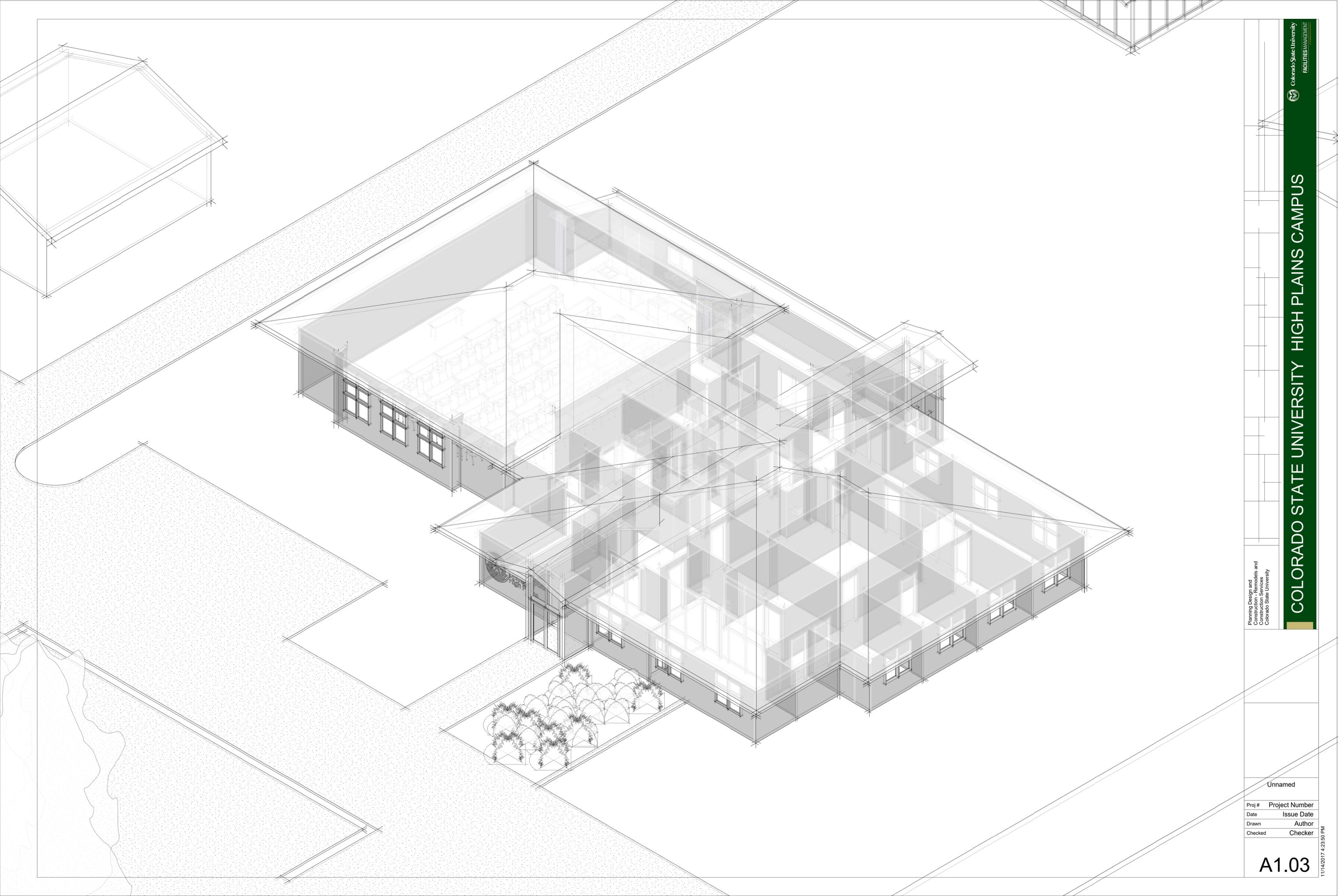
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A1.01

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① LEVEL ONE WORKING
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Construction Services
Colorado State University

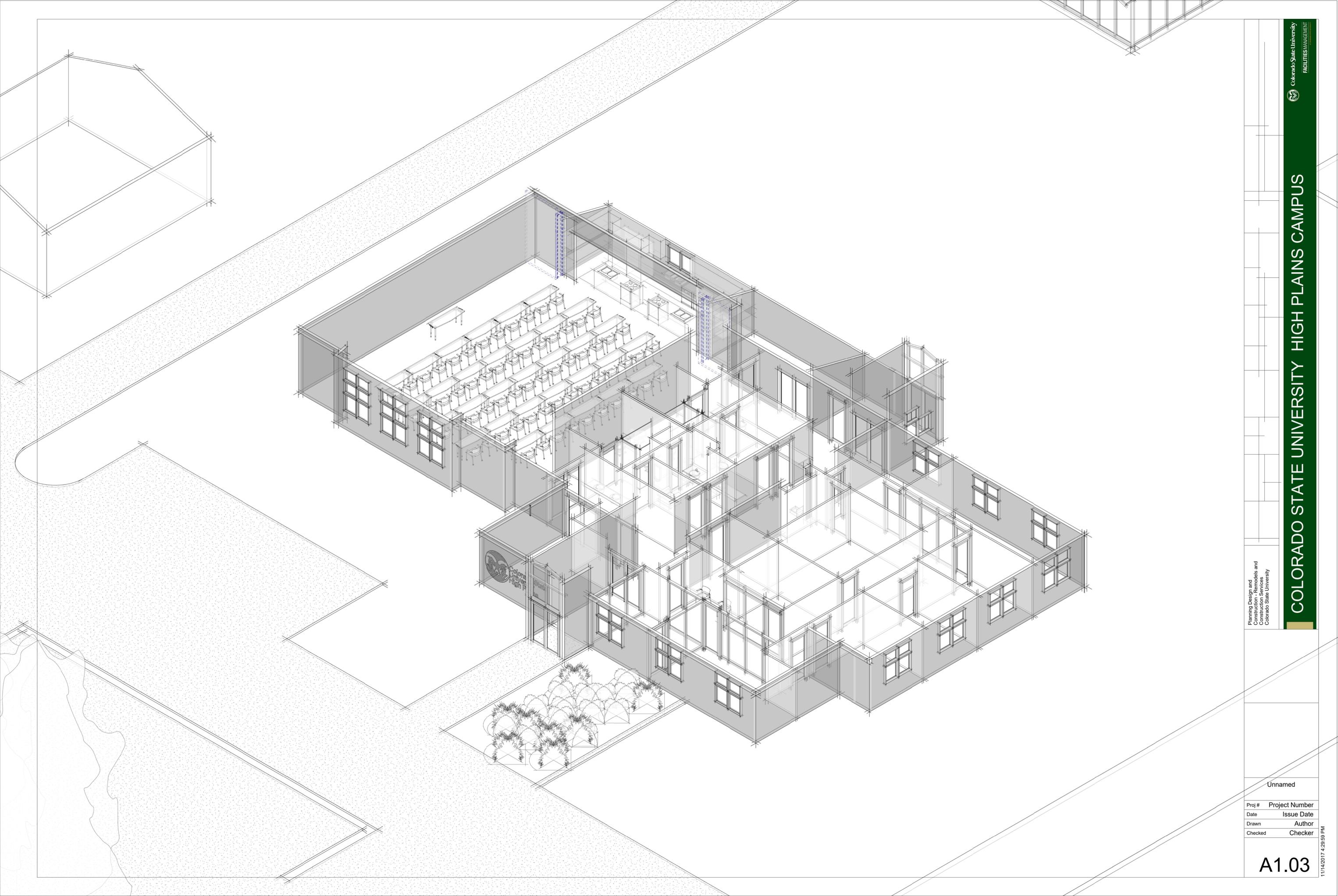
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Planning Design and
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Construction Services
Colorado State University

COLORADO STATE UNIVERSITY HIGH PLAINS CAMPUS

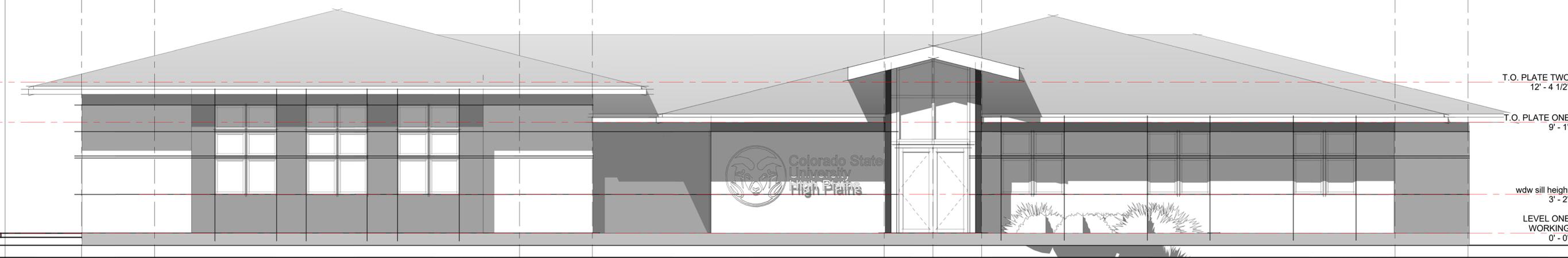
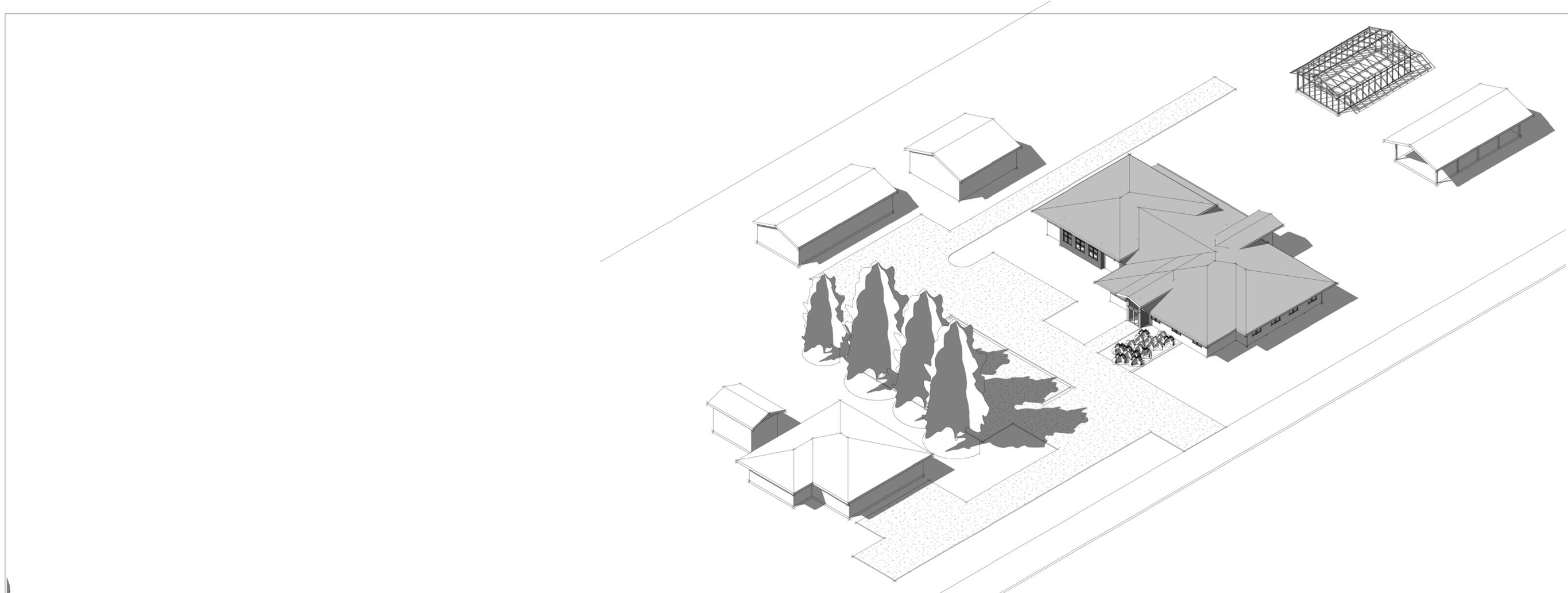
Colorado State University
FACILITIES MANAGEMENT

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A1.03

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3 south working
1/4" = 1'-0"

T.O. PLATE TWO
12' - 4 1/2"

T.O. PLATE ONE
9' - 1"

wdw sill height
3' - 2"

LEVEL ONE
WORKING
0' - 0"

