2022 PROJECT PROPOSAL CHECKLIST

2023-25 Biennium Four-year Higher Education Scoring Process

INSTITUTION	CAMPUS LOCATION
376 - The Evergreen State College	Olympia
PROJECT TITLE	**OFM/CBS Project #**
Seminar I Renovation	30000125
PROJECT CATEGORY	**FPMT UNIQUE FACILITY ID # (OR NA)**
Renovation - Major	A06682
PROPOSAL IS	
New or Updated Proposal (for scoring)	**Resubmitted Proposal (retain prior score)**
☐ New proposal ☒ Resubmittal to be scored (more than 2 biennia old or significantly changed)	☐ Resubmittal from 2018 (2019-21 biennium) ☐ Resubmittal from 2020 (2021-23 biennium)
CONTACT	**PHONE NUMBER**
William Ward	(360) 918-4340

Proposal content

- ☒ Project Proposal Checklist: this form; one for each proposal
- ☒ Project Proposal Form: Specific to category/subcategory (10-page limit)
- ☒ Appendices: templates, forms, exhibits and supporting/supplemental documentation for scoring.

Institutional priority

- ☒ Institutional Priority Form. Sent separately (not in this packet).

Check the corresponding boxes below if the proposed project meets the minimum threshold or if the item listed is provided in the proposal submittal.

Minimum thresholds

- ☒ Project is not an exclusive enterprise function such as a bookstore, dormitory, or contract food service.
- ☒ Project meets LEED Silver Standard requirements.
- ☒ Institution has a greenhouse gas emissions reduction policy in place in accordance with RCW 70A.45.050 and vehicle emissions reduction policy in place per RCW 47.01.440 or RCW 43.160.020 as applicable.
- ☒ A complete predesign report was submitted to OFM by July 1, 2022 and approved.
- ☐ Growth proposals: Based on solid enrollment projections and is more cost-effectively providing enrollment access than alternatives such as university centers and distance learning.
- ☒ Renovation proposals: Project should cost between 60 – 80% of current replacement value and extend the useful life of the facility by at least 25 years.
- ☐ Acquisition proposals: Land acquisition is not related to a current facility funding request.
- ☐ Infrastructure proposals: Project is not a facility repair project.
- ☐ Stand-alone, infrastructure and acquisition proposals is a single project requesting funds for one biennium.

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2023-25 Biennium Four-year Higher Education Scoring Process

Required appendices

- ☒ Project cost estimate: Excel C-100
- ☒ Degree Totals and Targets template to indicate the number of Bachelors, High Demand and Advanced degrees expected to be awarded in 2023. (Required for Overarching Criteria scoring criteria for Major Growth, Renovation, Replacement and Research proposals).
- ☒ Availability of Space/Campus Utilization template for the campus where the project is located. (Required for all categories/subcategories except Infrastructure and Acquisition proposals).
- ☒ Assignable Square Feet template to indicate program-related space allocation. (Required for Growth, Renovation and Replacement proposals, all categories/subcategories).

Optional appendices

Attach supplemental and supporting project documentation, *limit to materials directly related to and needed for the evaluation criteria*, such as:

- ☐ Degree and enrollment growth projections
- ☐ Selected excerpts from institutional plans
- ☐ Data on instructional and/or research space utilization
- ☐ Additional documentation for selected cost comparables (acquisition)
- ☐ Selected materials on facility conditions
- ☒ Selected materials on code compliance
- ☐ Tables supporting calculation of program space allocations, weighted average facility age, etc.
- ☐ Evidence of consistency of proposed research projects with state, regional, or local economic development plans
- ☐ Evidence of availability of non-state matching funds
- ☐ Selected documentation of prior facility failures, high-cost maintenance, and/or system unreliability for infrastructure projects
- ☐ Documentation of professional assessment of costs for land acquisition, land cleanup, and infrastructure projects
- ☐ Selected documentation of engineering studies, site survey and recommendations, or opinion letters for infrastructure and land cleanup projects
- ☒ Other: Predesign and Schematic Design materials included

I certify that the above checked items indicate either that the proposed project meets the minimum thresholds, or the corresponding items have been included in this submittal.

Name: William Ward Title: Chief Administrative Officer

Signature: William Ward Date: 08/12/2022

INSTITUTION	CAMPUS
The Evergreen State College	Olympia
PROJECT TITLE	
Seminar I Renovation	

Summary narrative

- Problem statement (short description of the project – the needs and the benefits)

The Seminar I building at The Evergreen State College (TESC) was built in 1974 and is situated northwest of Red Square along the central pedestrian spine of campus. The original intended use supported small-scale instruction, faculty offices and campus administrative support. These uses and space types no longer support Evergreen's interdisciplinary program-based pedagogy which required large-scale flexible classroom environments and current growth programs. This shift in needs has contributed to the loss of purpose of the building and use as a secondary facility despite the central campus location. Seminar I was also originally intended to be the first phase of a much larger facility with service spaces, and building systems and equipment sized for this significantly larger scope. This has resulted in a condition where Seminar I has a very low net-to-gross efficiency (42%) and highly inefficient use of obsolete mechanical and electrical equipment.

- History of the project or facility

This renovation project is part of TESC's long-term efforts to rejuvenate core campus facilities and was initiated with the funding of predesign by the Legislature in 2015. Predesign, see Appendix K., was completed and submitted the following year, 2016. Since the beginning of 2022 the College has:

1. Verified and adjusted the program assumptions from predesign given current (2022) academic needs and to accommodate important growth programs.
2. Completed the schematic design phase which forms the bases of the information provided (See Appendix L).
3. Begun the Design Development phase with the intention to start construction in 2023 contingent on receiving funding from the State Legislature.

- University programs addressed or encompassed by the project

The primary vision for the Seminar I project is to renovate the building so it can once again be fully integrated into the academic life and culture at the heart of campus and serve a series of growing and diverse programs. In addition to supporting the academic mission of the College the project will provide needed structural, energy, building system and accessibility upgrades for the building to function effectively for the next 50 years of its lifespan.

The design supports a collection of important college programs:
Native Pathways Program (NPP) supports students who are connected to and involved within Native American or Indigenous communities and culture. It promotes life-ling indigenous scholarship by placing value on cultural and traditional ways of knowing, working with indigenous methodologies, and expanding indigeneity through academia. To support this growing program the renovation provides:

- Classroom spaces serving 1-2 instructors and 50 students, with convenient break-out collaboration spaces serving 5-8 students.
- Flexible seminar rooms serving 25 students.
- Open casual learning spaces to support peer-to-peer learning and culturally aligned multi-generational sharing and care.

- Administration and Faculty offices and support spaces for the program
- Dedicated student group study spaces.
- Inclusive and flexible student activity room to support making, indigenous cultural activities and directly supports indigenous cultural identity and presence at Evergreen.

Curriculum Wide Instruction across TESC - A series if highly flexible Instructional spaces capable of serving academic programs across the curriculum. Program Areas Include:

- Classroom spaces serving 1-2 instructors and 50 students, with convenient break-out collaboration spaces serving 5-8 students.
- Flexible seminar rooms serving 25 students.
- Peer-to-peer open casual learning spaces to support out-of-classroom and impromptu learning.

A Police Services facility fully compliant with the needs of a commissioned police force. Administration and student service functions for Parking Services. Counselling offices and support spaces to support Project SEARCH a school-to-work program for students with disabilities on campus.

The design proposes to completely renovate Seminar I, including reconfiguration of interior spaces, preservation of the existing façade and key design elements, provide new welcoming and secure building entrances, and improve building and systems performance to meet LEED Gold and move the building off of fossil fuels as an energy source.

Overarching scoring criteria

1. **Integral to achieving statewide policy goals**

   Provide degree targets and describe how the project promotes improvement on 2020-21 degree production totals in the OFM Statewide Public Four-Year Dashboard. Include the degree totals and target template in an appendix.

   A. Indicate the number of bachelor's degrees awarded at the close of the 2020-21 academic year, and the number targeted for 2023.

Bachelor's Degrees Awarded 2020-21 Academic Year	Targeted Bachelor's Degrees for 2023
670	400

   B. Indicate the number of bachelor's degrees awarded in high-demand fields at the close of the 2020-21 academic year, and the number targeted for 2023.

Bachelor's Degrees in High-Demand Fields Awarded 2020-21 Academic Year	Targeted Bachelor's Degrees in High-Demand Fields for 2023
146	136

   C. Indicate the number of advanced degrees awarded at the close of the 2020-21 academic year, and the number targeted for 2023.

Advanced Degrees Awarded 2020-21 Academic Year	Targeted Advance Degrees for 2023
81	104

2. Integral to campus/facilities master plan

A. Describe the proposed project's relationship and relative importance to the institution's most recent campus/facilities master plan or another applicable strategic plan.

B. Does the project follow the sequencing laid out in the Master Plan (if applicable)? If not, explain why it is being requested now.

Development of Evergreen's campus has been controlled by master plan since the 1008-acre site was acquired in 1968. TESC's current "Campus Master Plan – 2014 Update" provides a comprehensive long-term framework for development of both buildings and grounds through the 2023-2025 biennium.

Proposed projects identified in the "Campus Master Plan – 2014 Update" include renovation and expansion of Seminar 1. The scope of work for the Seminar 1 Renovation project is consistent with and requires no modification to align with the TESC Campus Master Plan. This project is identified as a priority in the Campus Master Plan and continues the College's commitment to improvement of its earliest campus building, a commitment demonstrated by the successfully completed improvements to other campus core facilities.