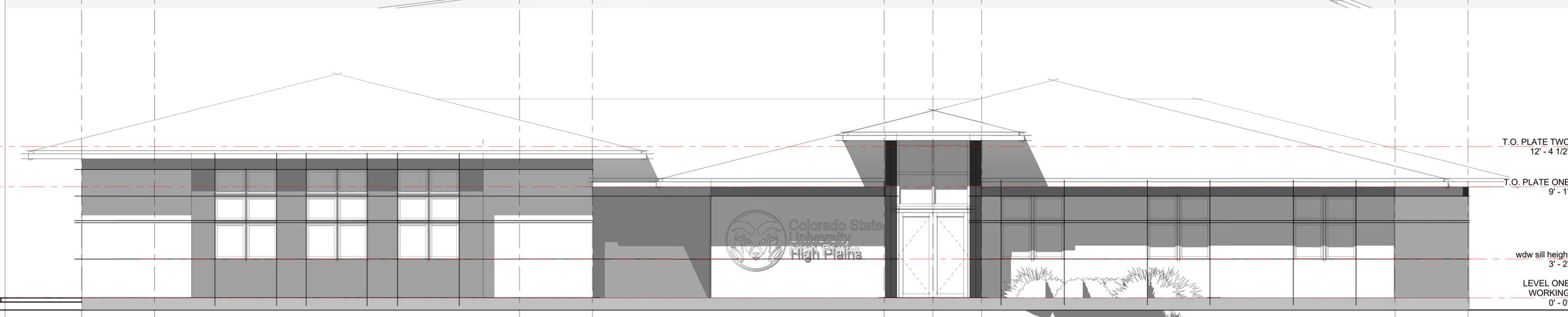
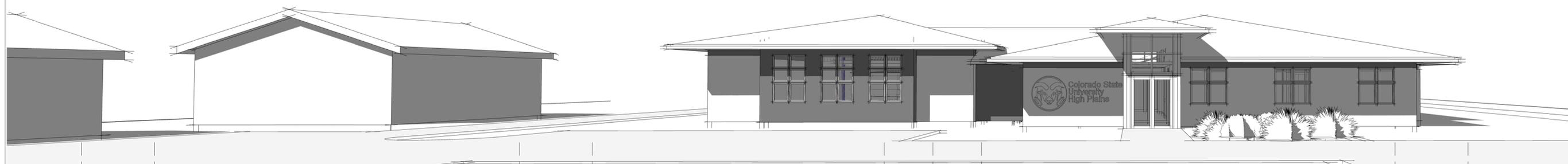
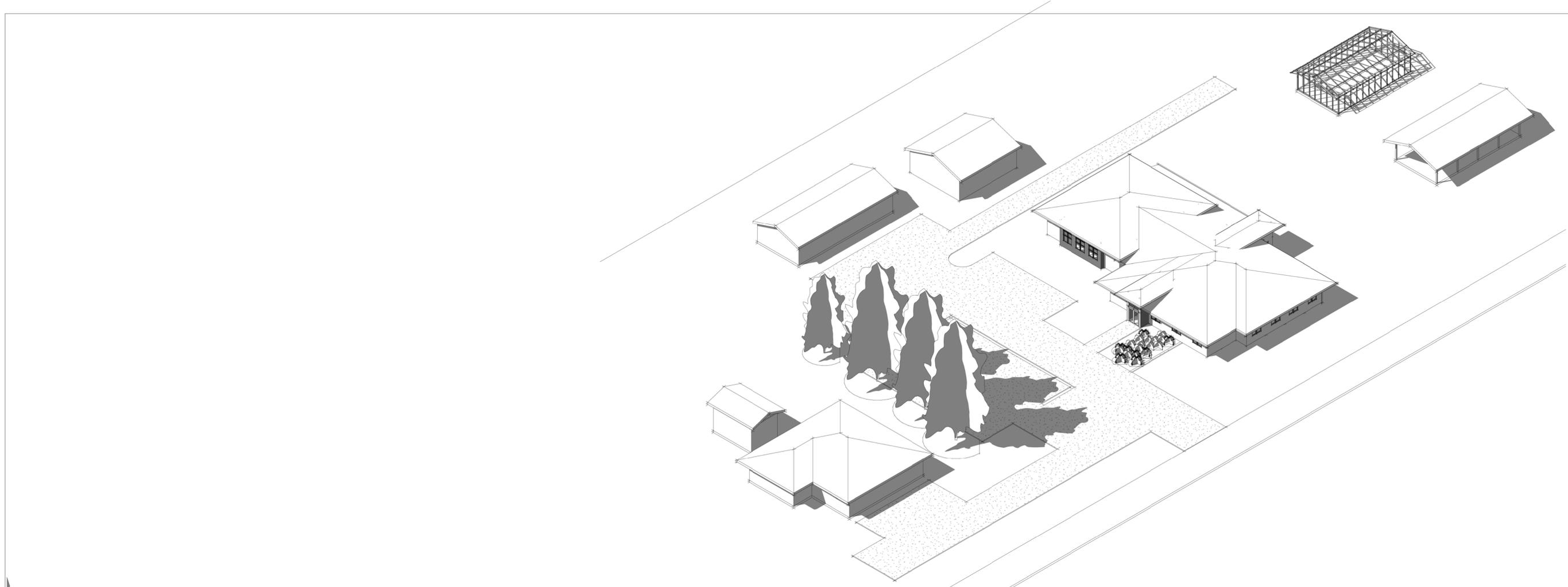
Planning Design and
Construction - Remodels and
Construction Services
Colorado State University

SEMINAR AXON

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3 south working
1/4" = 1'-0"

T.O. PLATE TWO
12' - 4 1/2"

T.O. PLATE ONE
9' - 1"

wdw sill height
3' - 2"

LEVEL ONE
WORKING
0' - 0"

Planning Design and
Construction - Remodels and
Construction Services
Colorado State University

SEMINAR AXON

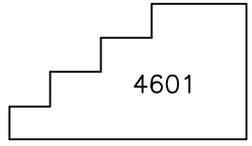
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STATE HWY 50

1 MILE SE OF
ROCKY FORD



4601

BRANCH EXPERIMENT STATION

4605

Insulation
& lighting

New pole
barn

4608
Vacant

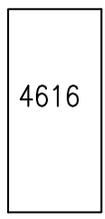
4606
Vacant

Demo

4603



4602

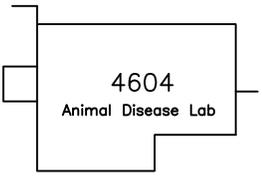


4616

4610

4609

4600



4604

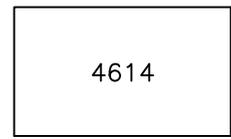
Animal Disease Lab

COUNTY ROAD 21

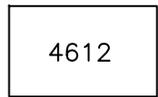


SMITH FARM

Vacant



4614



4612

Arkansas Valley Research Center
Rocky Ford, Co.



7/6/2012

Plot Plan

4601 4615

Appendix C

Budget

Western and Eastern Slope Consolidation

8/20/2017

Project Budget	Estimated Costs-25,200 gsf			Remarks
assumes construction start in Aug 2018	Low	Medium	High	
Professional Services				
Site Survey, Geotechnical	15,000	15,000	15,000	
Consultants - Architects, Engineers, Vibration, Acoustics	717,820	755,600	793,380	8% of construction for DB project
Commissioning and Advertisements	5,000	5,000	5,000	
CSU Facilities Project Management	175,500	175,500	175,500	1.5% of 11.7M
Independent Code Review, code insp, material tests	45,000	45,000	45,000	
PFA plan review				
Total Professional Services	958,320	996,100	1,033,880	
Construction				
D lab @ Orchard Mesa- 5,500@\$380,\$400,\$420/sqft	2,090,000	2,200,000	2,310,000	
Office/Seminar @ Orchard Mesa-12,800@\$285,\$300,\$315/sqft	3,648,000	3,840,000	4,032,000	
Office/Seminar @ Rocky Ford-6,900@\$261,\$275,\$289	1,805,000	1,900,000	1,995,000	
Demo @ Rocky Ford	4,750	5,000	5,250	
Site Work Service/Utilities-Rocky Ford & Orchard Mesa	356,250	375,000	393,750	
Site Improvements/Landscaping-Rocky Ford & Orchard Mesa	1,068,750	1,125,000	1,181,250	
Subtotal Construction Costs	8,972,750	9,445,000	9,917,250	
Equipment & Furnishings				
Fixed Equipment	0		0	
Moveable Equipment	270,000	300,000	390,000	
CSU Communications	348,750	387,500	503,750	\$12.50/sf
CSU Notifier system				
Total Equipment and Furnishings Costs	618,750	687,500	893,750	
Miscellaneous				
Relocation Costs-	22,500	25,000	32,500	
Artwork and signage	0		0	
Total Miscellaneous Costs	22,500	25,000	32,500	
Subtotal Project Cost	10,572,320	11,153,600	11,877,380	
Project Contingency				
Project Contingency 5% for New	528,616	557,680	593,869	
Project Contingency 10% for Renovation				
Total Contingency	528,616	557,680	593,869	
Budget- Occupancy in Aug 2019	11,100,936	\$ 11,711,280	\$ 12,471,249	
This opinion of probable cost is made on the basis of experience, qualifications and best judgement of a professional cost consultant familiar with the construction industry, combined with the professional experience of Facilities Management. FM cannot guarantee that proposals, bids or actual construction costs will not vary from this cost estimate due to market conditions at the time of the bid.				
Total Project Cost / sqft--Aug 2019	\$ 440.51	\$ 464.73	\$ 494.89	

COLORADO STATE UNIVERSITY
Facilities Planning Design and Construction

Appendix D
LEED Scorecard



LEED for New Construction v2.2 Registered Project Checklist

Project Address: _____
 Project Name: _____

Project Status: Pre-Design Design Construction Occupied Other Responsible Party: _____

7 1 5 Sustainable Sites 14 Points

Y	Prereq	Credit	Description	Points
	1	1	Construction Activity Pollution Prevention	Required
		1	Site Selection	1
		2	Development Density & Community Connectivity	1
		3	Brownfield Redevelopment	1 site does not qualify
		4.1	Alternative Transportation Public Transportation Access	1
		4.2	Alternative Transportation Bicycle Storage & Changing Rooms	1
		4.3	Alternative Transportation Low-Emitting & Fuel-Efficient Vehicles	1
		4.4	Alternative Transportation Parking Capacity	1
		5.1	Site Development, Protect or Restore Habitat	1
		5.2	Site Development, Minimize Open Space	1
		6.1	Stormwater Design, Quality Control	1
		6.2	Stormwater Design, Quantity Control	1
		7.1	Heat Island Effect, Non-Roofs	1
		7.2	Heat Island Effect, Roofs	1
		8	Light Pollution Reduction	1

2 3 Water Efficiency 5 Points

Y	Prereq	Credit	Description	Points
		1.1	Water Efficient Landscaping Reduce by 50%	1
		1.2	Water Efficient Landscaping No Potable Use or No Irrigation	1
		2	Innovative Wastewater Technologies	1
		3.1	Water Use Reduction 20% Reduction	1
		3.2	Water Use Reduction 30% Reduction	1

8 9 Energy & Atmosphere 17 Points

Y	Prereq	Description	Points
	1	Fundamental Commissioning of the Building Energy Systems	Required
	2	Minimum Energy Performance	Required
	3	Fundamental Refrigerant Management	Required

***Note for EAc1:** All LEED or New Construction projects registered after June 26th 2007 are required to achieve at least two points under EAc1.

Y	Prereq	Credit	Description	Points
		4	Optimize Energy Performance	1 to 10
			10.5 New Buildings or 3.5 Existing Building Renovations	1
			14 New Buildings or 7 Existing Building Renovations	2
			17.5 New Buildings or 10.5 Existing Building Renovations	3
		4	21 New Buildings or 14 Existing Building Renovations	4
			24.5 New Buildings or 17.5 Existing Building Renovations	5
			28 New Buildings or 21 Existing Building Renovations	6
			31.5 New Buildings or 24.5 Existing Building Renovations	7
			35 New Buildings or 28 Existing Building Renovations	8
			38.5 New Buildings or 31.5 Existing Building Renovations	9
			42 New Buildings or 35 Existing Building Renovations	10
		2	On-Site Renewable Energy	1 to 3
		1	2.5 Renewable Energy	1
			7.5 Renewable Energy	2
			12.5 Renewable Energy	3
		3	Enhanced Commissioning	1
		4	Enhanced Refrigerant Management	1
		5	Measurement & Verification	1
		6	Green Power	1

Continued

Yes No

6 1 6 Materials & Resources 13 Points

Table with 4 columns: Y, Prereq, Credit, and Description. Includes categories like Storage & Collection of Recyclables, Building Reuse, Construction Waste Management, Materials Reuse, Recycled Content, Regional Materials, and Certified Wood.

Yes No

12 3 Indoor Environmental Quality 15 Points

Table with 4 columns: Y, Prereq, Credit, and Description. Includes categories like Minimum IAQ Performance, Environmental Tobacco Smoke Control, Outdoor Air Delivery Monitoring, Increased Ventilation, Construction IAQ Management Plan, Low-Emitting Materials, Indoor Chemical & Pollutant Source Control, Controllability of Systems, Thermal Comfort, and Daylight & Views.

Yes No

1 4 Innovation & Design Process 5 Points

Table with 4 columns: Y, Credit, and Description. Includes Innovation in Design and LEED Accredited Professional.

Yes No

36 21 11 Project Totals (pre-certification estimates) 69 Points

Certified: 26-32 points Silver: 33-38 points Gold: 39-51 points Platinum: 52-69 points

TOPIC: RECOMMEND APPROVAL OF CASH FUNDED REVENUE BOND INTERCEPT CAPITAL PROGRAM PLAN – COLORADO STATE UNIVERSITY CENTER FOR VECTOR-BORNE INFECTIOUS DISEASE

PREPARED BY: LAUREN LOPEZ, LEAD FINANCE ANALYST

I. SUMMARY

This agenda item requests approval of the Colorado State University (CSU) Center for Vector-borne Infectious Diseases (CVID) program plan. This project will construct a 38,000 gsf facility on the Foothills Campus to house the faculty and research infrastructure for the program in a central location. CSU will fund this program through the Higher Education Revenue Bond Intercept Program (Intercept). A summary of the project is included below.

II. BACKGROUND

Under current law, CCHE must approve a program plan before any capital construction commences at Institutions of Higher Education (IHEs) per C.R.S. 23-1-106. Solely cash-funded projects are exempted from this process, unless funded through Intercept bonds established pursuant to C.R.S. 23-5-139. This program allows IHEs to bond for a project using the State's credit rating.

III. STAFF ANALYSIS

This project constructs a 38,000 gsf Center for Vector-borne Infectious Diseases (CVID) on the Foothills Campus to house the faculty and research infrastructure that is currently located in both the Infectious Disease Annex (IDA) and Arthropod-borne and Infectious Diseases Laboratory (AIDL) buildings. This program researches emergence, dissemination and consequences of zoonotic diseases. High profile partners include the Department of Defense and the Centers for Disease Control and Prevention.

The current buildings were not designed for the type of research being conducted and are failing. For example, disrepair has compromised the environmental controls necessary for an insectary. Some research has already been temporarily relocated, and the poor condition of the current facilities is impacting critical research operations. This new facility will consolidate the current program into a new building with functional research laboratories, an insectary and office space. The existing IDA and AIDL buildings could be repurposed for office space with some investment in renovations. The project will cost \$25,000,000 funded by Intercept bonds.

IV. STAFF RECOMMENDATIONS

Staff recommends that the Commission approve the Center for Vector-borne Infectious Disease program plan for Colorado State University.

V. STATUTORY AUTHORITY

C.R.S. 23-1-106 (3) The commission shall review and approve facility master plans for all state institutions of higher education on land owned or controlled by the state or an institution and capital construction or capital renewal program plans for projects other than those projects described in subsection (9) of this section. The commission shall forward the approved facility master plans to the office of the state architect. Except for those projects described in subsection (9) of this section, no capital construction or capital renewal shall commence except in accordance with an approved facility master plan and program plan.

(9)(b) Except as provided in paragraph (d) of this subsection (9), a capital construction or capital renewal project for an academic facility initiated by the governing board of a state institution of higher education that is contained in the most recent two-year projection approved pursuant to subparagraph (II) of paragraph (c) of subsection (7) of this section, as the projection may be amended from time to time, and that is to be acquired or constructed solely from cash funds held by the institution and operated and maintained from such funds or from state moneys appropriated for such purpose, or both, is not subject to additional review or approval by the commission, the office of state planning and budgeting, the capital development committee, or the joint budget committee; except that, if the capital construction or capital renewal project for an academic facility is to be acquired or constructed in whole or in part using moneys subject to the higher education revenue bond intercept program established pursuant to section 23-5-139, then the governing board of a state institution of higher education must obtain approval from the general assembly as specified in that section. Any capital construction or capital renewal project subject to this paragraph (b) must comply with the high performance standard certification program established pursuant to section 24-30-1305.5, C.R.S.

ATTACHMENTS:

ATTACHMENT A – Center for Vector-borne Infectious Disease program plan - Colorado State University - Fort Collins

Center for Vector-borne Infectious Diseases (CVID)

May 2017

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- b. Floor plans
- c. Massing & elevations
- d. Foothills Flood Plain
- e. Utility map
- f. Budget
- g. LEED Scoresheet

Executive Summary

This project will construct an approximately 38,000 gsf facility on the Foothills Campus to house the faculty and research infrastructure that is currently located in both the IDA and AIDL. The current buildings were not designed for the type of research being conducted and are failing. Some research has already been temporarily relocated, and the poor condition of the current facilities is impacting critical research operations. This new facility is not an expansion, rather a consolidation of current space into a new building with functional research laboratory, insectary and office space. The existing AIDL and IDA buildings could be repurposed for office space with appropriate investment in renovations.

The estimated budget range is \$18-\$26M, with a target budget of \$25M. The low end of Range Analysis includes higher maintenance commercial HVAC spec, roof mounted equipment w/ no (or minimal) penthouse and immediate start. The high end of Range Analysis includes building developed to current CSU research building specs with mechanical penthouse and delayed start. The project will be funded through Intercept bonds.

Justification

Program mission and history

The Center for Vector-borne Infectious Diseases (CVID) is a research center within the Department of Microbiology, Immunology and Pathology at CSU. The emergence and rapid dissemination of arboviruses and their vectors throughout the world, with potentially devastating consequences, is a reality. In the last decade there have been explosive global epidemics caused by dengue, Venezuelan equine encephalitis, Rift Valley fever, Japanese encephalitis, yellow fever, West Nile, Zika and Chikungunya viruses. Faculty engage in basic and applied research to promote a more complete understanding of pathogen transmission, persistence and emergency, with the goal of developing improved control of vector-borne and other zoonotic diseases. The Center for Vector-borne Infectious Diseases is internationally recognized and has been engaged in cutting edge research on key topics of global human health for more than 30 years. Currently, 12 DMIP faculty are primarily focused on vector biology, pathogen-host interactions, treatment, prevention and epidemiology of vector-borne diseases. An additional 6 faculty in DMIP collaborate closely and thus CVID-driven research represents a major component of the department research and education effort. Funding from and engagement with federal (NIH, NSF, USDA, DoD, CDC), corporate and foreign partners generates significant research support and worldwide visibility.

CVID faculty members have ongoing collaborations with researchers at several national and international academic institutions, the Department of Defense and the Centers for Disease Control and Prevention (Division of Vector-borne Infectious Diseases).

Relation to Academic Strategic Plan

Inspired by its land-grant heritage, Colorado State University (CSU) is committed to excellence, setting the standard for public research universities in teaching, research, service and extension for the benefit of the citizens of Colorado, the United States and the world. In alignment with this commitment the primary mission of CVID is to:

- Devise novel vector- and disease- control strategies by applying state-of-the-art approaches to the study of arthropod-borne virus interactions with vector and vertebrate hosts.
- Develop rapid, clinically, and field relevant diagnostic assays for zoonotic diseases.
- Determine the trafficking and emergence potential of vector-borne and rodent borne viruses in nature.
- Determine the effects of genetic diversity of vectors, viruses, and host on vector-borne and rodent-borne virus persistence and emergence.
- Provide training for students, post-docs, and scientists in conducting virus-vector interactions.

Physical Condition/functionality of Existing Space

The existing AIDL building was constructed in 1964 and the IDA building was constructed in 1966. Over the years there have been a series of structural and systems failures such as rupture of water pipes, water leaking through walls, and inability to maintain environmental control in insectories that have impaired the ability of investigators to carry out extramurally funded research. The INSTAR committee (charged by the OVPR to assess buildings across the CSU campus), rated AIDL/IDA as the top concern for safety, compliance, programmatic risk, and faculty retention risk. The department has taken steps to mitigate the negative impacts of these failing facilities, predominantly by protecting assets. This includes removal of equipment (confocal microscope) and relocating selected insectories. Areas within the buildings have been decommissioned as they have become unusable. Some external measures to reduce water leakage and flooding also occurred.

New Space Requirements

Space use in the existing RIC, IDA, AIDL and RBL buildings is identified below with a comparison to the current concept (note that 7,000 gsf of the current concept is intended for a mechanical penthouse):

Space Type	RIC [S]	IDA [S]	AIDL [S]	RBL Disc. [S]	Combined TOTAL	New AIDL concept asf
Conference room		474	438	-	912	1,200
Office		3,793	2,073	-	5,866	5,200
Office Service		259	220	-	479	
BSL-2 Research Lab		3,722	4,725	439	8,886	14,300
BSL-2 Service		727	2,159	-	2,886	
Insectary		-	4,242	502	4,744	5,000
Entrance	432	-	-	-	432	
TOTAL asf	-	8,975	13,857	941	24,205	25,700
total gsf		15,209	14,329	1,255	30,793	38,000

Equipment List

Insectary space will be constructed as part of the building. Existing laboratory equipment and office furnishings will be relocated as much as practical. An allowance of \$1M has been included in the budget for new equipment and furnishings.

Alternative analysis

The renovation of the existing buildings to provide the necessary BSL-2 and Insectary space was investigated, but was not considered feasible. The deterioration of the current buildings is significant and the most viable options would be to repurpose them to office space. Other options considered were:

1. Collaboration with external partners

There is great synergy between the operations of the NWHC and AIDL for future growth and opportunities. The NWHC is a federal wildlife research center, currently housed in Madison WI, with no current presence in Colorado. Their projects in large animal infectious diseases, early detection and response to new epidemics would lend itself well to new collaborative projects with CSU, the USDA and the CDC already located in Fort Collins. Their facility needs as summarized to our staff would require a new sole-occupancy building of approximately 110,000 gsf (BSL-3 grade laboratory/necropsy space, offices and animal support) at an estimated cost of \$44.5M. Significant synergies could be realized by the colocation of diagnostic services, animal care support, and access to the digester on South campus. Construction costs could be reduced due to economies of scale in combining the two facilities, and having guaranteed tenancy by a federal partner. The NWHC group visited the CSU Foothills campus a total of 3 times, but they are likely pursuing a new facility in Madison if funding should be obtained.

2. Relocation of AIDL to the RIC building

Relocating the AIDL group into the existing RIC building, located adjacent to the current AIDL facility, was also considered. RIC already houses many DMIP faculty members and substantial research activity. The building has some excess BSL-2 and BSL-3 laboratory space, and office space. A comparison of the projected AIDL needs and existing space in the RIC building was performed and we found that there is not sufficient office space or BSL-2 laboratory space in the RIC building. Additionally, there are currently no insectaries, common equipment rooms or collaboration space in this facility. Further, the existing RIC architecture emphasized compartmentalization of different companies and functions and is poorly suited to the type of collaboration that commonly occurs at AIDL. In conclusion, the RIC building would provide a useable facility in an emergency, but it would require significant investment to suit the AIDL group.

3. Relocation of AIDL to Aggie Labs or to CSU buildings on Research Blvd

Both of these options were discarded due to the essential need for BSL2 laboratories to be located directly adjacent to BSL3 laboratories (in order to transport insects without exposure to the external environment).

Benefits of the Project

Current:

The AIDL already has a strong collaborative partnership with the CDC, which is in large part due to the strong research synergy and colocation on the Foothills campus.

In addition to maintaining our strong program in arthropod-borne virus infections, we anticipate the following areas to experience significant growth at AIDL:

- Bat-borne diseases (e.g. MERS coronavirus, Nipah virus, Tacaribe virus)
- Building a consortium to merge diverse expertise in genomics, expression analysis, small RNA biology and metabolomics
- Biosurveillance and rapid outbreak response (similar to Zika)
- Drug and vaccine development
- Research on ticks and tick-borne disease
- Mechanisms for developing novel transgenic approaches to arthropods

- Alphaviruses and mechanisms of neuropathology
- Chikungunya and Dengue viruses

Future:

There are three major funding opportunities in the immediate future for AIDL.

- CDC RFP for Vector-Borne Disease Regional Centers of Excellence
- S.2634 - One Health Act of 2016. This US Senate bill will dedicate \$50M over 5 years to ‘address infectious diseases in animals and the environment, and to help prevent the transmission of known and emerging infectious diseases between animal populations and human populations’.
- It is also expected that a short-term continuing resolution providing \$1.1 billion in emergency Zika funding will be signed into law.

Design Criteria

See conceptual floor plans and building elevations in Appendix.

Site Constraints

The proposed facility is planned as an addition to the Regional Biocontainment Laboratory. The location is shown as a future addition on the Foothills Campus Master Plan and has few site constraints. It is inside the security fence and can be accessed via the ring road. Additional parking could be located to the west of the building.

Flood Mitigation Analysis

There are no floodplain concerns for this project.

LEED Goal

Senate Bill 07-051 directs that state buildings undergoing substantial renovation or new construction conform to the High Performance Certification Program. The Office of the State Architect has stated that USGBC LEED-NC Gold is the targeted standard of this program, or at a minimum, the highest obtainable LEED standard. The most current LEED publication at the time of design will be used. The inclusion of high performance standards is an integral part of the project, beginning at the program plan stage.

The goal of this project is LEED Gold.

Architectural

The building is envisioned as a single story addition to the Regional Biocontainment Lab using a similar material palette. A large mechanical penthouse will be located on the roof.

Utilities

The following are impacts of the proposed building renovation and addition to existing utilities are based on location and available capacity. The estimates represent a general magnitude of total development cost for budget purposes and are not intended to be cost estimates or quotes. Meters, transformers, building

services, water quality features and other standard expenses required to connect the utilities to the building are not included in the scope of the analysis unless the expected cost is considered to be out of the ordinary.

General

- Letters in parentheses () are map references.

Electrical

- (a) Connection point for electric service. Install vault and route duct bank to transformer location.
- Note that the connection point at (a) is on a branch feed, so is a single point of failure. The master plan is to loop primary power to point (b).
- Depending on the needs of the addition, it is possible that the existing switchgear serving the RBL building can be utilized for the new building as well. Connection to the existing RBL gear is located in the existing RBL basement.
- Depending on the needs of the addition, it is possible that the existing emergency generator serving the RBL building can be utilized for the new building as well.
- (c) Relocate security and lighting conduit.

Water

- (d) Connect to existing 10" domestic water main.

Sanitary Sewer

- (e) Install new sanitary sewer main and route to an existing manhole using one of the two routes shown. Both routes are approximately 900 linear feet.
- Depending on flow from the new building, it is possible that existing sanitary building piping may be utilized. This piping is located in the basements of existing IDRC.
- Regardless of solution, any existing sanitary mains and branch lines shall be increased in size if the new building load pushes design load in the pipes beyond half full.

Stormwater

- An existing detention pond exists to the southeast of the IDRC complex (pond not shown on map). The existing pond shall be utilized for drainage for the new site. The pond shall be increased in size if necessary.
- (f) Existing drainage conveyance shall be relocated and improved as necessary to accommodate new building footprint.
- New conveyance shall be installed to route the sheet flow from the existing buildings around the new building footprint.
- Water quality measures for the new building and parking (e.g. rain gardens, permeable pavers, bioswales) are required. Water quality volumes are defined in the University Technical Standards, Division 33.

Natural Gas

- (g) Relocate Xcel Energy natural gas main.

District Heating

- The existing RBL steam plant shall be utilized for all heating and process needs.
- (h) Connect to existing steam and condensate main lines and route into building mechanical space.
- Depending on the needs of the new building and locations of piping, connect to existing steam and condensate main lines in the basement of the IDRC complex and route to new building.

District Cooling

- Chilled water at the IDRC complex is provided by distributed air-cooled chillers at this time. Chillers all have full redundancy, so are installed in pairs.
- Three options to provide chilled water to the new building:
 - Install new, dedicated air-cooled chillers to serve the new building. Chillers shall have full N+1 redundancy.
 - (i) Replace the BHRB (Building 1424) chillers and increase in size to accommodate the new building. These chillers are at end-of-life and need to be replaced within 5 years.
 - Construct a new central chilled water plant to serve the IDRC complex under a P3 agreement. Serve the new building from this plant. This would retire all distributed equipment and replace with a new, efficient central plant.

CSU Standards

The CSU Building Construction Standards Manual is available at:

http://www.facilities.colostate.edu/index.asp?url=construction/constr_standards

The CSU Standards are to be used as guidelines for design. They are divided into 3 parts for use by Architects and Engineers: the first part is administrative; the second part discusses requirements for design and deliverables at each stage of the design process; the third part consists of the technical standards arranged by CSI division. The Standards are a work in progress, and as such, any question about the applicability of a standard should be discussed with the project manager. The Standards should never be referenced or copied in Contract Documents – the design is expected to embody and conform to the Standards. Contractors are not to be directed to review the Standards as a contract requirement.

APPROVED STATE BUILDING CODES

The following approved building codes and standards have been adopted by State Buildings Program (SBP) and other state agencies as identified below as the minimum requirements to be applied to all state-owned buildings and physical facilities including capital construction and controlled maintenance construction projects.

The 2015 edition of the International Building Code (IBC)

(as adopted by the Colorado State Buildings Program as follows: Chapter 1 as amended, Chapters 2-35 and Appendices C and I)

The 2015 edition of the International Mechanical Code (IMC)

(as adopted by the Colorado State Buildings Program as follows: Chapters 2-15 and Appendix A)

The 2015 edition of the International Energy Conservation Code (IECC) (as adopted by the Colorado State Buildings Program)

The 2014 edition of the National Electrical Code (NEC)
(National Fire Protection Association Standard 70) (as adopted by the Colorado State Electrical Board)

The 2015 edition of the International Plumbing Code (IPC)
(as adopted by the Colorado Examining Board of Plumbers as follows: Chapter 1 Section 101.2,102, 105, 107, Chapters 2-13 and Appendices B, D, E, F and G)

The 2015 edition of the International Fuel Gas Code (IFGC)
(as adopted by the Colorado Examining Board of Plumbers as follows: Chapter 1 Section 101,102, 105, 107, Chapters 2-8 and Appendices A, B, and C)

The National Fire Protection Association Standards (NFPA)
(as adopted by the Department of Public Safety/Division of Fire Prevention and Control as follows with editions shown in parentheses: NFPA-1 (2006), 11 (2005), 12 (2005), 12A (2004), 13 (2002), 13D (2002), 13R (2002), 14 (2003), 15 (2001), 16 (2003), 17 (2002), 17A (2002), 20 (2003), 22 (2003), 24 (2002), 25 (2002), 72 (2002), 409 (2004), 423 (2004), 750 (2003) and 2001 (2004))

The 2010 edition of the ASME Boiler and Pressure Vessel Code
(as adopted by the Department of Labor and Employment/Boiler Inspection Section as follows: sections I, IV, V, VIII-Divisions 1 and 2 and 3, 1X, X including the 2011 addenda and B31.1, 2010 edition.)

The 2011 edition of the National Boiler Inspection Code (NBIC)
(as adopted by the Department of Labor and Employment/Boiler Inspection Section)

The 2012 edition of the Controls and Safety Devices for Automatically Fired Boilers CSD-1 (as adopted by the Department of Labor and Employment/Boiler Inspection Section)

The 2011 edition of the Boiler and Combustion Systems Hazards Code, NFPA 85 (as adopted by the Department of Labor and Employment/Boiler Inspection Section)

The 2013 edition of ASME A17.1 Safety Code for Elevators and Escalators
(as adopted by the Department of Labor and Employment/Conveyance Section and as amended by ASME International)

The 2005 edition of ASME A17.3 Safety Code for Existing Elevators and Escalators
(as adopted by the Department of Labor and Employment/Conveyance Section and as amended by ASME International)

Note: Additional codes, standards and codes may be adopted by the state or local jurisdictions in addition to the codes and standards herein adopted by the Buildings Program.