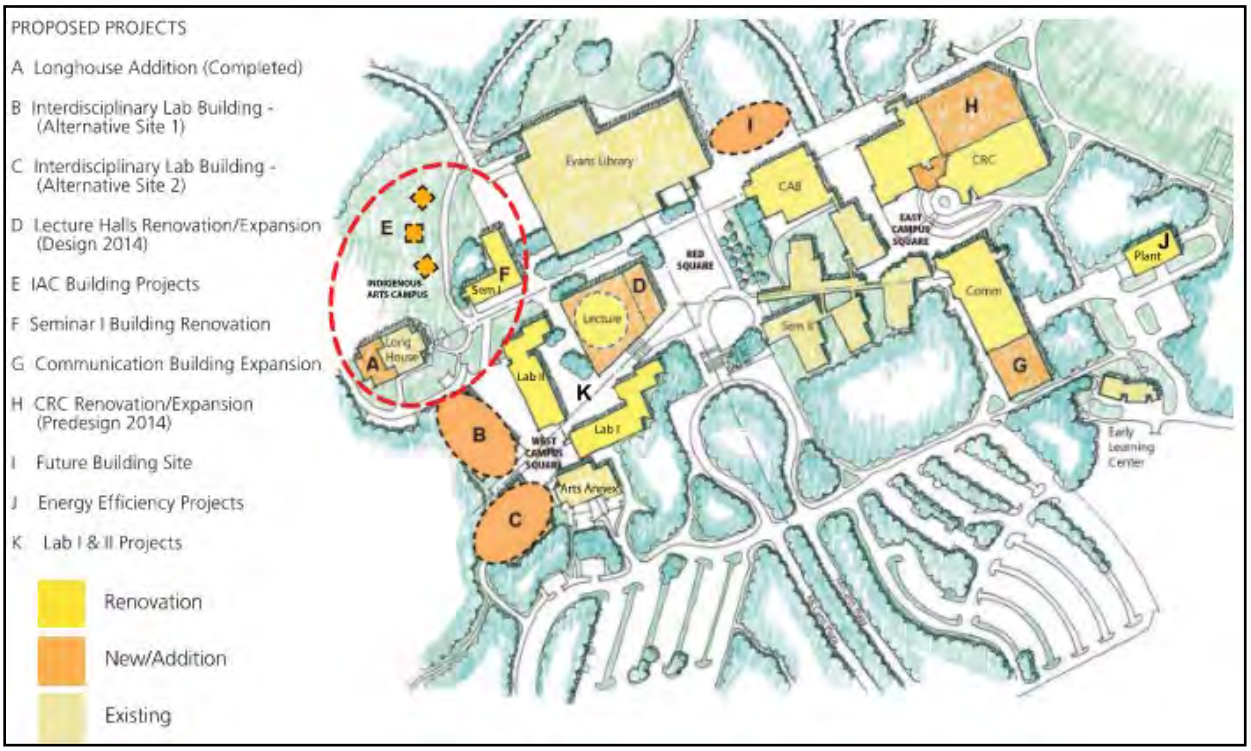

Figure 1: Core campus projects from the "Campus Master Plan – 2014 Update", identifying the Seminar 1 project.

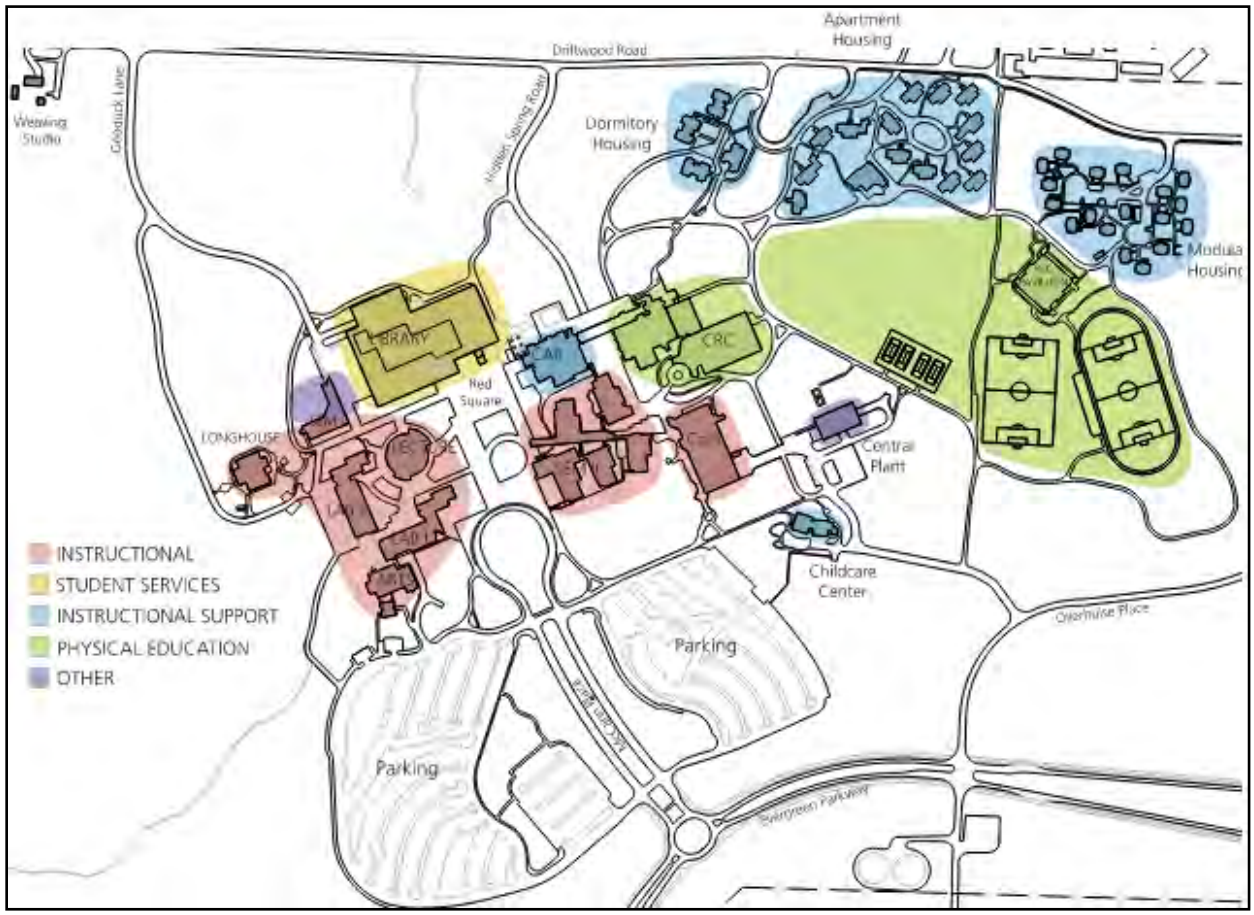

Figure 2: Seminar 1 Renovation is consistent with Space and Building uses identified in the "Campus Master Plan – 2014 Update"

3. **Integral to institution's academic programs plan**

   Describe the proposed project's relationship and relative importance to the institution's most recent academic programs plan.

Evergreen's current strategic enrollment plan (New Directions for Evergreen: Strategic Enrollment Plan 2021-26) outlines the academic programs that Evergreen will develop from 2021-26, and functionally serves as the college's academic programs plan. The project to renovate SEMI is associated with various curricular aspects of the strategic enrollment plan, including:

- The Native Pathways Program (NPP)
- An emerging school for Professional and Continuing Education (PACE)
- General increases in enrollment associated with curricular enhancements and investments, Entrepreneurship and Business Initiatives, Climate Action and Sustainability Initiatives, and Graduate Program Renewal and Recruitment.

Must the project be initiated soon to:

A. Meet academic certification requirements?

Evergreen's accreditation requires the institution to maintain a Master Plan and regularly update its physical infrastructure. Information on Evergreen's accreditation can be found at https://www.evergreen.edu/provost/accreditation.

Specifically, accreditation requirements from the Northwest Commission on Colleges and Universities (NWCCU) include the following:

- Standard 2.G.1: "Consistent with its mission, core themes, and characteristics, the institution creates and maintains physical facilities that are accessible, safe, secure, and sufficient in quantity and quality to ensure healthful learning and working environments that support the institution's mission, programs, and services." (The Evergreen State College Year Seven Self-Evaluation Report, p. 106)
- Standard 2.G.3: "The institution develops, implements, and reviews regularly a master plan for its physical development that is consistent with its mission, core themes, and long-range educational and financial plans." (The Evergreen State College Year Seven Self-Evaluation Report, p. 107)

Evergreen's Master Plan includes planned renovations of Seminar I, more information can be found on the Facilities webpage: https://www.evergreen.edu/facilities/facilities.

NWCCU has not specifically required Evergreen to initiate this project soon to maintain accreditation.

B. Permit enrollment growth and/or specific quality improvements in current programs?

Current academic programs will benefit from improvements to the SEM I building. Evergreen's Native Pathways Program (NPP) is a current tenant in the building. Substantially redesigned in 2017-18, the program serves the needs of native and indigenous students. Its enrollment has increased every year, serving about 75 student FTE in 2021-22. It has reached the limits of its current footprint in SEMI. Increased capacity for classrooms, offices, and cultural spaces will permit continued growth in NPP, making good on Evergreen's commitments to enrollment as well as our historic commitment to underserved student constituencies. We believe the project will allow NPP to double its engagement to a total of 150 FTE by 2025-26. (New Directions for Evergreen: Strategic Enrollment Plan 2021-26, p. 63).

The SEMI project will also allow expansion of undergraduate and graduate programs which require separate, flexible spaces for full-time interdisciplinary study. As mentioned above, Evergreen's strategic enrollment plan projects general increases in enrollment on the Olympia campus associated with curricular enhancements and investments, entrepreneurship and business initiatives, climate action and sustainability initiatives, and graduate program renewal and recruitment, all of which are likely to generate students and offerings requiring the kinds of spaces being proposed for SEM I. These approaches to the strategic enrollment plan are predicted to generate 700 new students between academic year 2021-22 and academic year 2025-26. The proposed plan for SEM I will add 134 seats, increasing total seats in the building to 260.

C. Permit initiation of new programs?

Evergreen's strategic enrollment plan also relies on the development of new curricular approaches. While there are several new curricula under development, the new school for Professional and Continuing Education (PACE) is likely to attract the most students, with projected enrollment of 385 students by academic year 2025-26 (New Directions for Evergreen: Strategic Enrollment Plan 2021-26, p. 63). Though many of the professional certificate

courses associated with PaCE are expected to be online, some of the programming will also require in-person, flexible general-purpose classroom space of the kind being proposed for SEM I.

Category-specific scoring criteria

1. **Age of building since last major remodel**
   Identify the number of years since the last substantial renovation of the facility or portion proposed for renovation. If only one portion of a building is to be remodeled, provide the age of that portion only. If the project involves multiple wings of a building that were constructed or renovated at different times, calculate and provide a weighted average facility age, based upon the gross square feet and age of each wing.

The Evergreen State College's Seminar 1 was originally completed in 1974. Its original uses included small scale instruction, faculty offices, and campus administrative support that were largely supplanted as Evergreen's interdisciplinary program-base pedagogy took root and created preference for large-scale highly flexible classroom/seminar environments. Since 1974, minor remodel of spaces for tenant improvements have occurred to house Police Services and Student Health and Wellness Center which has since moved to a new location on campus. In 2008 the elevator was rehabilitated. In 2010, a re-roofing project was completed. In 2020, Fire Alarm upgrades were completed. No major remodel or renovation of major mechanical and electrical systems have occurred in Seminar 1. The average facility age is 48 years.

2. **Condition of building**
   A. Provide the facility's condition score (1 superior – 5 marginal functionality) from the 2016 comparable framework study and summarize the major structural and systems conditions that resulted in that score. Provide selected supporting documentation in appendix, and reference them in the body of the proposal.

Unique Facility Identifier	Agency Assigned Common Name	Agency Assigned Number	Square Feet	Condition Assessment Score	Year Constructed
A06682	Seminar Building	11	44,909	3	1974

Further discussion of major structural and systems conditions can be found below in answers to question 3. "Significant health, safety, and code issues".

   B. Identify whether the building is listed on the Washington Heritage Register, and if so, summarize its historic significance.

Seminar I is not listed on the Washington Heritage Register. See Appendix G for narrative from Historic Preservation Consult.

3. **Significant health, safety, and code issues**
   It is understood that all projects that obtain a building permit will have to comply with current building codes. Identify whether the project is needed to bring the facility within current life safety (including seismic and ADA), or energy code requirements. Clearly identify the applicable standard or code and

describe how the project will improve consistency with it. Provide selected supporting documentation in appendix and reference them in the body of the proposal.

The age and condition of Seminar I present three areas of health, safety, and code issues which this project will address.

Energy Code and Fuel Source Requirements - The condition and obsolete of significant aspects of the mechanical heating and cooling system, inadequate thermal performance of the building envelop, and the current use of fossil fuels to heat the building results in an existing building that is not in alignment with current energy code and fuel source requirements. The project does not look to grandfather in these conditions but instead use the renovation to eliminate fossil fuels as an energy source and install contemporary mechanical systems to meet current energy code requirements.

Accessibility and Access - Currently there is no campus or site path that provides for an accessible route to the northwest side of the building and outdoor learning areas. In the 48 years since Seminar I was originally constructed, multiple buildings have been built to the northwest with many students now approaching the building from this direction. The proposed ADA compliant sidewalks and paths will provide full accessibility to the building.

Structural Risk Category – To maintain police services in Seminar I building the existing structural risk category will need to be raised from category III to an essential facility, risk category IV. To achieve this multiple lower floor shear walls will need to be reinforced.

Beyond these three significant issues the comprehensive remodel of the building will fully address minor conditions throughout the building to bring the entire building up to current code requirements for significant renovations.

4. **Reasonableness of cost**

   Provide as much detailed cost information as possible, including baseline comparison of costs per square foot (SF) with the cost data provided in Chapter 5 of the scoring process instructions and a completed OFM C-100 form. Also, describe the construction methodology that will be used for the proposed project.

We estimate that the project will have a construction cost of $24,316,492 – less construction contingency and taxes – escalated to the mid-point of construction. Additional project cost for design construction services artwork, commissioning, and FF&E amount to a total project cost of $32,328,000. These costs and fees have been prepared by a professional estimator which specializes in construction cost and are based upon the Schematic Design documents (July 12, 2022).

See Appendix A for C-100 form.

If applicable, provide life cycle cost analysis results demonstrating significant projected savings for selected system alternates (Uniformat Level II) over 50 years, in terms of net present savings.

Not applicable.

5. **Availability of space/utilization on campus**

   Describe the institution's plan for improving space utilization and how the project will impact the following:

A. The utilization of classroom space
B. The utilization of class laboratory space

The COVID-19 pandemic caused The Evergreen State College to significantly alter offerings to support numerous public health concerns which necessitated the transition to teach in a hybrid model. Many teaching hours since March 2020 were provided remotely to balance public health with a need to support student's educational needs. Current enrollment challenges coupled with COVID-19 impacts mean that numbers provided in Appendix C do not accurately reflect uninterrupted classroom and laboratory space utilization. However, the College is working to transition towards full time in person teaching and implementing new strategic measures to increase student recruitment and retention. The College's unique pedagogy and structure does not lend itself easily to the calculations for utilization. The utilization of classrooms is higher than recorded for two reasons: (1) learning communities that are created in the academic programs often have informal (unscheduled) meetings to collaborate and complete academic activities and; (2) interdisciplinary team-taught programs often utilize their scheduled space more efficiently because contact time involves multiple faculty instead of separately scheduled space for different disciplines. Seminar I will also house the successful Native Pathways Program (NPP). NPP experienced a 50% growth rate from 2017-2020, a 100% retention rate from 2019-2020 and 100% graduation rates in 2018-2019 and 2019-2020 academic years. This project will allow for adequate classroom and collaboration spaces which will contribute to the continued success of the program.

In addition to serving as a hub for expansion for current academic programs and developing new academic programs, the SEM I project is also being designed to recapture instructional space that was lost over the last five years. Most importantly, Evergreen's Health Care Center was previously located in SEM I. It was recently remodeled and relocated in the Seminar II complex, which required the transformation of spaces previously allocated for general-purpose classrooms and office spaces. Seminar I currently hold 126 seats and this renovation would increase those seats to 260. The SEM I project will thus recapture space in SEMI for general-purpose classroom use, improving space utilization on campus.

6. **Efficiency of space allocation**
   A. For each major function in the proposed facility (classroom, instructional labs, offices), identify whether space allocations will be consistent with Facility Evaluation and Planning Guide (FEPG) assignable square feet standards. To the extent any proposed allocations exceed FEPG standards, explain the alternative standard that has been used, and why. See Chapter 4 of the scoring process instructions for an example. Supporting tables may be included in an appendix.

The proposed academic and support spaces in Seminar I are programed to comply with TESC and Facilities Evaluation and Planning Guide (FEPG) standards. See Table.

Note: Space allocation for Police Services and related areas are programed to follow the standards and guides provided by the International Association of Chiefs of Police (IACP) and the International Property and Evidence Standards and American Correctional Standards.

B. Identify the following on C-100 form:
   1. Usable square feet (USF) in the proposed facility
      - 26,330sf (USF)
   2. Gross square feet (GSF)
      - 43,883sf (GSF)
   3. Building efficiency (USF divided GSF)

- 60% - Building efficiency (USF divided by GSF)

7. Adequacy of space

Describe whether and the extent to which the project is needed to meet modern educational standards and/or to improve space configurations, and how it would accomplish that.

The Predesign, Program Verification, and Schematic Design planning processes established the space requirements for the proposed building occupants and programs. The planning and design teams led multiple programming/feedback sessions with stakeholders. These sessions occurred during both Predesign (2016) and again in the Program Verification and Schematic Design phases (2022) to arrive at adequate space for each program.

The age and configuration of the current spaces in Seminar I are not adequate for contemporary collaborative, technology rich curriculum and learning approaches. The current design incorporates dedicated program space to meet the needs of:

- Academic spaces that can function to support TESC seminar collaborative teaching and learning approaches as well as meet contemporary needs for technology rich/hi flex teaching modalities for of programs across the TESC curriculum
- Much needed academic and program support spaces for the growing Native Pathways Program. This also will establish a clear and identifiable home for this program.
- Police Services that can operate out of spaces which meet the requirements of a commissioned police force.
- Provide program space for the Project SEARCH and English First academic programs.

See addendum for Schematic Design Technical Book for a complete tabulation summary and further program details for all functions identified during stakeholder working sessions and being provided in Seminar I.

Appendix A.