1. The 2015 edition of the IBC became effective July 1, 2016. Consult the state electrical and plumbing boards and the state boiler inspector and approve code administrator and the Division of Fire Prevention and Control for additional current editions and edits to their codes.
2. Projects should be designed and constructed should be reviewed based upon the approved codes at the time of A/E contract execution. Refer to design to different editions of the codes and the current code of the Buildings Program as it is updated. The approved code is the current code of the A/E contract.

revised Exhibit C Approved State Building Codes. Please note that the state public and electrical boards enforce the editions of their codes that are in effect at the time of construction design.

3. The state's code review acts for the State Building Program approved one-story building shall review all documents for code compliance with the codes stipulated herein. Note: The Department of Public Health and Environment Division of Consumer Protection will review drawings for code service related projects.
4. This ordinance does not prohibit the application of various fire safety codes as established by the code for specific building types and jurisdictions. NFPA 101 and other standards that supersede the codes will supersede where their jurisdictional requirements are the most restrictive in the situation. This ordinance does not prohibit the State Building Program or residents.
5. It is intended that code compliance with the Federal Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (AAG) and California Revised Statutes Section 9-5-101 will be set by code compliance with the 2015 International Building Code and ICC/ANSI A117.1. However, the project will have unique aspects that require individual attention to these legislated codes.
6. The 2015 edition of the International Building Code (IBC) is to be applied to new-built residential structures as established by the Division of Housing at the Department of Land Affairs.

Appendices

Appendices are provided to supplement the basic provisions of the codes. Approved IBC Appendices are as follows:

Modular

IBC Appendix C - Agricultural Buildings

IBC Appendix I - Patio Covers

Other

Approved modular code published in the International Building Code may be utilized at the discretion of the user. Use of these codes will be indicated in the project code schedule.

Appendix

1. International Building Code Chapter 1 is included.

Project schedule, cost estimates and financing

Schedule/phasing

Once necessary approvals and financing are in place, the project is estimated to take 18 months to complete through the P3 Developer, utilizing a target value design-build lump sum project delivery method.

Financing

The project will be funded through Intercept bonds. The estimated budget range is \$18-\$26M with a target budget of \$20M. The low end of Range Analysis includes higher maintenance commercial HVAC spec, roof mounted equipment w/ no (or minimal) penthouse and immediate start. The high end of Range Analysis includes building developed to current CSU research building specs with mechanical penthouse and delayed start.

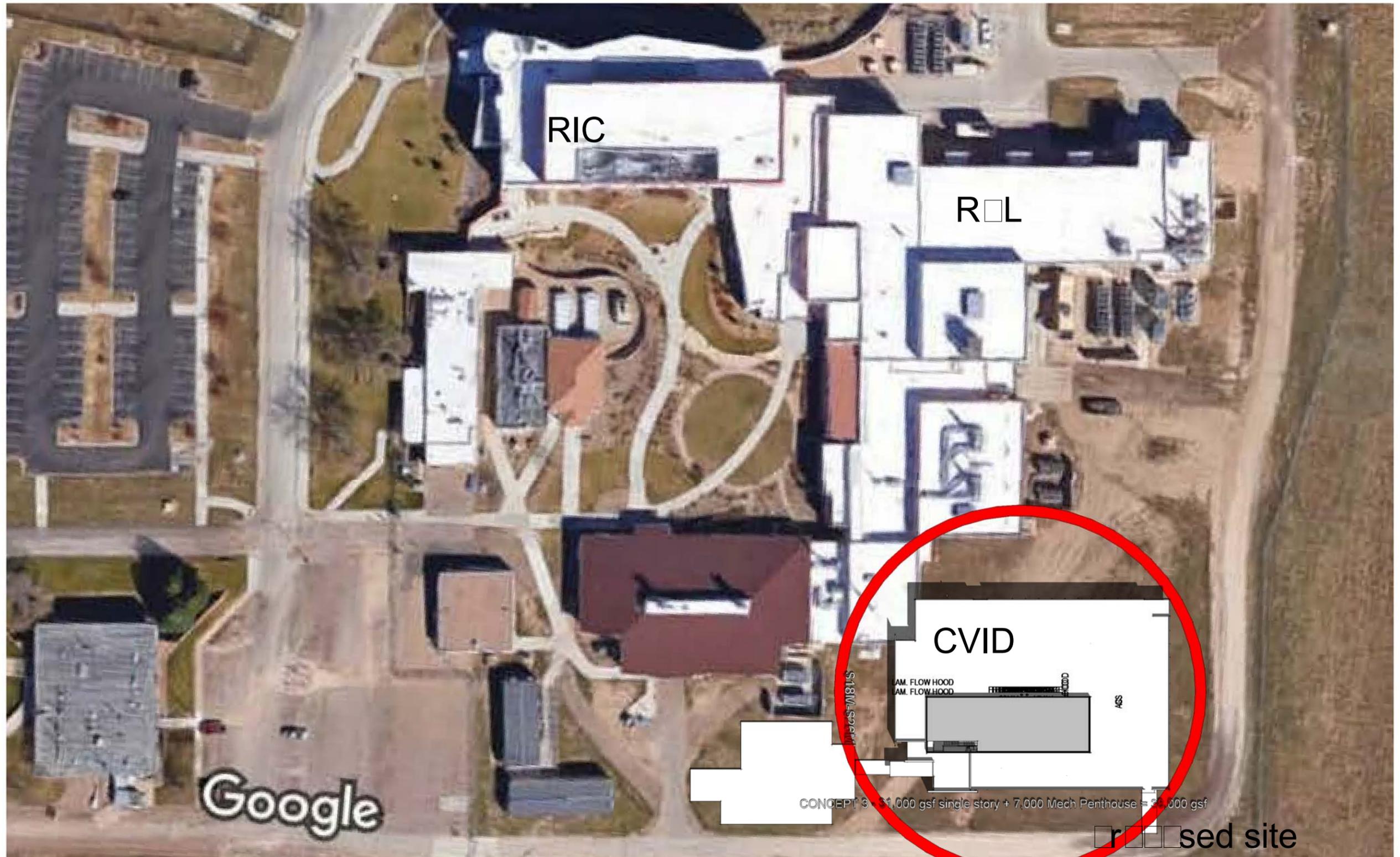
Cost estimate/methodology

Cost estimates are embedded in the REVIT model that was used to produce the conceptual design. CSU standards specify that the A/E document 20% of the construction budget in bid alternates, to cover potential volatility in the construction market as the project progresses.

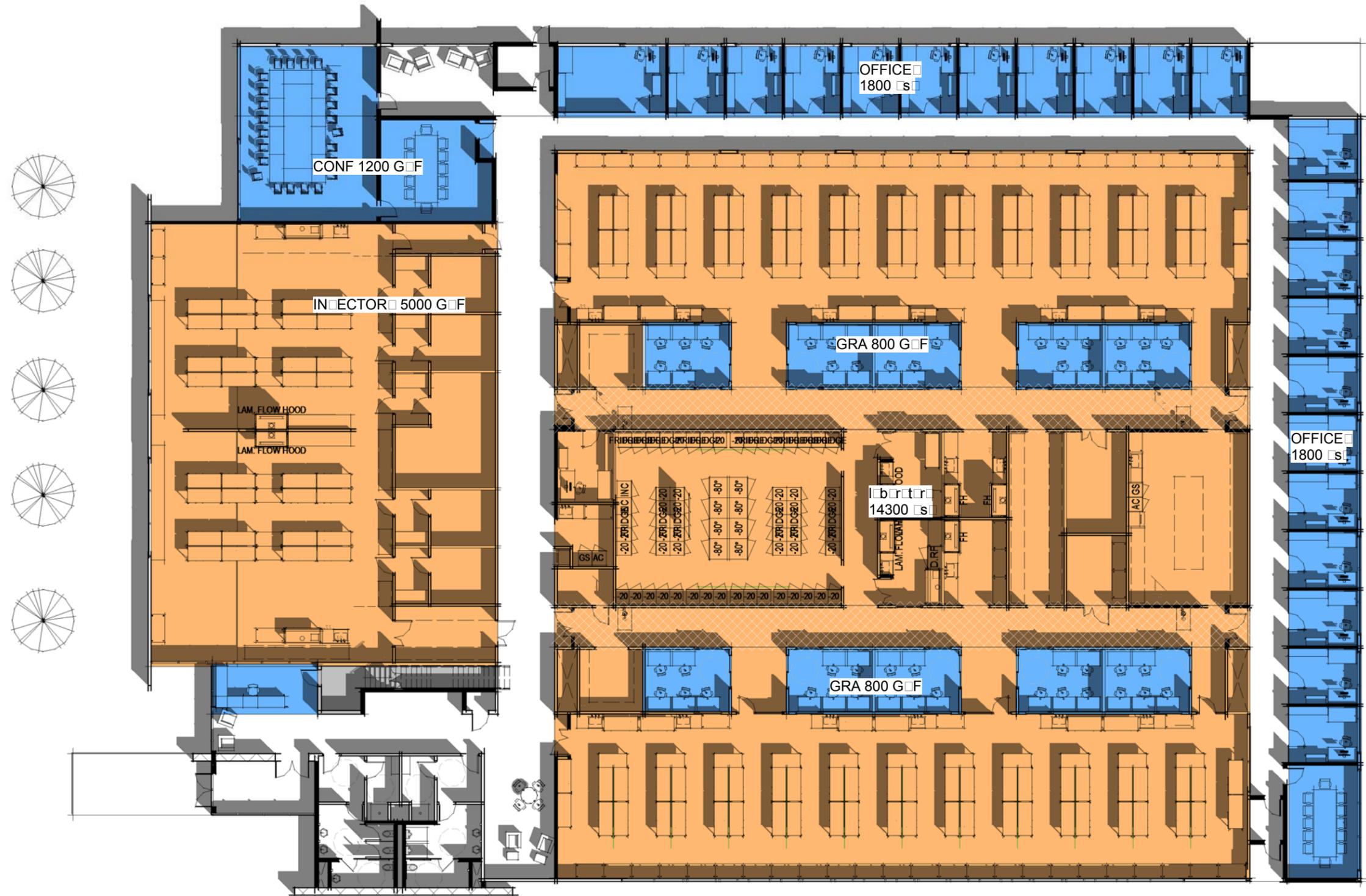
Appendices

- h. Site map**
- i. Floor plans**
- j. Massing & elevations**
- k. Foothills Flood Plain**
- l. Utility map**
- m. Budget**
- n. LEED Scoresheet**

Appendix A



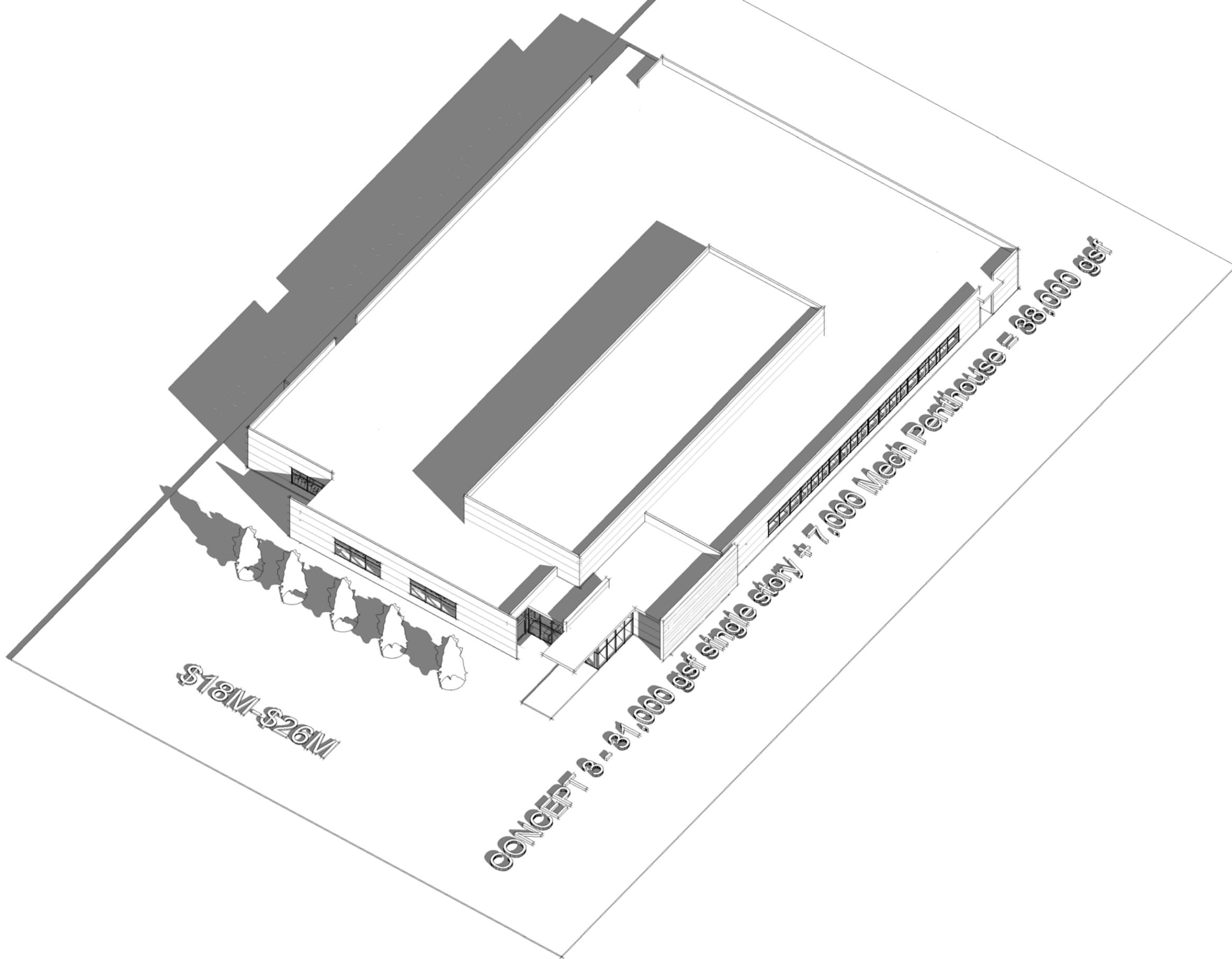
Appendix B

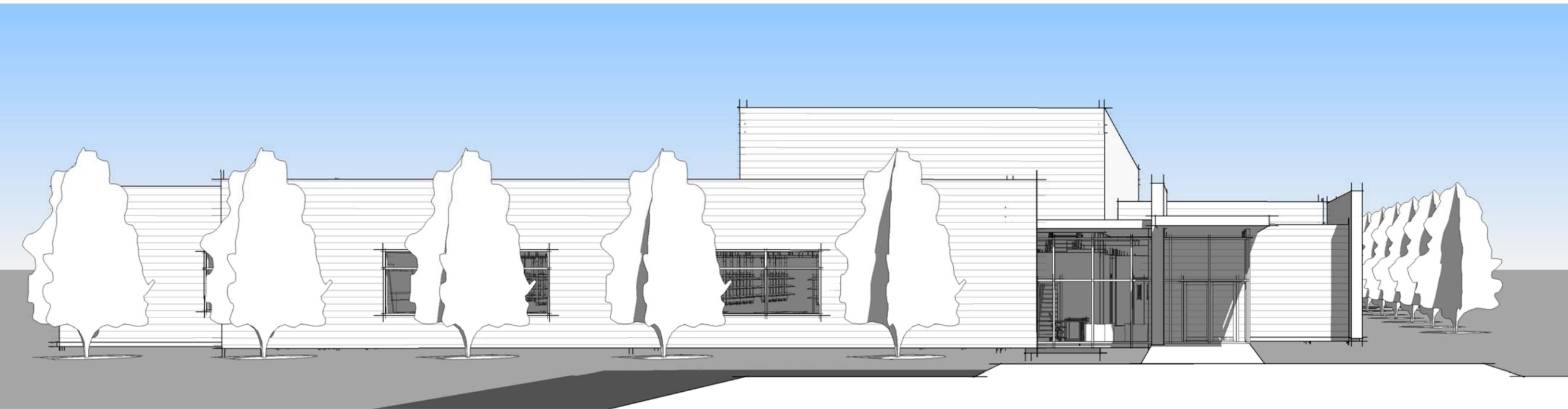


31 G/F LEVEL ONE 7 G/F MECHANICAL PENTHOUSE 38 G/F

1 CONCEPT THREE LEVEL ONE
1" = 20'-0"

Appendix C





Appendix D



Legend

- FEMA Floodplain**
 - FEMA High Risk - Floodway
 - FEMA High Risk - 100 Year
 - FEMA Moderate Risk - 100 / 500 Y
- FEMA Map Panel**
- City Floodplains**
 - City High Risk - Floodway
 - City High Risk - 100 Year
 - City Moderate Risk - 100 Year
- City Limits