Funding Summary

	Project Cost (Escalated)	Funded in Prior Biennia	New Approp Request 2023-2025	2025-2027	Out Years
Acquisition					
Acquisition Subtotal	$0	$0	$0		**$0**
Consultant Services					
Consultant Services Subtotal	$4,095,985	$2,992,495	$1,103,490		**$0**
Construction					
Construction Subtotal	$24,316,492	$0	$20,218,749		**$4,097,743**
Equipment					
Equipment Subtotal	$1,925,510	$0	$1,925,510		**$0**
Artwork					
Artwork Subtotal	$160,838	$0	$160,838		**$0**
Agency Project Administration					
Project Administration Subtotal	$1,160,035	$11,460	**$1,148,575**		**$0**
Other Costs					
Other Costs Subtotal	$669,612	$0	$669,612		**$0**
Project Cost Estimate					
Total Project	**$32,328,473**	**$3,003,955**	**$25,226,774**	**$0**	**$4,097,743**
	$32,328,000	**$3,004,000**	**$25,227,000**	**$0**	**$4,098,000**
	Percentage requested as a new appropriation		**78%**		

What is planned for the requested new appropriation? (*Ex. Acquisition and design, phase 1 construction, etc.*)
Bidding and Construction
Insert Row Here

What has been completed or is underway with a previous appropriation?
Design has been funded, architect has been selected, program verification from the 2016 Predesign Report has been completed.
Schematic Design has been completed.
Insert Row Here

What is planned with a future appropriation?
Project Construction including Bidding through Closeout.
Insert Row Here

STATE OF WASHINGTON
AGENCY / INSTITUTION PROJECT COST SUMMARY

Updated June 2022

Agency	The Evergreen State College
Project Name	Seminar 1 Renovation
OFM Project Number	30000125

Contact Information	
Name	William Ward
Phone Number	360-867-6115
Email	wardw@evergreen.edu

Statistics			
Gross Square Feet	43,883	MACC per Gross Square Foot	$421
Usable Square Feet	26,330	Escalated MACC per Gross Square Foot	$461
Alt Gross Unit of Measure			
Space Efficiency	60.0%	A/E Fee Class	B
Construction Type	College classroom faciliti	A/E Fee Percentage	10.24%
Remodel	Yes	Projected Life of Asset (Years)	50
Additional Project Details			
Procurement Approach	DBB	Art Requirement Applies	Yes
Inflation Rate	4.90%	Higher Ed Institution	Yes
Sales Tax Rate %	9.30%	Location Used for Tax Rate	Olympia
Contingency Rate	10%		
Base Month (Estimate Date)	July-22	OFM UFI# (from FPMT, if available)	
Project Administered By	Agency		

Schedule			
Predesign Start	January-16	Predesign End	July-16
Design Start	January-22	Design End	June-23
Construction Start	July-23	Construction End	June-25
Construction Duration	23 Months		

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Project Cost Estimate

Total Project	**$29,770,443**	Total Project Escalated	**$32,328,473**
		Rounded Escalated Total	**$32,328,000**

Cost Estimate Summary

Acquisition

Acquisition Subtotal	**$0**	**Acquisition Subtotal Escalated**	**$0**

Consultant Services			
Predesign Services	$197,351		
Design Phase Services	$1,435,636		
Extra Services	$1,136,180		
Other Services	$824,996		
Design Services Contingency	$359,416		
Consultant Services Subtotal	**$3,953,580**	**Consultant Services Subtotal Escalated**	**$4,095,985**

Construction			
Maximum Allowable Construction Cost (MACC)	$18,471,522	Maximum Allowable Construction Cost (MACC) Escalated	$20,218,749
DBB Risk Contingencies	$0		
DBB Management	$0		
Owner Construction Contingency	$1,847,152		$2,028,728
Non-Taxable Items	$0		$0
Sales Tax	$1,889,637	Sales Tax Escalated	$2,069,015
Construction Subtotal	**$22,208,311**	**Construction Subtotal Escalated**	**$24,316,492**

Equipment			
Equipment	$1,604,000		
Sales Tax	$149,172		
Non-Taxable Items	$0		
Equipment Subtotal	**$1,753,172**	**Equipment Subtotal Escalated**	**$1,925,510**

Artwork			
Artwork Subtotal	**$160,838**	**Artwork Subtotal Escalated**	**$160,838**

Agency Project Administration			
Agency Project Administration Subtotal	$1,056,209		
DES Additional Services Subtotal	$0		
Other Project Admin Costs	$0		
Project Administration Subtotal	**$1,056,209**	**Project Administration Subtotal Escalated**	**$1,160,035**

Other Costs			
Other Costs Subtotal	**$638,333**	**Other Costs Subtotal Escalated**	**$669,612**

Project Cost Estimate			
Total Project	**$29,770,443**	Total Project Escalated	**$32,328,473**
		Rounded Escalated Total	**$32,328,000**

Cost Estimate Details

Acquisition Costs					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
Purchase/Lease					
Appraisal and Closing					
Right of Way					
Demolition					
Pre-Site Development					
Other					
Insert Row Here					
ACQUISITION TOTAL	**$0**		**NA**	**$0**	

Green cells must be filled in by user

Cost Estimate Details

Consultant Services				
Item	**Base Amount**	**Escalation Factor**	**Escalated Cost**	**Notes**
1) Pre-Schematic Design Services				
Programming/Site Analysis				
Environmental Analysis				
Predesign Study	$197,351			
Other				
Insert Row Here				
Sub TOTAL	**$197,351**	**1.0000**	**$197,351**	Escalated to Design Start
2) Construction Documents				
A/E Basic Design Services	$1,435,636			69% of A/E Basic Services
Other				
Insert Row Here				
Sub TOTAL	**$1,435,636**	**1.0101**	**$1,450,137**	Escalated to Mid-Design
3) Extra Services				
Civil Design (Above Basic Svcs)	$116,675			
Geotechnical Investigation				
Commissioning	$27,836			
Site Survey				
Testing				
LEED Services	$157,731			
Voice/Data Consultant	$84,617			
Value Engineering				
Constructability Review				
Environmental Mitigation (EIS)				
Landscape Consultant	$66,536			
Program Verfication	$29,000			
ELCCA	$49,670			
LCCA	$75,084			
Historic Preservation	$60,426			
NPP Facilitation	$11,000			
Detailed Building Investigations	$125,600			
3rd Party Cost Estimating	$63,289			
Acoustic Engineering	$31,320			
HazMat Testing	$56,075			
Structural Testing	$35,000			
Enhanced Commissiong Support	$75,800			
Reimbursables prior to bid	$70,521			
Insert Row Here				
Sub TOTAL	**$1,136,180**	**1.0101**	**$1,147,656**	Escalated to Mid-Design
4) Other Services				
Bid/Construction/Closeout	$644,996			31% of A/E Basic Services
HVAC Balancing				

Staffing				
Commissioning and Training	$75,000			
LEED Reporting and Monitoring	$65,000			
Reimburseables for Bid/Const	$40,000			
Insert Row Here				
Sub TOTAL	**$824,996**	**1.0983**	**$906,094**	Escalated to Mid-Const.
5) Design Services Contingency				
Design Services Contingency	$359,416			
Other				
Insert Row Here				
Sub TOTAL	**$359,416**	**1.0983**	**$394,747**	Escalated to Mid-Const.
CONSULTANT SERVICES TOTAL	**$3,953,580**		**$4,095,985**	

Green cells must be filled in by user

Cost Estimate Details

Construction Contracts				
Item	**Base Amount**	**Escalation Factor**	**Escalated Cost**	**Notes**
1) Site Work				
G10 - Site Preparation	$91,067			
G20 - Site Improvements	$931,988			
G30 - Site Mechanical Utilities	$99,382			
G40 - Site Electrical Utilities	$267,500			
G60 - Other Site Construction				
Insert Row Here				
Sub TOTAL	**$1,389,937**	**1.0490**	**$1,458,044**	
2) Related Project Costs				
Offsite Improvements				
City Utilities Relocation				
Parking Mitigation				
Stormwater Retention/Detention				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.0490**	**$0**	
3) Facility Construction				
A10 - Foundations	$357,489			
A20 - Basement Construction	$0			
B10 - Superstructure	$961,958			
B20 - Exterior Closure	$1,390,640			
B30 - Roofing	$422,065			
C10 - Interior Construction	$1,840,394			
C20 - Stairs	$65,960			
C30 - Interior Finishes	$1,416,778			
D10 - Conveying	$30,000			
D20 - Plumbing Systems	$609,974			
D30 - HVAC Systems	$2,829,010			
D40 - Fire Protection Systems	$256,716			
D50 - Electrical Systems	$2,773,658			
F10 - Special Construction	$0			
F20 - Selective Demolition	$542,550			
General Conditions	$2,314,504			
Bonds & Insurance	$259,750			
GC Fee	$1,010,139			
Insert Row Here				
Sub TOTAL	**$17,081,585**	**1.0983**	**$18,760,705**	
4) Maximum Allowable Construction Cost				
MACC Sub TOTAL	**$18,471,522**		**$20,218,749**	

	$421		*$461 per GSF*	
	This Section is Intentionally Left Blank			
7) Owner Construction Contingency				
Allowance for Change Orders	$1,847,152			
Other				
Insert Row Here				
Sub TOTAL	**$1,847,152**	**1.0983**	**$2,028,728**	
8) Non-Taxable Items				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.0983**	**$0**	
9) Sales Tax				
Sub TOTAL	**$1,889,637**		**$2,069,015**	
CONSTRUCTION CONTRACTS TOTAL	**$22,208,311**		**$24,316,492**	

Green cells must be filled in by user

Cost Estimate Details

Equipment					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Equipment					
E10 - Equipment	$304,000				
E20 - Furnishings	$1,000,000				
F10 - Special Construction	$300,000				
Other Tech Equipment					
Insert Row Here					
Sub TOTAL	**$1,604,000**		**1.0983**	**$1,761,674**	
2) Non Taxable Items					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.0983**	**$0**	
3) Sales Tax					
Sub TOTAL	**$149,172**			**$163,836**	
EQUIPMENT TOTAL	**$1,753,172**			**$1,925,510**	

Green cells must be filled in by user

Cost Estimate Details

Artwork					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Artwork					
Project Artwork	$0				0.5% of total project cost for new construction
Higher Ed Artwork	$160,838				0.5% of total project cost for new and renewal construction
Other					
Insert Row Here					
ARTWORK TOTAL	**$160,838**		**NA**	**$160,838**	

Green cells must be filled in by user

Cost Estimate Details

Project Management					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Agency Project Management					
Agency Project Management	$1,056,209				
Additional Services					
TESC Management / Administration					
Insert Row Here					
Subtotal of Other	*$0*				
PROJECT MANAGEMENT TOTAL	**$1,056,209**		**1.0983**	**$1,160,035**	

Green cells must be filled in by user

Cost Estimate Details

Other Costs					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
Mitigation Costs					
Hazardous Material Remediation/Removal	$323,333				
Historic and Archeological Mitigation	$100,000				
Permit and Plan Check	$210,000				
LEED Registration	$5,000				
Insert Row Here					
OTHER COSTS TOTAL	**$638,333**		**1.0490**	**$669,612**	

Green cells must be filled in by user

C-100(2022)
Additional Notes

Tab A. Acquisition
Insert Row Here

Tab B. Consultant Services
Insert Row Here

Tab C. Construction Contracts
Insert Row Here

Tab D. Equipment
Insert Row Here

Tab E. Artwork
Insert Row Here

Tab F. Project Management
Insert Row Here

Tab G. Other Costs
Insert Row Here

Overarching Criteria: Degree Totals and Targets Template

Project name:	SEM I Renovation Project	CBS/OFM Project #:	30000125
Institution:	The Evergreen State College	Scoring category:	Renovation - Major
Campus/Location:	Olympia, Washington		

		Bachelor degrees	Bachelor degree's in high-demand fields	Advanced degrees
2020-21 Public Four-Year Dashboard		670	146	81
Additional degrees generated by project		90	20	10
Projected degrees with building project	a	760	166	91
Projected growth above 2020-21 actual degrees		13.4%	13.7%	12.3%
Number of degrees targeted in 2023	b	400	136	104
Projected degrees as % of 2023 target	b/a =	52.6%	81.9%	114.3%
	Score:	**2**	**1**	**0**

Comments:

Appendix C.

Availability of Space/Campus Utilization Template

Project name:	Seminar I Renovation	CBS/OFM Project #:	30000125
Institution:	The Evergreen State College	Scoring category:	Renovation - Major
Campus/Location:	Olympia		

Enrollment

2021 fall on-campus student FTE:	1,716	Expected 2022 fall on-campus student FTE:	1,725
		% increase budgeted:	0.52%

Enter the average number of hours per week each for (a) classroom seat and (b) classroom lab is expected to be utilized in Fall 2022 for the campus where the project is located.

(a) General University Classroom Utilization	
Fall 2021 Weekly Contact Hours	29,999
Multiply by % FTE Increase Budgeted	0.52%
Expected Fall 2022 Contact Hours	30,156
Expected Fall 2022 Classroom Seats	3,768
Expected Hours per Week Utilization	**8.0**
HECB utilization standard (hours/GUC seat)	22.0
Difference in utilization standard	-63.6%

(b) General University Lab Utilization	
Fall 2021 Weekly Contact Hours	12,408
Multiply by % FTE Increase Budgeted	0.52%
Expected Fall 2022 Contact Hours	12,473
Expected Fall 2022 Class Lab Seats	1,720
Expected Hours per Week Utilization	**7.3**
HECB utilization standard (hour/GUL seat)	16.0
Difference in utilization standard	-54.7%

If the campus does not meet the 22 hours per classroom seat and/or the 16 hours per class lab HECB utilization standards, describe any institutional plans for achieving the utilization standard.

The COVID-19 pandemic caused The Evergreen State College to significantly alter offerings to support numerous public health concerns which necessitated the transition to teach in a hybrid model. Many teaching hours since March 2020 were provided remotely to balance public health with a need to support student's educational needs. Current enrollment challenges coupled with COVID-19 impacts mean that numbers provided in Appendix X do not accurately reflect uninterrupted classroom and laboratory space utilization. However the College is working to transition towards full time in person teaching and implementing new strategic measures to increase student recruitment and retention. The College's unique pedagogy and structure does not lend itself easily to the calculations for utilization. The utilization of

Reasonableness of Cost Template

Project name:	Seminar 1 Renovation	CBS/OFM Project #:	30000125
Institution:	The Evergreen State College	Scoring category:	Renovation - Major
Campus/Location:	Olympia		

	Construction Begin	Construction End	Construction mid-point	Escalation Multiplier
Construction mid-point:	September-23	September-25	September-24	1.3495

MACC from C-100: $18,471,522

	Expected MACC/GSF in 2019	Expected MACC/GSF	GSF by type	Expected MACC
Classrooms	$405	$547	25,995	$14,207,902
Instructional labs	$397	$536		$0
Research labs	$545	$735		$0
Administration	$406	$548	8,511	$4,663,282
Libraries	$340	$459	9,377	$4,302,570
Athletic	$385	$520		$0
Assembly, exhibit and meeting rooms	$428	$578		$0
			43,883	$23,173,754

C-100 to expected MACC variance: 80%

Score: 10

Program Related Space Allocation Template

Project name: Seminar 1 Renovation

CBS/OFM Project #: 30000125

Institution: The Evergreen State College

Scoring category: Renovation - Major

Campus/Location: Olympia

Enter the assignable square feet for the proposed project for the applicable space types:

Type of Space	Points	Assignable Square Feet	Percentage of total	Score [Points x Percentage]
Instructional space (classroom, laboratories)	10	9,145	20.84	2.08
Research space	2		0.00	0.00
Office space	4	2,994	6.82	0.27
Library and study collaborative space	10	3,299	7.52	0.75
Other non-residential space	8	7,402	16.87	1.35
Support and physical plant space	6	21,043	47.95	2.88
Total:		**43,883**	**100.0**	**7.34**

Appendix F.

IA Project #22201.00
TESC Project #

The Evergreen State College - Seminar 1 Renovation
Program Space List

Effeciency of Space Allocation Table

Academic & Staff	QTY	ASF Per Station	FEPG Standard	Meets Standard	Comment
Seminar Classroom (Large Group 50 Person)	3	50	16-26	Y	
Seminar Classroom (Small Group 20 Person)	5	20	16-26	Y	
Semniar Classroom (Focus Group 4-5 Person)	4	5	16-26	Y	
Conference Room	2	300	341	Y	
Faculty Offices	2	120	140	N	Falls below guideline, but meets programing needs
Staff Offices	4	120	120	Y	
Student Assistants	4	192	140/4	Y	

The Evergreen State College
Seminar 1 Building Rehabilitation
Revised Pre-Design Historic Preservation Statement

By Brian Rich, Richaven Architecture & Preservation
August 4, 2022

Project Data

This proposed project constitutes an undertaking because it is a Washington State funded rehabilitation of a building determined to be eligible to the National Register of Historic Places by the Washington Department of Archaeology and Historic Preservation in 2016.

This project is subject to the Governor's Executive Order 21-02 review process reflecting the Governor's the commitment that impacts to cultural resources must be considered as part of any state funded project or investment. The GEO 21-02 review process is applicable to all state agencies receiving funding through the capital budget. Additional Regulatory Framework information and Other Related Regulations are TBD. Environmental Reviews Requirements (NEPA, SEPA, etc.) are TBD.

Project Location Information

The Evergreen State College Seminar 1 Building Rehabilitation
2700 Evergreen Parkway NW, Olympia, WA 98505

Please see the attached completed EZ-1 form for additional information.

Contact Information

State Agency:

The Evergreen State College
2700 Evergreen Parkway NW, Olympia, WA 98505
TESC Construction Project Manager: William Ward (wardw@evergreen.edu, (360) 867-6115)

Architect:

Integrus Architecture
117 S. Main St., Suite 100, Seattle, WA 98104
Phone: 206.628.3137
Principal in Charge: Becky Barnhart (bbarnhart@integrusarch.com)
Project Manager: Sam Shafer (sschafer@integrusarch.com)
Senior Design Lead: Matthew Bissen (mbissen@integrusarch.com)

Historic Architect

Richaven Architecture & Preservation
9000 23rd Ave NW, Seattle, WA 98117
Phone: 206.909.9866

Historic Architect: Brian Rich (brian@richaven.com)

Description of Existing Site and Building:

Located at 2731 McCann Plaza NW, the Seminar I building anchors the northwest corner of the campus core. This building is designed in the Brutalist style of architecture similar to other mid-century buildings on campus. Historic character-defining features include:

- L-shaped footprint
- Monumental massing
- Horizontal emphasis
- Asymmetrical composition
- Geometric themes of triangles, squares and rectangles
- Use of recessed, angled and projecting elements to create solids and voids
- Exposed concrete structure as cladding, with varying textures and finishes
- Metal framed windows slightly recessed in exterior walls
- Concrete and brick paver floor treatments and exterior walkways
- Loading dock

The exterior of the three-story concrete building exhibits an essentially L-shaped footprint rising on a poured, reinforced concrete foundation. The horizontal massing is punctuated with recessed elements and geometric, irregular openings and voids. Nearly solid concrete wall expanses are punctuated with regular fenestration. A recessed, exterior corridor provides weather protected circulation along the west half of the north facade.

The reinforced concrete structure is evident on the exterior of the building. The rough concrete cladding exhibits narrow, vertical board forms with wood grain. This is interrupted by smooth, inset belt-courses between stories. The angled walls and recessed portions give the massing a dynamic quality. A flat roof with parapet caps the building.