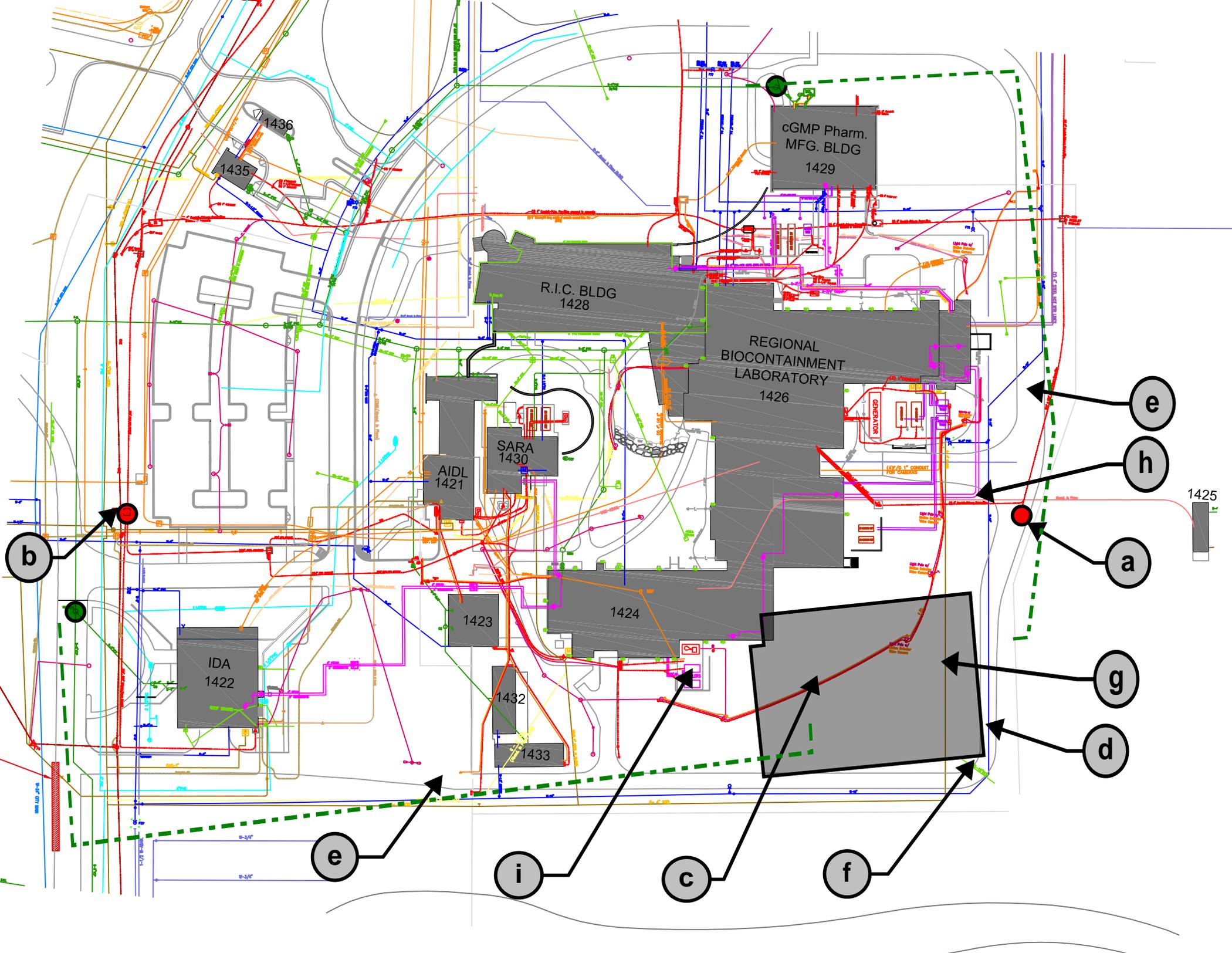
Notes

1,143.0 0 571.50 1,143.0 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere
City of Fort Collins - GIS

This map is a user generated static output from the City of Fort Collins FCMaps Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

Appendix E



cGMP Pharm.
MFG. BLDG
1429

R.I.C. BLDG
1428

REGIONAL
BIOCONTAINMENT
LABORATORY
1426

AIDL
1421

SARA
1430

IDA
1422

1423

1424

1432

1433

1425

b

e

h

a

g

d

e

i

c

f

Appendix F

CVID Building

4/20/2017

Project Budget	Estimated Costs-38,000 gsf			Remarks
assumes construction start in Aug 2018	Low	Medium	High	
Professional Services				
Site Survey, Geotechnical	50,000	50,000	50,000	
Consultants - Architects, Engineers, Vibration, Acoustics	1,155,600	1,284,000	1,669,200	
Commissioning and Advertisements	15,000	15,000	15,000	
CSU Facilities Project Management	126,000	126,000	126,000	
Independent Code Review, code insp, material tests	75,000	75,000	75,000	
PFA plan review	14,000	14,000	18,000	
Total Professional Services	1,435,600	1,564,000	1,953,200	
Construction				
New Space - 31,000@\$405,\$450,\$580/sqft	12,555,000	13,950,000	18,135,000	
Mechanical Penthouse - 7,000@\$180,\$200,\$260/sqft	1,260,000	1,400,000	1,820,000	
Site Work Service/Utilities	540,000	600,000	780,000	
Site Improvements/Landscaping	90,000	100,000	130,000	
Utility impacts per Facilities Management				
CMGC premium				
Subtotal Construction Costs	14,445,000	16,050,000	20,865,000	
Equipment & Furnishings				
Fixed Equipment	630,000	700,000	910,000	
Moveable Equipment	270,000	300,000	390,000	
CSU Communications	348,750	387,500	503,750	\$12.50/sf
CSU Notifier system				
Total Equipment and Furnishings Costs	1,248,750	1,387,500	1,803,750	
Miscellaneous				
Relocation Costs-	22,500	25,000	32,500	
Artwork and signage	27,000	30,000	39,000	
Parking replacement or new				
Total Miscellaneous Costs	49,500	55,000	71,500	
Subtotal Project Cost	17,178,850	19,056,500	24,693,450	
Project Contingency				
Project Contingency 5% for New	858,943	952,825	1,234,673	
Project Contingency 10% for Renovation				
Total Contingency	858,943	952,825	1,234,673	
Budget- Occupancy in Jan 2020	18,037,793	\$ 20,009,325	\$ 25,928,123	
escalation to 2021-5%	18,939,682	\$ 21,009,791	\$ 27,224,529	
escalation to 2022-5%	19,886,666	\$ 22,060,281	\$ 28,585,755	
This opinion of probable cost is made on the basis of experience, qualifications and best judgement of a professional cost consultant familiar with the construction industry, combined with the professional experience of Facilities Management. FM cannot guarantee that proposals, bids or actual construction costs will not vary from this cost estimate due to market conditions at the time of the bid.				
Total Project Cost / sqft--Jan 2020	\$ 474.68	\$ 526.56	\$ 682.32	

Appendix G



LEED for New Construction v2.2 Registered Project Checklist

Project Name: COVID Building
 Project Address: Colorado State University

Yes No Rescore not applicable

9 1 3 Sustainable Sites 14 Points

Y	Prereq	Credit	Description	Points	Notes
	1	Prereq 1	Construction Activity Pollution Prevention	Required	
		Credit 1	Site Selection	1	
		Credit 2	Development Density & Community Connectivity	1	
		Credit 3	Brownfield Redevelopment	1	1 site does not qualify
1		Credit 4.1	Alternative Transportation Public Transportation Access	1	
1		Credit 4.2	Alternative Transportation Bicycle Storage & Changing Rooms	1	
1		Credit 4.3	Alternative Transportation Low-Emitting & Fuel-Efficient Vehicles	1	
1		Credit 4.4	Alternative Transportation Parking Capacity	1	
1		Credit 5.1	Site Development, Protect or Restore Habitat	1	
1		Credit 5.2	Site Development, Minimize Open Space	1	
1		Credit 6.1	Stormwater Design, Quality Control	1	
		Credit 6.2	Stormwater Design, Quantity Control	1	1 permitted to site site
1		Credit 7.1	Heat Island Effect, Non-Roofs	1	
1		Credit 7.2	Heat Island Effect, Roofs	1	
1		Credit 8	Light Pollution Reduction	1	

2 3 Water Efficiency 5 Points

Y	Prereq	Credit	Description	Points
1		Credit 1.1	Water Efficient Landscaping Reduce by 50%	1
1		Credit 1.2	Water Efficient Landscaping No Potable Use or No Irrigation	1
1		Credit 2	Innovative Wastewater Technologies	1
1		Credit 3.1	Water Use Reduction 20% Reduction	1
1		Credit 3.2	Water Use Reduction 30% Reduction	1

8 9 Energy & Atmosphere 17 Points

Y	Prereq	Description	Points
Y	1	Fundamental Commissioning of the Building Energy Systems	Required
Y	2	Minimum Energy Performance	Required
Y	3	Fundamental Refrigerant Management	Required

*Note for EAc1: All LEED or New Construction projects registered after June 26th 2007 are required to achieve at least two 2 points under EAc1

Y	Prereq	Credit	Description	Points
4	6	Credit 1	Optimize Energy Performance	1 to 10
			10.5 New Buildings or 3.5 Existing Building Renovations	1
			14 New Buildings or 7 Existing Building Renovations	2
			17.5 New Buildings or 10.5 Existing Building Renovations	3
4			21 New Buildings or 14 Existing Building Renovations	4
			24.5 New Buildings or 17.5 Existing Building Renovations	5
			28 New Buildings or 21 Existing Building Renovations	6
			31.5 New Buildings or 24.5 Existing Building Renovations	7
			35 New Buildings or 28 Existing Building Renovations	8
			38.5 New Buildings or 31.5 Existing Building Renovations	9
			42 New Buildings or 35 Existing Building Renovations	10
1	2	Credit 2	On-Site Renewable Energy	1 to 3
			2.5 Renewable Energy	1
			7.5 Renewable Energy	2
			12.5 Renewable Energy	3
		Credit 3	Enhanced Commissioning	1
1		Credit 4	Enhanced Refrigerant Management	1
1		Credit 5	Measurement & Verification	1
1		Credit 6	Green Power	1

Continued

Yes No

6 1 6 Materials & Resources 13 Points

Table with 4 columns: Y, Credits, Description, and Required. Includes categories like Storage & Collection of Recyclables, Building Reuse, Construction Waste Management, Materials Reuse, Recycled Content, Regional Materials, and Certified Wood.

Yes No

12 3 Indoor Environmental Quality 15 Points

Table with 4 columns: Y, Credits, Description, and Required. Includes categories like Minimum IAQ Performance, Environmental Tobacco Smoke Control, Outdoor Air Delivery Monitoring, Increased Ventilation, Construction IAQ Management Plan, Low-Emitting Materials, Indoor Chemical & Pollutant Source Control, Controllability of Systems, Thermal Comfort, and Daylight & Views.

Yes No

1 4 Innovation & Design Process 5 Points

Table with 4 columns: Y, Credits, Description, and Required. Includes Innovation in Design and LEED Accredited Professional.

Yes No

38 21 9 Project Totals (pre-certification estimates) 69 Points

Certified: 26-32 Points Silver: 33-38 Points Gold: 39-51 Points Platinum: 52-69 Points

TOPIC: TWO-YEAR CASH FUNDED CAPITAL PROGRAM LIST AMENDMENT – COLORADO STATE UNIVERSITY, FORT COLLINS

PREPARED BY: LAUREN LOPEZ, LEAD FINANCE ANALYST

I. SUMMARY

This consent item is to amend the Two-Year Cash Funded Capital Program List for Colorado State University - Fort Collins (CSU-FC). The List is amended to reflect the following changes:

1. Addition of JBS Global Food Innovation Center Phase II
2. Addition of Richardson Design Center Tenant Finish
3. Addition of CSU High Plains Campus Expansion
4. Addition of CSU Western Campus Expansion
5. Addition of Center for Vector-borne Infectious Diseases

Note that additions 1-4 are utilizing the Higher Education Revenue Bond Intercept Program. Funding will go through further authorizations by the Capital Development Committee and Joint Budget Committee.

II. BACKGROUND

Under state law, C.R.S. 23-1-106 the Colorado Commission on Higher Education and the legislative Capital Development Committee must consider and approve amendments to the Two-Year Cash Funded Capital Program Lists for capital construction projects exceeding two million dollars and exclusively cash funded. Governing boards have the authority to submit new Two-Year Lists and amendments to the CCHE or Capital Development Committee (CDC) at any point during the fiscal year. However, projects on the Two-Year List may not commence until both the CCHE and the CDC consider and approve the List. Any project expected to exceed the originally approved appropriation by fifteen percent or more must submit an amended Two-Year List item for approval.

Every December, a comprehensive Two-Year Cash Funded Capital Program List comprised of all Governing Board projects is submitted to CCHE for approval. The List is then forwarded to the CDC for approval in January.

III. STAFF ANALYSIS

JBS Global Food Innovation Center Phase II: The addition of the first phase of the JBS Food Innovation Center capital construction project to CSU-FC's two-year cash list was approved in August 2016. CSU is now seeking approval to spend \$7.0 million in phase II of the project to fully fit out the identified space. In total, the project constructs a 38,000 gsf addition to the existing Animal Sciences Building. The new area will include a livestock area, meat harvest and

processing, classroom and laboratory spaces, culinary research and sensory analysis, and a retail store.