The main entrances, one per wing, are located facing each other in the open air pass-through between the wings. A small, recessed concrete loading dock accesses the basement at the north end of the east façade. A paved surface parking lot abuts the loading dock and the north end of the north wing. Anodized, bronzed aluminum window frames are used on all elevations. With the exception of ribbon windows at the junction of the two wings, almost all of the windows are individually set, as single or one-by-one sashes with a rectangular lite over top. Metal ventilation grilles, such as the large one north of the loading dock, allow air flow to/from the building.

On the interior, the Seminar Building is divided into a north and a south wing filled with numerous small offices, work and conference rooms, and seminar rooms. A partial sub-basement is present under the north wing and contains primarily mechanical rooms. At the first floor, the south and north wings are separated by the open-air pass-through. At the second and third floors, the two wings are seamlessly connected on the interior, denoted on the exterior with ribbon windows. Internal stairwells are located at the northwest corner of the north wing and the northeast corner of the south wing. There is one exterior staircase, connected at the west end of the south wing. An elevator is located adjacent to the south wing's internal stairwell.

Alterations:
The Seminar I Building retains a high level of integrity. Alterations since the original construction are minimal on the exterior and extensive the interior. The original cladding is present and visible. The original windows are extant, as is the original plan. Previous alterations include:

- 1991 Alterations to the parking area and retaining walls
- 2000 Police Services and Health and Counseling Center Remodel
- 2008 Elevator Rehabilitation: Modernization of the 4-stop traction elevator, including replacement of all elevator machine room equipment, replacement of all HVAC equipment, refurbishing of elevator cab finishes, lighting, controls, doors and operators, installation of seismic and fire protection equipment, and replacement of elevator landing finishes and controls and indicators.
- 2010 Roofing Replacement, including removal and replacement of roofing, insulation and all accessories.
- 2020 Fire Alarm System Fiber Network Upgrade, including panel upgrades, extension of the fire alarm system, and reprogramming of the fire alarm system.
- The addition of added metal railings at the parapets (date unknown)

Previous ground disturbing activities include the original construction of the building in 1974, including the basement and sub-basement, building foundations, building utilities and utilities tunnel, site paving, sidewalks, site stairs and ramps, and parking areas. No major ground disturbing activities have been undertaken since the original construction.

Original and Current Uses

Original use of the Seminar 1 Building includes small scale instruction, faculty offices, and campus administrative support. When originally designed and built, Seminar 1 was equipped with massive mechanical and electrical equipment intended to be the first phase of a two-phase building project. The second phase was never built, so the use of the space is highly inefficient.

Current uses of the building have come to include the College's Health and Counseling Center, Police Services, Parking Services, the Advancement Division's call center, and a multitude of unrelated offices. In addition, the building has served as surge space during other campus construction projects for temporary housing of classrooms, offices, etc.

Proposed Project Description

General
The Seminar 1 building rehabilitation will revitalize this original 1974 campus building to serve future students at Evergreen State College by providing state of the art police facilities, educational facilities and become a hub of student activity after years of decreasing activity and student activity in a design that features the historic building sensitively combined with historically compatible upgrades meeting the requirements of the Secretary of the Interior's Standards for Rehabilitation. Site improvements will provide improved connections to the campus spine and Red Square, the Indigenous Arts Campus, and

the service parking and access. The exterior of the building will be rehabilitated to meet current code requirements, including historically sensitive additions at each of the three main entries to the building will provide enclosed entry space while respecting the historic brutalist concrete structure.

This Substantial Alteration will accommodate current code requirements for energy, accessibility, and seismic while providing new compatible features including structural improvements, building envelope, and active building systems right-sized for the existing building and achieving significant sustainability improvements. The interior will be fully rehabilitated to meet current design requirements for existing uses and accommodate new compatible uses. The primary historic interior space, the primary stair A and elevator core will be preserved and key character defining interior features will be restored such as window sills and wood ceilings.

Site

Ground Disturbing Activities for the Seminar 1 rehabilitation will include excavation and installation of new utility connections, grading and paving at the new police parking area and entry, grading and foundations for the new Main entry and Indigenous Arts entry. The Gathering Terrace on the west side of the building will be removed and replaced with accessible designs that reflect the indigenous people's culture in colors and patterns and achieved with sympathetic materials. Landscape areas around the building will remove harmful understory plants and aim to improve the health of the historically significant evergreen trees with a biodiverse native plant palette.

Building Exterior

The board formed exterior concrete structural enclosure of the building will be preserved with minor repairs. Exterior enclosures and additions include the Main Entry Lobby, Indigenous Arts (west) entry, Police Services (north) entry to provide secure and enclosed entries into the building. Each entry respects the mass and volume of the historic building, allowing it to be understood behind and from inside the additions. The new entries will be built of materials echoing the current material palette in the building and in nearby similar Brutalist building designs. Intersections of new materials thoughtfully touch the existing building in a minimal manner for maximum reversibility and visibility of the historic structure.

To provide enclosed egress pathways, the outdoor hallways on the Terrace (west) side of the building will be enclosed with aluminum and glass walls differentiated from the concrete and set back to the interior side of the wall to express the rhythm of the concrete openings and structure.

Exterior windows on the building are primarily aluminum framed with clear glass and will be replaced with similar extruded aluminum windows that have an improved thermal performance. New window mullion widths, color and configurations will match the existing windows. Exterior wood doors with hollow metal frames and relites will be removed.

The existing membrane roofing (not original, installed in 2010) will be fully replaced with a new membrane roofing system, tapered insulation, sheet metal flashing and other accessories and will not change the profile of the roof or ability to see portions of it from the surrounding area.

Interior

The project includes removal non-character defining interior partitions and openings and installation of new interior partitions, door and interior window openings and finishes in both wings of the building.

Historic interior exposed concrete walls and brick floors will be retained, including brick pavers at some locations with the exception of a limited number of door openings in the concrete walls. The historic main stairway, including concrete stair runs and landings, wood ceilings, handrails and brick accents, and the light monitor over the stairway will also be retained.

New interior finishes include carpet in select locations combined with historic concrete floors. Ceilings within the classrooms and offices will be acoustical tile systems. In major circulation areas, ceilings will include linear wood plank systems spaced to allow visibility of the original historic concrete structure above. Specialty ceilings are required for some Police Services areas.

Interior doors and windows will include steel hollow metal frames with wood doors and relites consistent with the historic doors, frames and relites. Interior wood finish carpentry will retain the existing historic wood materials in situ as much as possible or replaced in-kind. New wood materials will reflect the Brutalist design intent for honesty of materials by using clear finished wood materials but differentiated through compatible changes of shape, configuration, fabrication and installation.

Active building systems, including Mechanical, electrical, plumbing, fire sprinkler systems, will be completely removed and replaced. New MEP/FP building systems will be concealed within walls, shafts, and above new acoustical and wood plank ceilings. The elevator cab will be rehabilitated but the remainder of the elevator system will be retained.

Alternatives Considered

The 2016 Pre-Design for this project considered four alternatives and concluded that rehabilitation of the existing building, including additions, would best serve the needs of the College while also respecting the historic character of the building and campus. These alternatives were re-examined in the current design phase. The alternative considered include:

Alternate 1 – Renovate within the Existing Shell Only:
This alternative included full renovation of Floors 1 through 3, and conversion of the Lower Ground Floor into an occupied floor housing Police Services with requisite sitework. This alternative was rejected as it did not satisfy the primary project mission of increasing large-scaled instructional spaces best aligned with TESC's unique pedagogy, specifically column-free interdisciplinary classroom/labs. In addition, this alternative resulted in the least net area for the Health and Counseling Center or unacceptable loss of instructional area.

Alternate 2 – Reconfigure the Building Structure to Provide Column-Free Interior Volumes:
As with the Alternate 1, this alternate also assumed full renovation of four building floors. However, this alternate studied the potential for column-free large-scale classroom/labs, as the core committee had a strong preference that instruction spaces are not interrupted by columns. In this Alternative, interior structure of the building was proposed to be removed and replaced but still would not yield the desired amount of column-free instructional area, therefore this Alternative was rejected.

Alternate 3 – Provide Column-Free Instructional Spaces Through Additions:
This alternate again explored the core committee's preference for column-free spaces by housing the three large-scale classroom/labs in clear-span additions at the Floor 1 level, resulting in a 15,000 GSF

addition. While the preferred concept from an issues resolution standpoint, this alternative was ultimately rejected as its cost premium over the Capital Budget Request proposed cost was simply too high, but a scaled down version with just a single column-free instructional space at greatly reduced added cost was incorporated into the proposed solution.

Alternate 3 – No Action
This alternative was rejected as it does not meet TESC's stated objective (as expressed in the Campus Master Plan) of improving its early facilities and increasing the campus inventory of interdisciplinary instructional spaces sufficiently sized to house two instructors and 50 students. Additionally, failure to improve Seminar I would:

- limit TESC's ability to recruit and retain quality faculty;
- eliminate Police Services' assurance that its facility will survive a major disaster.
- continue reliance on oversized, obsolete, and inefficient mechanical and electrical equipment.

Area of Potential Effect (APE)

Preliminary determination of the Area of Potential Effect (APE) includes the Seminar 1 Building and its immediate environs, including the west courtyard and north parking areas. In addition, the Indigenous Arts Campus area, the main circulation spaces (including Red Square) and western portion of the campus will also be included in the APE. The APE will be further refined through the course of design as impacts to the building and site area are better understood.

Historic Resources within the APE

A 2010 reconnaissance level survey determined that although the campus core, including Seminar 1, was less than 50 years old, it had exceptional significance for the unique history and educational approach of the College. In the 2016 intensive level Historic Property Inventory, the Seminar 1 Building was recommended as potentially eligible for listing to the National Register of Historic Places, both individually and as a contributing resource to Evergreen State College historic district, under Criteria A and C with Criterion Consideration G (less than 50 years of age) at the statewide level of significance. In addition, several buildings were determined to be individually eligible for listing, including the Seminar 1 Building. Both the campus and the Seminar Building individually are significant under Criterion A for their association with post-World War II higher education in Washington. Significance under Criterion C stems from the campus' consistently high-quality expressions of Brutalist architecture. In addition to the individual buildings, campus features that are historically significant include vegetation (evergreen trees and native undergrowth, shrubs and grass areas) and circulation (roads and pathways, open space and gathering spaces).

Preliminary determination of the historic resources that will be directly impacted by this project include the Seminar 1 building and immediate site area, including historically significant landscape, paving and site features. Indirect impacts of the project include the buildings and site areas on the west end of the campus. Included in the indirect impact area are several building dating to the original construction of the campus, plaza and circulation areas, forested and landscaped site areas.

Determination of an Undertaking

The proposed project appears to meet the requirements for review by the Washington Department of Archaeology and Historic Preservation as indicated in Governor's Executive Order 21-02. The project is a Washington State funded project using pass-through funding to deliver a construction project. The project includes the rehabilitation of a building and site that was determined to be eligible for listing on the National Register of Historic places by the Washington Department of Archaeology and Historic Preservation in 2016. Therefore this project is subject to state review, including tribal consultation, as well as negotiation and mitigation to identify appropriate resolution of adverse effects, should they be determined to have occurred.

Impact to Historic Resources

Direct Impacts to Historic Resources primarily focus on visual impacts of the alterations to the Seminar 1 Building and are evaluated on the basis of compliance with the Secretary of the Interior's Standards for Rehabilitation.

The proposed design of the Rehabilitation of the seminar 1 Building meets all of the Standards for Rehabilitation. The use of the building upon completion of this project will be largely the same as the existing uses (academic classrooms and offices, campus police services with the addition of academic spaces for the Indigenous Arts program) and require minimal alterations to historic building fabric to achieve. The alterations respect the historic building materials and seek to repair deteriorated historic materials while introducing new materials in patterns, sizes, and colors that reflect the influence of the existing Brutalist design but avoid the sense that they are, themselves, historic. No ground disturbing activities are expected to impact archaeological resources on the site due to prior disturbance during the original construction of the building.

The proposed additions and alterations to the Seminar 1 Building are designed to compliment the existing Brutalist-designed building in size, massing, and volume as well as materials, rhythms, and intended to have a minimal impact to the historic building fabric. Additions are limited to two stories and express the continuity of the board formed concrete behind, though, and inside of them to allow a complete understanding of the historic structure. The materials of the additions (glass and aluminum walls, wooden structure) play off of the historic building materials and adjacent brutalist buildings. The new wood and glass materials at the entry vestibules reflect the rhythm and patterns of the historic building materials while new aluminum and glass windows will faithfully reflect the original window configurations as well as size and width of the mullions. Site improvements are intended to extend the health of significant trees while restoring native understory vegetation while providing for full accessibility of the building, individuated entries for major occupants of the building.

The additions and alterations will be completed in a manner to provide minimal damage to existing historic materials and allow retention of the form and integrity of the historic building.

Integrity

Both before and after the project, the Seminar 1 building will exhibit and maintain a high level of integrity. Of the 7 Aspects of Integrity required to designate historic buildings, only some aspects of design, materials, workmanship, and feeling will be affected. Design, materials, and workmanship will lose some integrity due to the materials removed and replaced in this project. Feeling will be changed through the addition of the entry vestibules, though significant portions of the exterior and interior Brutalist design are retained.

Conclusion

In conclusion, the proposed project appears to comply with the Secretary of the Interior's Standards for rehabilitation and no adverse effect is anticipated.

DAHP USE ONLY
Date Received:
DAHP Log #:
Reviewer(s):
☐ ARCHY ☐ BEU

DEPT OF ARCHAEOLOGY + HISTORIC PRESERVATION

EZ-1 FORM

Request to initiate consultation for Governor's Executive Order 21-02 (GEO 21-02) projects

GEO 21-02

New Consultation? ☐ YES ☐ NO ☐ ADDITIONAL INFORMATION PROVIDED PER REQUEST

Questions? *Contact DAHP at 2102@dahp.wa.gov or (360) 586-3065. You may also find answers to your questions online at www.dahp.wa.gov/2102.*

Please be aware that this form may only initiate consultation. For some projects, DAHP may require additional information to complete our review. A historic property inventory form or archaeological survey may need to be completed by a qualified cultural resource professional.

NOTE: To save this fillable form you must fill it out in Adobe Acrobat or use the PRINT to PDF function in Acrobat Reader. In Reader choose File > Print and choose Adobe PDF as the printer. The file will save to your computer.
NOTE: The form will automatically adjust to fit all your information.

SECTION 1: PROJECT INFORMATION

Project Title: TESC Seminar 1 Rehabilitation

Property Name: *if applicable* The Evergreen State College

Project Address: 2700 Evergreen Parkway NW

Provide 1-2 sentence summary of the project.

Rehabilitation of existing 1974 classroom, office and campus police building with minor additions. This project is a Substantial Alteration.

City / State / Zip: Olympia, WA 98505

County: Thurston

Township / Range / Section: *leave blank if unsure* T18R02W06

SECTION 2: PROJECT DESCRIPTION

Project includes (check all that apply): ☐ NEW CONSTRUCTION ☐ DEMOLITION ☑ GROUND DISTURBANCE ☑ REHABILITATION / RENOVATION ☐ ACQUISITION

Are any buildings 45 years or older going to be impacted in any of the above ways by this project? ◉ YES ○ NO ○ NOT SURE

☐ Check here if the project involves multiple resources. If so, attach a table including all information in Sections 1 and 2 for each resource.

If you do not know the age of the building(s) this is usually available through the county assessor web parcel search. To find this page put in the name of the county, Washington assessor property search into your web search engine of choice. I.e.. Adams county Washington assessor property search.

Are there any Federal funds, lands, permits, or licenses involved in/required by this project? ○ YES ○ NO ○ NOT SURE If Yes, what Federal Agency?

Have you already received a grant? ○ YES ○ NO, WE ARE APPLYING NOW ○ NO, WE HAVE NOT APPLIED YET ◉ NOT SURE

SECTION 3: STATE AGENCY INFORMATION

Leave blank if unknown

State Agency: The Evergreen State College

Grant / Loan Program Name: n/a

Direct Appropriation? ☑

Contact Person: William Ward

Phone: 360.867.6115

e-mail: wardw@evergreen.edu

Funding biennium? 2023 - 2025

Requested grant / loan amount: n/a

Total project amount: 32,000,000

SECTION 4: CONTACT INFORMATION

If different from State Agency contact person.

Submitter Name: Brian Rich

Submitter Organization: Richaven Architecture & Preservation

Submitter Address: 9000 23rd Ave NW

City / State / Zip: Seattle, WA 98117

Submitter Phone: 206.909.9866

Submitter e-mail: brian@richaven.com

DAHP DETERMINATION (DAHP USE ONLY)

☐ **EXEMPT** from GEO 21-02 review.

☐ The project will have an **ADVERSE IMPACT** on historic properties.

☐ There are **NO HISTORIC PROPERTIES IMPACTED** by the proposed project.

☐ DAHP requires **ADDITIONAL INFORMATION** in order to complete review (see attached).

DAHP REVIEWER

☐ The project will have **NO ADVERSE IMPACT** on historic properties.

☐ SURVEY REQUIRED
☐ MONITORING REQUIRED

☐ INADVERTENT DISCOVERY PLAN REQUIRED

DATE

DEPT OF ARCHAEOLOGY + HISTORIC PRESERVATION

Instructions: **Please describe the type of work to be completed. Be as detailed as possible to avoid a request for additional information. Be sure to describe all ground disturbing activities in the appropriate box below and provide photos of areas of work.**

SECTION 5: ATTACHMENTS

Please email completed form and all attachments to:
2102@dahp.wa.gov

- ✔ MAP - Be sure to show the project boundary and location of property(ies). *See Section 7 on Page 3 for optional template. May also submit online through WISAARD using eAPE.*
- ✔ DESCRIPTION / SCOPE OF WORK - Describe the project, including any ground disturbance. *See Section 6 for an optional template.*
- ✔ SITE PLAN / DRAWINGS - Indicate location and dates of resources, proposed improvements and ground disturbance, etc.
- ✔ PHOTOGRAPHS - Attach digital photographs showing the project site, including images of all resources. *Photos submitted through WISAARD may suffice.*

SECTION 6: ADD'L PROJECT INFORMATION

Provide a detailed description of the proposed project:

Site: Some areas of ground disturbance will occur to create parking, pathways, plazas and minor additions in areas of previously disturbed soils. Anticipated depth of disturbance is 2 to 4 feet. A new sallyport (fenced area for transferring people into the campus police holding rooms) will be added. Exterior: The Brutalist concrete exterior walls will be retained. Windows and doors will be replaced with new materials matching current mullion patterns and sizes. Minor additions include: a new entry lobby and enclosure of covered walkway areas; enclosure of the west stair and entry vestibule addition; creating a new entry at the subbasement level for the police to enter their part of the building. Interior: The interior of the building will be demolished with the exception of the primary stair and elevator shaft areas. Interior spaces will be renovated to allow for accommodating new uses within the building. Existing mechanical, electrical, plumbing, fire protection and other building systems will be completely replaced. See detailed description for further information.