Table 1 displays the new total cost for JBS Global Food Innovation Center Phase II. The project is using the Intercept Program for financing.

Table 1:
Two-Year Cash Funded Capital Program, JBS Global Food Innovation Center Phase II
FY 2018-19 List

Cash Funds	\$7,000,000
Federal Funds	\$0.00
Total Funds	\$7,000,000

Richardson Design Center Tenant Finish: The addition of the Richardson Design Center capital construction project to CSU-FC's two-year cash list was approved by CCHE in August 2016. CSU is now seeking approval for an additional \$2.6 million for tenant finishes. In total, the project constructs a 41,000 gsf building that includes a Maker's Lab (available to entire campus community), as well as classroom and studio space for multidisciplinary courses. The 3rd floor was identified as core and shell space for the Interior Design Department, with tenant finish of the space included as an alternate. Funding is now available to proceed with tenant finishes.

Table 2 displays the new total cost for Richardson Design Center Tenant Finish. The project is using the Intercept Program for financing.

Table 2:
Two-Year Cash Funded Capital Program, Richardson Design Center Tenant Finish
FY 2018-19 List

Cash Funds	\$2,600,000
Federal Funds	\$0.00
Total Funds	\$2,600,000

CSU High Plains Campus Expansion: In 2017, the Joint Budget Committee provided new base funding of \$875,000 per year to assist CSU in meeting its statewide research, extension and engagement mission. With a goal of better serving constituents in western Colorado and along the eastern plains, CSU is seeking to create two Centers for Research, Extensions and Engagement. The \$2,000,000 High Plains project will add a 7,000 gsf new office and classroom facility housing the CSU Extension Southeastern Regional Office, Otero County Extension Office and CSU Agricultural Experiment Station (AES) administration. Already housing CSU's Eastern Slope Diagnostics Lab and AES programs, focused on specialty crops and water use, Rocky Ford will function as the CSU High Plains Campus.

Table 3 displays the new total cost for CSU High Plains Campus Expansion. The project is using the Intercept Program for financing.

Table 3:
Two-Year Cash Funded Capital Program, CSU High Plains Campus Expansion
FY 2018-19 List

Cash Funds	\$2,000,000
Federal Funds	\$0.00
Total Funds	\$2,000,000

CSU Western Campus Expansion: The CSU Western Campus expansion is the other half of CSU’s mission detailed in the previous project description. It constructs two new facilities at the Western Colorado Research Center at Orchard Mesa, CO. A classroom/office building will house the Colorado State Forest Service Grand Junction District Office, the CSU Extension Western Regional Office and AES administration. The other facility will be the Western Slope Diagnostic Lab. Already housing AES programs focused on pomology, viticulture, management of specialty crops and pest management, the addition of the two new buildings will create a CSU Western Campus. This project adds 20,500 gsf at a cost of \$9,650,000.

Table 4 displays the new total cost for CSU Western Campus Expansion. The project is using the Intercept Program for financing.

Table 4:
Two-Year Cash Funded Capital Program, CSU Western Campus Expansion
FY 2018-19 List

Cash Funds	\$9,650,000
Federal Funds	\$0.00
Total Funds	\$9,650,000

Center for Vector-borne Infectious Diseases: This project will construct a 38,000 gsf facility on the Foothills Campus to house the faculty and research infrastructure that is currently located in both the Infectious Disease Annex (IDA) and Arthropod-borne and Infectious Diseases Laboratory (AIDL) buildings. The current buildings were not designed for the type of research being conducted and are failing. Some research has already been temporarily relocated and the poor condition of the current facilities is impacting critical research operations. This new facility will consolidate the current program into a new building with functional research laboratories, insectary and office space. The existing AIDL and IDA buildings could be repurposed for office space.

Table 5 displays the new total cost for Center for Vector-borne Infection Diseases. The project is using the Intercept Program for financing.

Table 5:
Two-Year Cash Funded Capital Program, Center for Vector-borne Infectious Diseases
FY 2018-19 List

Cash Funds	\$25,000,000
Federal Funds	\$0.00
Total Funds	\$25,000,000

IV. STAFF RECOMMENDATIONS

Staff recommends that the Commission approve the amended Two-Year Cash Funded Capital Program List Amendment for Colorado State University Fort Collins and forward the List to the Capital Development Committee and the Office of State Planning and Budgeting.

V. STATUTORY AUTHORITY

C.R.S. 23-1-106(1) Except as permitted by subsection (9) of this section, it is declared to be the policy of the general assembly not to authorize any activity requiring capital construction or capital renewal for state institutions of higher education unless approved by the commission.

(7)(c)(I)(B) The commission annually shall prepare a unified, two-year report for capital construction projects for new acquisitions of real property or for new construction, described in subsection (10) of this section, estimated to require total project expenditures exceeding two million dollars, coordinated with education plans. The commission shall transmit the report to the office of state planning and budgeting, the governor, the capital development committee, and the joint budget committee, consistent with the executive budget timetable.

(II)(A) The commission shall submit the two-year projections prepared by each state institution of higher education for each two-year period to the office of state planning and budgeting and the capital development committee. The capital development committee shall conduct a hearing in each regular legislative session on the projections and either approve the projections or return the projections to the state institution of higher education for modification. The commission and the office of state planning and budgeting shall provide the capital development committee with comments concerning each projection.

(B) A state institution of higher education may submit to the staff of the capital development committee, the commission, and the office of state planning and budgeting an amendment to its approved two-year projection. The capital development committee shall conduct a hearing on the amendment within thirty days after submission during a regular legislative session of the general assembly or within forty-five days after submission during any period that the general assembly is not in regular legislative session. The capital development committee shall either approve the projections or return the projections to the state institution of higher education for modification. The commission and the office of state planning and budgeting shall provide the capital development committee with comments concerning each amendment.

(10)(b) For any project subject to subsection (9) of this section, the governing board may enhance the project in an amount not to exceed fifteen percent of the original estimate of the cost of the project without the approval of the commission, the office of state planning and budgeting, the capital development committee, or the joint budget committee so long as the governing board notifies the commission, the office of state planning and budgeting, the capital development

committee, and the joint budget committee in writing, explaining how the project has been enhanced and the source of the moneys for the enhancement.

ATTACHMENTS:

ATTACHMENT A: Amended Two-Year Cash Funded Capital Program List – Colorado State University Fort Collins

Form CC-LCF

Two-Year Capital Construction - List of Cash Funded Projects
 FY 2018-19 to FY 2019-20
 Revised 5/2018

Prepared By: Shelly Carroll

Phone: 970-221-5858

E-Mail: Shelly.Carroll@Colostate.edu

Project Title:		JBS Global Food Innovation Center Phase II					
Funding Source		Total Project Cost		Project Type:		Project Category:	
Cash Funds	CF	\$	7,000,000	New Construction		Academic	
Federal Funds	FF	\$		Intercept Project:	Yes	Est. Start Date:	September-18
Total Funds	TF	\$	7,000,000	DHE Approved Program Plan:	Pending	Est. Completion Date:	January-19
				List Approval Date (month/year)	June-17	Funding Method:	Other

Project Title:		Richardson Design Center Tenant Finish					
Funding Source		Total Project Cost		Project Type:		Project Category:	
Cash Funds	CF	\$	2,600,000	New Construction		Academic	
Federal Funds	FF	\$	-	Intercept Project:	Yes	Est. Start Date:	September-18
Total Funds	TF	\$	2,600,000	DHE Approved Program Plan:	Pending	Est. Completion Date:	January-19
				List Approval Date (month/year)		Funding Method:	Other

Project Title:		CSU High Plains Campus Expansion					
Funding Source		Total Project Cost		Project Type:		Project Category:	
Cash Funds	CF	\$	2,000,000	New Construction		Academic	
Federal Funds	FF	\$	-	Intercept Project:	Yes	Est. Start Date:	September-18
Total Funds	TF	\$	2,000,000	DHE Approved Program Plan:	Pending	Est. Completion Date:	September-19
				List Approval Date (month/year)		Funding Method:	Other

Project Title:		CSU Western Campus Expansion					
Funding Source		Total Project Cost		Project Type:		Project Category:	
Cash Funds	CF	\$	9,650,000	New Construction		Academic	
Federal Funds	FF	\$	-	Intercept Project:	Yes	Est. Start Date:	September-18
Total Funds	TF	\$	9,650,000	DHE Approved Program Plan:	Pending	Est. Completion Date:	September-19
				List Approval Date (month/year)		Funding Method:	Other

Project Title:		Center for Vector-borne Infectious Diseases					
Funding Source		Total Project Cost		Project Type:	New Construction	Project Category:	Academic
Cash Funds	CF	\$	25,000,000	Intercept Project:	Yes	Est. Start Date:	September-18
Federal Funds	FF	\$	-	DHE Approved Program Plan:	N/A	Est. Completion Date:	July-20
Total Funds	TF	\$	25,000,000	List Approval Date (month/year)		Funding Method:	Other

TOPIC: DEGREE AUTHORIZATION ACT – ROCKY VISTA UNIVERSITY-
RECOMMENDATION OF APPROVAL FOR RENEWAL OF
AUTHORIZATION

PREPARED BY: HEATHER DELANGE, ACADEMIC POLICY OFFICER

I. SUMMARY

This consent item recommends the renewal of Full Authorization for Rocky Vista University (the University) pursuant to the Degree Authorization Act (§23-2-101 C.R.S.).

II. BACKGROUND

The Colorado Commission on Higher Education (CCHE) has statutory responsibility for administration of Title 23, Article 2 of the Colorado Revised Statutes, commonly referred to as the Degree Authorization Act (DAA). The Act sets out the terms by which the Commission may authorize accredited private colleges and universities, out-of-state public colleges and universities, and seminaries and bible colleges to operate in Colorado.

The DAA outlines the Department’s jurisdiction over private education programs available to the residents of the state of Colorado. The DAA establishes standards to (1) prevent misrepresentation, fraud, and collusion in offering educational programs to the public and (2) protect, preserve, foster, and encourage the educational programs offered by private educational institutions, which meet generally recognized criteria of quality and effectiveness as determined through voluntary accreditation.

Pursuant to statute and policy, all authorized institutions under the DAA must renew authorization periodically. The renewal period varies by the type of authorization that the institution holds from the CCHE. A private college or university that has full authorization “shall apply for renewal of authorization in accordance with the schedule for institutional reaccreditation by its accrediting body or every three years, whichever is longer.”

Full Authorization is awarded to institutions which are institutionally accredited by a regional or national accrediting body that is recognized by the U.S. Department of Education and has had a successful on-site review of its Colorado location(s). These institutions are subject to the deceptive trade practice provisions in §23-2-104, C.R.S.

III. STAFF ANALYSIS

Rocky Vista University is a private, for-profit college located in Parker, Colorado and offers two degree programs: Doctor of Osteopathic Medicine and a Master of Science in Biomedical Sciences. The University hosted an accreditation site visit in February 2018 and the Higher

Learning Commission (HLC) took action to reaffirm the University's accreditation at its May 2018 meeting. The University will go through another reaffirmation of accreditation in 2023-24.

With the renewal of accreditation by HLC, Rocky Vista University applied to the Department in May 2018 for renewal of its Full Authorization in accordance with the schedule for reaccreditation.

IV. STAFF RECOMMENDATION

Staff recommends the Commission approve the renewal of Full Authorization for Rocky Vista University.

V. STATUTORY AUTHORITY

C.R.S §23-2-103.3(5)

A private college or university that has authorization from the commission pursuant to this section and maintains its accreditation shall apply to the department for reauthorization in accordance with the schedule for reaccreditation by its accrediting body or every three years, whichever is longer. A seminary or religious training institution shall apply for reauthorization every three years. A private college or university or seminary or religious training institution that seeks reauthorization shall submit an application in accordance with the procedures and policies adopted by the commission and shall pay the reauthorization fee established by the commission pursuant to §23-2-104.5.

TOPIC: RECOMMEND APPROVAL OF SPECIAL EDUCATION
GENERALIST ENDORSEMENT AT FORT LEWIS COLLEGE

PREPARED BY: DR. BRITTANY LANE, DIRECTOR, EDUCATOR PREPARATION

I. SUMMARY

This consent item recommends approval to offer the Special Education Generalist Endorsement (9.07) at Fort Lewis College.

II. BACKGROUND

Pursuant to C.R.S. §23-1-121, the Colorado Commission on Higher Education considers approval of all educator preparation programs at public and private institutions of higher education after receiving an affirmative recommendation from the State Board of Education.

The process for initial approval of new educator preparation programs is as follows:

- The Colorado Department of Education (CDE) conducts a review of the endorsement program, to ensure its content is designed and implemented in a manner that will enable a candidate to meet the requirements for licensure in Colorado (C.R.S. §22-60.5).
- Following that review, CDE makes a recommendation to the State Board of Education (SBOE) for consideration.
- If the SBOE approves the application, the approval is forwarded to DHE.
- Upon receiving an approval from SBOE, DHE reviews the proposed program for statutory performance criteria [C.R.S. §23-1-121(2)]:
 - a comprehensive admission system;
 - ongoing advising and screening of candidates;
 - integration of theory and practice in coursework and field-based training;
 - supervised field-based experience; and,
 - assessment of candidates' subject matter and professional knowledge and ability to apply the professional knowledge base.
- DHE forwards a recommendation for approval or denial to CCHE for action.

III. STAFF ANALYSIS

The Colorado State Board of Education approved the content of Fort Lewis College's Special Education Generalist endorsement program at its meeting on June 13, 2018 and CDE staff transmitted its affirmative recommendations to the department.

This program supports the development of educator candidates in Fort Lewis College's School of Education. Currently licensed teachers, seeking to become special education teachers, would complete the 24-credit certificate program. The endorsement program will train educators to work with children with special needs and the varied needs of all diverse learners. Department

staff has analyzed the proposed programs, according to the statutory performance criteria set forth in C.R.S. §23-1-121(2) and confirmed it meets the statutory performance criteria. The following evidence is summarized from the institution's proposal:

1. **Comprehensive admission system:** This endorsement only program will be available to teachers who already hold a valid Colorado teaching license; as such, enrollees can take advantage of quick admit or a non-degree application process to ease access.
2. **Ongoing screening and advising:** Faculty will use data from student learning outcomes, as well as input from mentor teachers or practicum supervisors to assess professional skills and competencies.
3. **Integration of theory and practice (aligned with Colorado Academic Standards) in coursework and field-based training:** An appropriate mix of general education, content knowledge and professional knowledge exists. This course is offered as a hybrid model with coursework online and face-to-face practicum hours included each semester.
4. **Supervised field-based experience:** A minimum of 40 hours of practicum are embedded in the coursework each semester to include special education classroom internship, as well as administrative and professional development activities.
5. **Candidate skills and content knowledge:** Ongoing assessment will be conducted throughout the program, and upon completion students must take and pass the Special Education Generalist Colorado-approved content exam.
6. **Continual improvement:** The institution continues to review programs annually as part of their regular practice and preparation for reauthorization.

Pursuant to Colorado Revised Statutes §23-5-129(6)(b), department staff finds the proposed degree is consistent with the institution's statutory role and mission and meets the educator preparation requirements in §23-1-121, C.R.S. Fort Lewis College's Provost approved the program December 1, 2017.

IV. STAFF RECOMMENDATION

Staff recommends that the Commission approve the Special Education Generalist (9.07) educator preparation program at Fort Lewis College.

V. STATUTORY AUTHORITY

C.R.S. §23-1-121-Commission directive - approval of educator preparation programs

(2) The commission shall adopt policies establishing the requirements for educator preparation programs offered by institutions of higher education. The department shall work in cooperation with the state board of education in developing the requirements for educator preparation programs. At a minimum, the requirements shall ensure that each educator preparation program complies with section 23-1-125, is designed on a performance-based model, and includes:

- (a) A comprehensive admission system that includes screening of a candidate's dispositions for the field in which he or she is seeking licensure, consideration of a candidate's academic preparation for entry into his or her desired endorsement area or areas, and preadmission advising for students who are considering becoming candidates. The department shall work in collaboration with the programs to define any dispositions considered to be appropriate for educators.
- (b) Ongoing advising and screening of candidates by practicing educators or faculty members;
- (c) Course work and field-based training that integrates theory and practice and educates candidates in the methodologies, practices, and procedures of standards-based education, as described in parts 4 and 10 of article 7 of title 22, C.R.S., and specifically in teaching to the state academic standards adopted pursuant to section 22-7-406, C.R.S., or, beginning December 15, 2012, teaching to the state preschool through elementary and secondary education standards adopted pursuant to section 22-7-1005, C.R.S.;
- (d) A requirement that, during the course of the preparation program, each teacher candidate in an initial licensure program complete a minimum of eight hundred hours, each principal and administrator candidate complete a minimum of three hundred hours, and each other advanced degree or add-on endorsement candidate complete appropriate supervised field-based experience that relates to predetermined learning standards and includes best practices and national norms related to the candidate's endorsement;
- (e) A requirement that each candidate, prior to graduation, must demonstrate the skills required for licensure, as specified by rule of the state board of education pursuant to section 22-2-109 (3), C.R.S., in the manner specified by rule of the state board;
- (f) Comprehensive, ongoing assessment including evaluation of each candidate's subject matter and professional knowledge and ability to demonstrate skill in applying the professional knowledge base.

TOPIC: RECOMMEND AUTHORIZATION TO OFFER MATH SUPPLEMENTAL ACADEMIC INSTRUCTION AT UNIVERSITY OF COLORADO DENVER

PREPARED BY: DR. KIM POAST, CHIEF STUDENT SUCCESS AND ACADEMIC AFFAIRS OFFICER

I. SUMMARY

This consent item recommends authorization for University of Colorado Denver (UCD) to offer Supplemental Academic Instruction (SAI) with MATH 2830: Introductory Statistics (GT-MA1).

II. BACKGROUND

Pursuant to §23-1-113(1.5), C.R.S., the Commission may authorize a state institution of higher education to provide supplemental academic instruction (SAI) to students with limited academic deficiencies (students who do not score above the minimum cut score on national assessments of college readiness, like ACT) and to receive Colorado Opportunity Fund (COF) stipend payments even though the institution is not authorized to provide basic skills courses.

Table 1 below shows the current cut scores used for placement decisions. Institutions use these scores to determine if a student is ready for college-level, credit-bearing coursework in English (Reading & Writing) and mathematics. Prior to the legislation and [Commission Policy I, W](#) that made SAI possible, a student admitted into a four-year institution that scored a few points below these cut scores was typically required to enroll in a community college for non-credit-bearing remedial (basic skills) coursework. SAI, however, allows many of these students to stay at their home institution and enroll directly into credit-bearing English and mathematics general education coursework with extra support (SAI), thus enabling them to finish college faster and with fewer obstacles. Furthermore, the credit-bearing English and mathematics courses taught co-requisitely with SAI are required to be gtPathways approved, thus ensuring transferability.

Table 1: College-Ready Assessment Cut Scores

Assessment	English	Math
ACT	18	19
New SAT	470 (Evidence-Based Reading and Writing)	500 (Math Section)
Classic Accuplacer	80 (Reading Comprehension)	61-85 (Elementary Algebra)

To be authorized to offer SAI, an institution must submit a proposal to the Department that includes information about a) the cut score range on national, primary assessments (like SAT and Accuplacer) it will use for placement into SAI; b) what secondary assessment will be used to ensure appropriate placement; c) a process for how the institution will intervene and advise students about appropriate SAI options; d) how the institution will ensure students understand

the requirement to complete credit-bearing English and mathematics general education coursework within their first 30 credit hours; e) the requirement to flag and report each SAI course and student enrolled in SAI in the Student Course Enrollment File in SURDS; f) communication between SAI faculty and credit-bearing course faculty; g) SAI staffing and support, including contact information for the SAI institutional liaison(s) with the department; SAI and co-requisite GT Pathways course content descriptions and syllabi; and h) the institution's plan to assess whether or not its SAI offerings meet benchmarks of student success.

Institutions receive preliminary three-year authorization, after which they will be re-evaluated on the success of their implementation of SAI. The department has taken on the responsibility of collecting and analyzing student SAI records. The department will report the outcomes of SAI programs on an annual basis.

III. STAFF ANALYSIS

UCD requests authorization to offer MATH 2831: Introductory Statistics Workshop, a 1-credit SAI/co-requisite course with MATH 2830: Introductory Statistics (GT-MA1). The following is summarized from the institution's proposal:

a) Cut score range on national, primary assessments it will use for placement into SAI:

UCD will use the following cut scores to identify students for placement in SAI, consistent with Section 4.00 Table 1 of the CCHE Development Education Policy:

Assessment	Math
ACT	19
New SAT	460 (Math Section)
Old SAT	500
Accuplacer	Elementary Algebra: 85

b) Secondary assessment used to ensure appropriate placement.

For students who do not meet the cut score and need MATH 2830 for degree completion, UCD will review high school transcripts as secondary assessment for exemption from SAI for MATH 2830. Students who have completed four years of mathematics and earned a C- or better in Pre-Calculus will be exempt. SAI will be required for students who do not place out during primary and secondary assessments. SAI will not be available to students with primary assessments above the cut scores, unless they earned a DFW in the course in a previous attempt.

c) Process for how the institution will intervene and advise students about appropriate SAI options?:

Advising and communication about appropriate SAI options will be managed by the academic advising offices, including the College of Liberal Arts and Sciences Academic Advising Center and the CU Denver Academic Success and Advising Center. Prior to orientation and registration in their first semester at CU Denver, students identified as needing SAI according to their primary and secondary assessment results (as identified by the CLAS Academic Advising Office transcript review) will receive a letter from their advisor describing the options for completing the requirement, as well as information about how to complete manual secondary assessment.

d) How will the institution ensure students understand the requirement to complete credit-bearing English and mathematics general education coursework within their first 30 credit hours?:

Advising about completing the remedial mathematics requirement within the first 30 hours (including using SAI together with MATH 2830 as an option to complete this requirement) will be managed by the Academic Success and Advising Center, through the letter described above.

e) Requirement to flag and report each SAI course and student enrolled in SAI in the Student Course Enrollment and Undergraduate Applicant Files in SURDS:

The University of Colorado Denver will comply with the requirement to flag and report each SAI course and student enrolled in SAI in the Student Course Enrollment File in SURDS. Compliance will be the responsibility of the CU Denver *Office of Institutional Research and Effectiveness*, using established procedures.

f) Communication between SAI faculty and credit-bearing course faculty:

Communication between the SAI faculty and the credit-bearing course faculty will be essential in order to help tailor the design of MATH 2831 toward the content of MATH 2830, taking into consideration national best practices in co-requisite curricula and pedagogy. This communication will be at a content and course specific level and will not involve the discussion of individual students or individual student grades.

g) SAI staffing and support, including contact information for the SAI institutional liaison(s) with the department; SAI and GT Pathways course content descriptions and syllabi:

The College of Liberal Arts and Sciences (CLAS) recently created the Division of General Mathematics within the Department of Mathematical and Statistical Sciences, whose primary purpose is to provide the instructional resources and support necessary to all students to achieve success in their mathematics requirements regardless of chosen major. The new Division is led by a Director whose responsibilities include oversight of curriculum, supervision of instructors dedicated to the service courses, development and

implementation of co-requisite instruction and math pathways, putting into place best practices in mathematics pedagogy, and assessment. CLAS has recently obtained funding to add three new senior instructors to the Division, providing the instructional capacity to support the addition of the new sections of MATH 2831. Additionally, CLAS anticipates adding five new academic advisors to the CLAS Advising Office. This addition ensures we have the advising capacity needed to identify and place students in MATH 2831.

h) Institution's plan to assess whether or not its SAI offerings are meeting benchmarks of student success:

CU Denver will track the performance of students who complete SAI (MATH 2831) and compare that performance (in MATH 2830) with 1) historical performance of students with similar ACT scores in MATH 2830 and 2) current students who, in the same semester, complete MATH 2830 without SAI. Program liaisons will work with the CU Denver Office of Institutional Research and Effectiveness to gather the data needed for comparison. Program success will be determined by improvements in student performance on standardized assessments, improvements in final course grade (i.e., decrease in the DFW rate for MATH 2830 relative to students who enter the course through another pathway / without SAI), and improvement in student retention rates.

IV. STAFF RECOMMENDATION

Staff recommends the Commission authorize University of Colorado Denver to offer supplemental academic instruction with MATH 2830: Introductory Statistics (GT-MA1).

STATUTORY AUTHORITY

23-1-113. Commission directive - admission standards for baccalaureate and graduate institutions of higher education - policy – definitions

(1.5) (a) (I) The commission shall establish and the governing boards shall implement a policy pursuant to section 23-1-113.3 to identify matriculated students who need basic skills courses in English and mathematics and standards and procedures whereby state institutions of higher education may offer basic skills courses as provided in section 23-1-113.3. The commission, in consultation with the governing boards, shall ensure that the policy aligns with the admission policy adopted pursuant to subsection (1) of this section. In identifying the standards for basic skills, the commission may differentiate requirements for mathematics based on the prerequisite skills needed for required courses within a student's declared program of study.

(II) As part of the policy established pursuant to this paragraph (a), the commission may authorize a state institution of higher education to provide supplemental academic instruction even though the institution is not authorized to provide basic skills courses pursuant to section 23-1-113.3. The institution may receive stipend payments from the state pursuant to section 23-18-202 on behalf of an eligible undergraduate student, as defined in section 23-18-102 (5), who

is enrolled in a college-level course that includes supplemental academic instruction.

(b) Each governing board shall adopt policies and procedures that are aligned with the policy established by the commission pursuant to paragraph (a) of this subsection (1.5) and that ensure that, to the extent required by the commission policy, each matriculated student takes or has taken basic skills placement or assessment tests in English and mathematics. The institution that enrolls the student shall select which tests to use from among those that meet the standards established in the commission policy and shall administer the tests. The commission, in consultation with the governing boards, shall ensure the comparability of the placement or assessment tests for the purpose of providing consistent reporting data as such data are required by section 23-1-113.3 (4).

(c) Students identified by institutions as needing basic skills courses based on their test scores shall complete the appropriate basic skills courses by the time the student completes thirty college-level credit hours. The commission, in consultation with the governing boards, shall ensure that each student identified as needing basic skills courses receives written notification identifying which state institutions offer basic skills courses and the approximate cost and relative availability of the basic skills courses, including any on-line courses.

COLORADO COMMISSION ON HIGHER EDUCATION - BYLAWS

Section 1. Organization and Meetings

- 1.1 **Organization:** Pursuant to C.R.S. §23-1-102, the Commission shall consist of eleven members appointed by the Governor with the consent of the Senate. The members of the Commission are selected on the basis of their knowledge of and interest in higher education and shall serve for four-year terms. No member of the Commission may serve more than two consecutive full four-year terms.
- 1.2 **Officers:** Pursuant to C.R.S. §23-1-110, the officers of the Commission shall be the Chair and Vice Chair. The Secretary shall be the Executive Director of the Commission and the Department and is a non-voting member of the Commission. The Governor appoints, with the consent of the Senate, the Executive Director to serve as the executive officer of the Commission and the Department.
- 1.3 **Election and Terms of Officers:** All officers shall be elected at the May meeting of the Commission to serve a term of one year, except the Secretary whose term shall be coterminous with his or her term as Executive Director. Officers shall be limited to two consecutive terms, unless an exception is approved by a super-majority vote of the Commission.
- 1.4 **Regular Meetings of the Commission:** The Commission shall adopt at the October Commission meeting a schedule of regular meetings of the Commission for the following calendar year.
- 1.5 **Notice of Meetings:** Any meetings at which the adoption of any proposed policy, position, resolution, rule, regulation, or formal action occurs or at which a majority or quorum of the body is in attendance, or is expected to be in attendance, shall be held only after full and timely notice to the public. In addition to any other means selected by the Commission for giving notice to the public, the Commission shall post notice of its meetings at the office of the Colorado Department of Higher Education located at 1560 Broadway, Suite 1600, Denver, Colorado 80202 and on the Colorado Department of Higher Education website. Notices shall be posted no less than two days prior to the holding of the meeting. The posting shall include specific agenda information where possible.
- 1.6 **Special Meetings:** Special meetings of the Commission may be held at the call of the Chair on two days' notice, or at the request of five members of the Commission who may petition the Chair to call such a meeting. Notice of special meetings shall be made electronically or by telephone and posted at the office and on the website of the Colorado Department of Higher Education no less than two days prior to the meeting date.
- 1.7 **Conduct of Meetings:** The Chair shall preside at all meetings at which he or she is present. In the Chair's absence, the Vice Chair shall preside, and in the event both are absent, those present shall elect a presiding officer. All meetings shall be conducted in

accordance with all State laws and regulations. The parliamentary rules contained in Robert's Rules of Order, latest revision, shall govern in all cases to which they are applicable, except as modified herein.

- 1.8 Attendance at Meetings: The term of any member of the Commission who misses more than two consecutive regular Commission meetings without good cause, as determined by the Chair, shall be terminated and his successor appointed in the manner provided for appointments under C.R.S. §23-1-102.
- 1.9 Preparation of Agenda: Meeting agendas shall be prepared by the Executive Director of the Department. A monthly agenda call will be scheduled with the Chair, Vice Chair, and Executive Director, or his or her designee, to discuss and approve the proposed agenda. At a regular or special meeting, an item of business may be considered for addition to the agenda by a majority vote of the Commissioners present.
- 1.10 Minutes of the Commission: The Secretary shall maintain an accurate set of minutes of Commission meetings, which shall include a complete record of all actions taken by the Commission. Such minutes shall constitute a permanent record. After the minutes of each meeting are completed they shall be reviewed by the Commission and, after approval, posted on the CCHE website and made available to the public for inspection upon written request.
- 1.11 Standing Committees: The Commission may create standing or ad hoc committees comprised of Commissioners to research and make recommendations on specific issues for the full Commission to consider and act on.

Section 2. Duties and Responsibilities of Officers

- 2.1 Chair of the Commission: The Chair of the Commission shall preside at meetings of the Commission at which he or she is in attendance.
- 2.2 Vice Chair of the Commission: The Vice Chair shall perform all duties of the Chair in the Chair's absence.
- 2.3 The Secretary/Executive Director of the Commission: In addition to performing those duties established by law, the Executive Director of the Commission and Department shall: (a) serve as the Secretary of the Commission, (b) meet with the officers and staff of institutions of higher learning as the needs dictate for a mutual discussion of the matters affecting the responsibilities of the Commission, (c) meet with appropriate state and federal groups and/or officials on matters pertaining to the Commission, (d) meet with appropriate committees of the General Assembly on matters pertaining to the Commission's responsibilities, (e) appoint such professional staff as in his or her judgment are required and are within the budget approved by the Commission and for which funds are available, (f) prepare an annual operating budget and work program for approval by the Commission, (g) implement the policies of the Commission and communicate those policies to interested parties as appropriate.

Section 3. The Advisory Committee

3.1 There is hereby established an advisory committee pursuant to C.R.S. §23-1- 103).

Advisory Committee Members: The advisory committee shall consist of not less than thirteen members, to be designated as follows:

(a) Six members shall be appointed from the General Assembly, including three senators, two of whom shall be from the majority party, appointed by the President of the Senate and one of who shall be from the minority party appointed by the Minority Leader of the Senate, and three representatives, two of whom shall be from the majority party, appointed by the Speaker of the House of Representatives and one of who shall be from the minority party appointed by the Minority Leader of the House of Representatives. Said six members shall be appointed for terms of two years or for the same terms to which they were elected to the general assembly, whichever is the lesser. Successors shall be appointed in the same manner as the original members;

(b) One member shall be selected and designated by the Commission, as recommended by the Colorado Faculty Advisory Council, to represent the faculty in the state;

(c) One member shall be selected and designated by the Commission, as recommended by the Student Affairs Council, to represent the students in the state for a term of one year, commencing on July 1 of the year appointed;

(d) One member shall be selected and designated by the Commission who is a parent of a student enrolled in a state supported institution of higher education in Colorado to represent the parents of students for a term of two years, commencing on July 1 of the year appointed.

(e) Not more than four additional members representing educational or other groups may be selected and designated by the Commission to serve on the advisory committee.

The Commission has designated the four additional advisory committee members to represent:

- Chief Academic Officers of Colorado's state supported institutions of higher education, as recommended by the Colorado Academic Council;
- Chief Financial Officers of Colorado's state supported institutions of higher education, as recommended by the, as recommended by the Chief Financial Officers group;
- Independent Higher Education Institutions in Colorado (Colorado College, Regis, and Denver University), as recommended by the Independent Higher Education Council; and,
- The K-12 system, as recommended by the Colorado Department of Education.

All such appointments shall be for a term of two years, commencing on July 1 of the year appointed.

- 3.2 Notice and Agendas: All members of the advisory committee shall receive agendas and background material and be notified of all public meetings of the Commission and shall be invited to attend for the purpose of suggesting solutions for the problems and needs of higher education and maintaining liaison with the general assembly.
- 3.3 Recommendations of the Advisory Committee: The members of the advisory committee shall have full opportunity to present their views on any matter before the Commission.

Section 4. Change in Bylaws

- 4.1 Bylaws shall be subject to amendment at any meeting of the Commission provided any such proposed change is listed on the agenda in accordance with the procedure outlined in Section 1.5 Notice of Meetings. Bylaw changes must be approved by a majority of the Commission.

HISTORY: Adopted on September 10, 1965. Amended January 14, 1966; February 25, 1972; June 1, 1978; July 1, 1993; October 7, 2004; May 6, 2011; CCHE Agenda March 3, 2017 Item V



INSTITUTION AND SYSTEM LEADERS

<u>INSTITUTION</u>	<u>CEO</u>	<u>LOCATION</u>
Adams State University	Dr. Cheryl Lovell, Interim President	Alamosa
Aims Community College	Dr. Leah Bornstein, President	Greeley
Community College System	Joe Garcia, President	Denver
Arapahoe CC	Dr. Diana Doyle, President	Littleton
Colorado Northwestern CC	Ron Granger, President	Rangely
CC of Aurora	Dr. Betsy Oudenhoven, President	Aurora
CC of Denver	Dr. Everette Freeman, President	Denver
Front Range CC	Andy Dorsey, President	Westminster
Lamar CC	Dr. Linda Lujan, President	Lamar
Morgan CC	Dr. Curt Freed, President	Ft. Morgan
Northeastern JC	Jay Lee, President	Sterling
Otero JC	Jim Rizzuto, President	La Junta
Pikes Peak CC	Dr. Lance Bolton, President	Colorado Springs
Pueblo CC	Dr. Patty Erjavec, President	Pueblo
Red Rocks CC	Dr. Michele Haney, President	Lakewood
Trinidad State JC	Dr. Carmen Simone, President	Trinidad
Colorado Mesa University	Tim Foster, President	Grand Junction
Colorado Mountain College	Dr. Carrie Besnette Hauser, President	Glenwood Springs
Colorado School of Mines	Paul Johnson, President	Golden
Colorado State System	Dr. Tony Frank, Chancellor	Denver
CSU-Ft Collins	Dr. Tony Frank, President	Fort Collins
CSU-Pueblo	Dr. Timothy Mottet, President	Pueblo
CSU-Global Campus	Dr. Becky Takeda-Tinker, President	Greenwood Village
CU System	Bruce Benson, President	Denver
CU – Boulder	Dr. Philip DiStefano, Chancellor	Boulder
UCCS	Dr. Pam Shockley-Zalabak, Chancellor	Colorado Springs
UCD	Dr. Dorothy Horrell, Chancellor	Denver
UC-Anschutz	Don Elliman, Chancellor	Aurora, Denver
Emily Griffith Technical College	Jeff Barratt, Executive Director	Denver
Ft. Lewis College	Dr. Tom Stritikus, President	Durango
Metropolitan State University of Denver	Janine Davidson, President	Denver
Pickens Technical College	Teina McConnell, Executive Director	Aurora



Technical College of the Rockies

Michael Klouser, Director

Delta

University of Northern Colorado

Dr. Andy Feinstein, President

Greeley

Western State Colorado University

Dr. Gregory Salsbury, President

Gunnison

COLORADO COMMISSION ON HIGHER EDUCATION

- Chairman Luis Colon (*R-4th Congressional District*) term ends June 2021
- Vice Chair Renny Fagan (*D-7th Congressional District*) term ends June 2019
- Commissioner John Anderson (*R-3rd Congressional District*) term ends June 2019
- Commissioner Maia Babbs (*U-7th Congressional District*) term ends June 2019
- Commissioner Mary Beth Buescher (*D-3rd Congressional District*) term ends June 2020
- Commissioner Cassie Gannett (*D-5th Congressional District*) term ends June 2020
- Commissioner Jeanette Garcia (*D-3rd Congressional District*) term ends June 2019
- Commissioner Vanecia Kerr (*D- 6th Congressional District*) term ends June 2018
- Commissioner Monte Moses (*R-6th Congressional District*) term ends June 2019
- Commissioner Tom McGimpsey (*R-2nd Congressional District*) term ends June 2021
- Commissioner Paula Sandoval (*D-1st Congressional District*) term ends June 2018

ADVISORY COMMITTEE

Legislative Advisors

- Representative Jeni Arndt, *House Majority Appointment*
- Representative Jeff Bridges, *House Majority Appointment*
- Representative Lang Sias, *House Majority Appointment*
- Senator Kevin Priola, *Senate Majority Appointment*
- Senator Owen Hill, *Senate Majority Appointment*
- Senator Nancy Todd, *Senate Minority Appointment*

Subject Matter Advisors

- Mr. Wayne Artis, *Faculty Representative*
- Mark Cavanaugh, *IHEC Representative*
- Mr. Chad Marturano, *Institutional Finance Representative*
- Dr. Rick Miranda, *Academic Council Representative*
- Ms. Misti Ruthven, *K-12 Representative*
- Ms. Keri Lee, *Parent Representative*
- Troy Fossett, *Student Representative*

Higher Education Glossary

529 Savings Plan - 529 plans are more than just savings accounts. These state-sponsored college savings plans were established by the federal government in Section 529 of the Internal Revenue Code to encourage families to save more for college. They offer unique state and federal tax benefits you can't get from other ways to save, making them one of the best ways to save for college.

Accuplacer - A suite of computer-adaptive placement tests that are used as assessment tools at institutions to evaluate the level of course work for a student. Students measured as needing additional course work will be assigned to remediation.

Admission Standard - includes both Freshman and Transfer standard. The freshman standard applies to all in-state and out-of-state new freshmen applicants and to transfer applicants with 12 or fewer college credit hours, except freshmen and transfer applicants who meet one of the admissions standards index exemptions. The transfer standard applies to all degree-seeking undergraduate transfer applicants with more than 12 college credit hours who do not meet one of the exemptions

Admission Window - Defined in Admission policy, "The maximum allowable percentage of admitted students who are not required to meet the CCHE admission standards within a specific fiscal year is referred to as the admissions window. Separate windows exist for the freshmen and transfer standards. The allowable percentage is determined by the Commission." The percentages vary by institution.

CAP4K - SB08-212, Preschool to Postsecondary Education Alignment Act; Colorado Achievement Plan for Kids.

CHEA - Council for Higher Education Accreditation. As described on their website, CHEA is "A national advocate and institutional voice for self-regulation of academic quality through accreditation, CHEA is an association of 3,000 degree-granting colleges and universities and recognizes 60 institutional and programmatic accrediting organizations."

CIP - Classification of Instructional Program; The purpose of which is to provide a taxonomic scheme that will support the accurate tracking, assessment, and reporting of fields of study and program completions activity. (Relevant in Role & Mission)

CLEP - College Level Examination Program; Earn college credit for passing a subject specific examination.

COA - Cost of Attendance; in the context of financial aid, it is an estimate of what it will reasonably cost the student to attend a given institution for a given period of time.

Concurrent Enrollment – A high school student enrolled for one or more classes at a college or university in addition to high school courses.

Dually Enrolled - A student enrolled at two institutions at the same time. This may affect enrollment reports when both institutions count that student as enrolled.

EFC - Expected Family Contribution; in the context of financial aid, it is calculated by a federally-approved formula that accounts for income, assets, number of family members attending college, and other information.

FAFSA - Free Application for Federal Student Aid. This is a free service provided by the Federal government under the Department of Education and students are not charged to complete/file the FAFSA.

FAP – Financial Aid Plan (HESP specific)

FERPA - Family Educational Rights and Privacy Act, view federal website. The Family Educational Rights and Privacy Act (FERPA) (20 U.S.C. § 1232g; 34 CFR Part 99) is a Federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education.

FFS – Fee-For-Service Contracts; A portion of the College Opportunity Fund program in addition to COF stipends, this contract provides funding to certain higher education institutions to supplement high cost programs and purchase additional services (such as graduate programs).

Floor - In reference to the admission window, the floor is the minimum requirements for admission without requiring an exception of some kind. This usually coincides with the Index score.

FTE - Full-time Equivalent; a way to measure a student's academic enrollment activity at an educational institution. An FTE of 1.0 means that the student is equivalent to full-time enrollment, or 30 credit hours per academic year for an undergraduate student.

GEARUP - Gaining Early Awareness and Readiness for Undergraduate Programs; A Federal discretionary grant program designed to increase the number of low-income students who are prepared to enter and succeed in postsecondary education.

Guaranteed Transfer, GT Pathways - gtPATHWAYS applies to all Colorado public institutions of higher education, and there are more than 900 lower-division general education courses in 20 subject areas approved for guaranteed transfer. Courses are approved at least twice per academic and calendar year and apply the next semester immediately following their approval.

HB 1023 - In most cases, refers to HB 06S-1023, which declares "It is the public policy of the state of Colorado that all persons eighteen years of age or older shall provide proof that they are lawfully present in the United States prior to receipt of certain public benefits."

HB 1024 - In most cases, refers to HB 06-1024, which declares "On or before September 1, 2006, each governing board of a state institution of higher education shall submit to the Colorado commission on higher education and the education committees of the senate and the house of representatives, or any successor committees, a report regarding underserved students".

HB 1057 - In most cases, refers to HB 05-1057, which declares "a college preparation program operating within the school district that the college preparation program shall provide to the Colorado commission on higher education, on or before December 31 of each school year, a report specifying each student, by unique identifying number."

HEAR - Higher Education Admission Requirements, 2008-2010.

Index, Index Score - This index score is a quantitative evaluation that is part of a larger student application evaluation. The score is generated from academic achievement (GPA or High School Rank) and college placement tests (ACT or SAT). You can calculate your index score online. Index varies by institution depending on that institutions selection criteria.

IPEDS - Integrated Postsecondary Education Data System; Run by NCES, this system collects statistical data and information on postsecondary institutions. The Colorado Department of Higher Education submits aggregated data on public institutions to IPEDS.

Need - In the context of student financial aid, Need is calculated by the difference between the COA (Cost of Attendance) and the EFC (Expected Family Contribution)

NCATE - National Council for Accreditation of Teacher Education; NCATE is the profession's mechanism to help establish high quality teacher preparation.

NCLB - No Child Left Behind; The No Child Left Behind Act of 2001 (NCLB) reauthorized the Elementary and Secondary Education Act (ESEA) -- the main federal law affecting education from kindergarten through high school.

PSEO - Post Secondary Enrollment Option; A program that offers concurrent enrollment in college courses while in high school.

PWR - Postsecondary and Workforce Readiness; Definition was created during the SB08-212 CAP4K meetings.

QIS - Quality Indicator System; Implemented in HB96-1219, the specific quality indicators involved in QIS are similar to those used in the variety of quality indicator systems found in other states: graduation rates, freshmen retention and persistence rates, passing scores or rates on tests and licensure examinations, undergraduate class size, faculty teaching workload rates, and institutional support/administrative expenditures.

REP - Regional Education Provider; Colorado Statute authorizes Adams State College, Fort Lewis College, Mesa State College and Western State College to function as regional

educational providers and “have as their primary goal the assessment of regional educational needs...”
Regional education providers focus their attention on a certain geographical area.

SB 3 – In most cases refers to SB10-003, the Higher Education Flexibility Bill.

SB 212 - In most cases, refers to HB 08-212, the CAP4K legislation.

SBE - State Board of Education; As described on their website, "Members of the Colorado State Board of Education are charged by the Colorado Constitution with the general supervision of the public schools. They have numerous powers and duties specified in state law. Individuals are elected on a partisan basis to serve six-year terms without pay."

SFSF – State Fiscal Stabilization Fund; A component of the ARRA legislation and funding.

SURDS - Student Unit Record Data System

WICHE - Western Interstate Commission for Higher Education; A regional research and policy organization that assists students, policymakers, educators, and institutional, business and community leaders. WICHE states include: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming.

WUE - Western Undergraduate Exchange Program, managed by WICHE