Describe the existing project site conditions (include building age, if applicable):

The site areas around the building include brick paver plazas, areas of shrubs and mature trees on all sides of the building. The building is sunk 2 stories into the ground allowing for parking lot access at the basement, The existing Seminar 1 Building was constructed in 1974 in a Brutalist concrete design. The exterior is board formed concrete with hollow metal steel/extruded aluminum and glass punched openings for windows and doors. The brick paving extends into the covered entry areas within the building. On the interior, the board formed concrete pattern continues at the main stair and elevator shaft along with inset brick and wood handrails. Room partitions are constructed of metal stud and drywall framing and have been altered over the life of the building. See detailed description for further information.

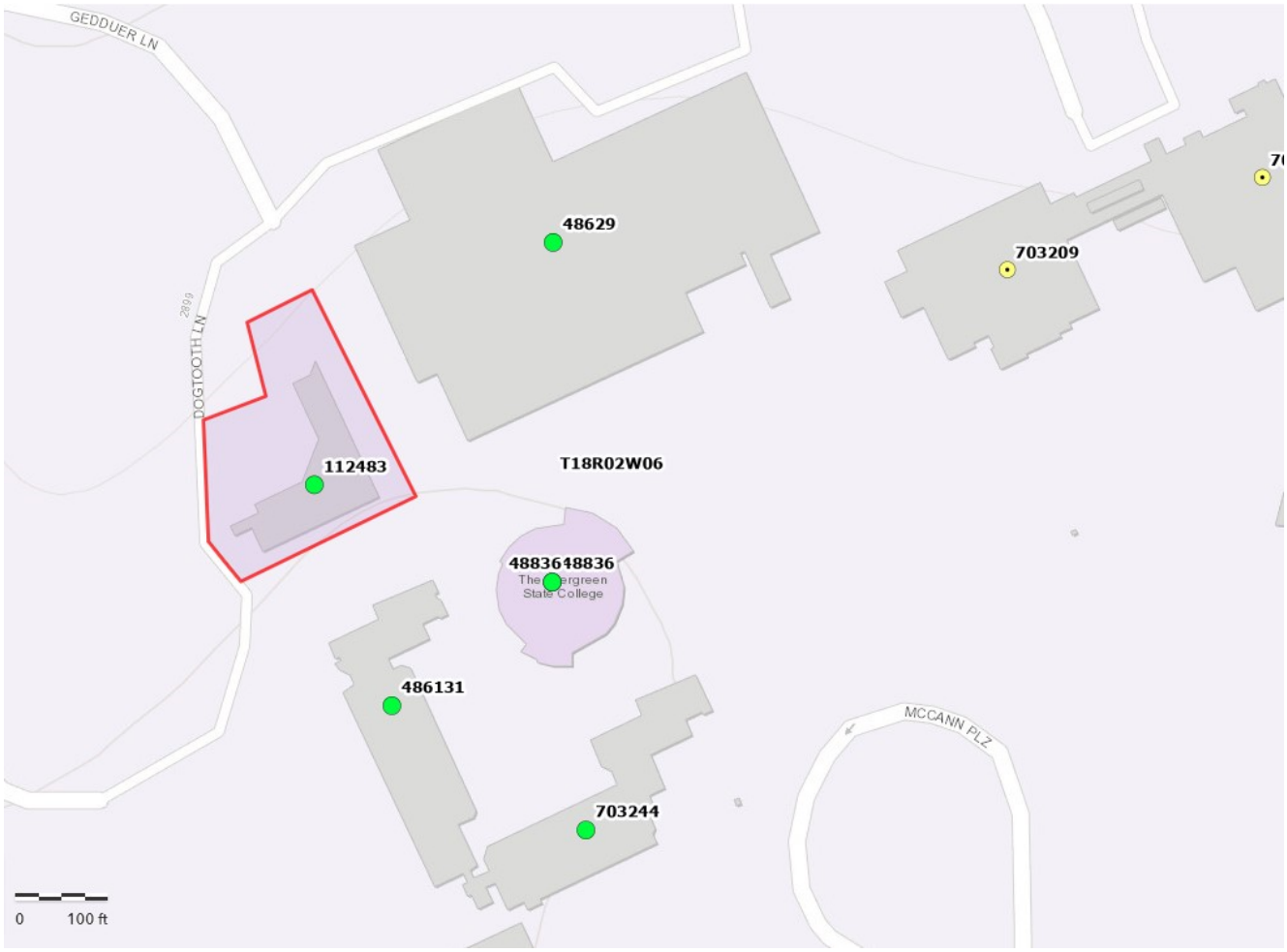
If there are ground disturbing activities proposed, describe them *including the approximate depth of ground disturbance*:

There are 3 areas of ground disturbance anticipated in this project. The site area has been previously disturbed to construct the building, including excavation down approximately 25 feet for the sub-basement level. In the Outdoor Learning area, exiting paving and benches will be removed and a new plaza, accessible ramps, and stairs will be developed. Ground disturbance: +/- 2 feet. The north entry (campus police entry) will require new paved areas and enclosed lobby areas. Ground disturbance: +/- 4 feet. The main entry addition will disturb previously disturbed ground at the main plaza area. Ground disturbance: +/- 4 feet. The west entrance vestibule addition will disturb previously disturbed ground at the main plaza area. Ground disturbance: +/- 4 feet. See detailed description for further information.

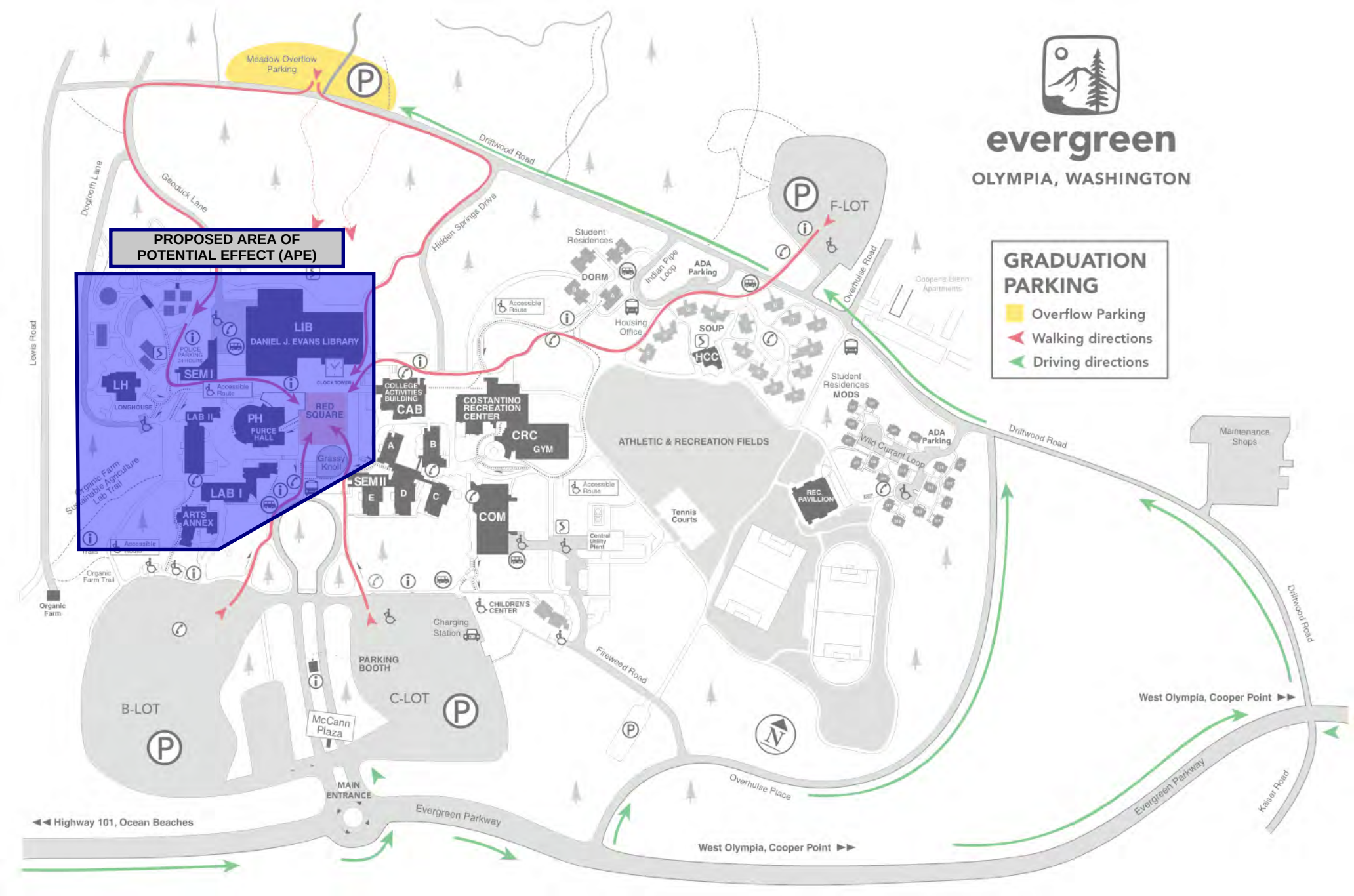
DEPT OF ARCHAEOLOGY + HISTORIC PRESERVATION

Instructions: Please attach a MAP clearly showing the project area. Please click here for tutorial on creating a map if you don't have one clearly showing the project area.

SECTION 7: MAP / Area of Potential Effect



CLICK IN THE BOX ABOVE TO ADD A MAP
MAP MUST BE IN JPG FORMAT


evergreen
OLYMPIA, WASHINGTON
PROPOSED AREA OF POTENTIAL EFFECT (APE)
GRADUATION PARKING
Overflow Parking
Walking directions
Driving directions
Meadow Overflow Parking
Driftwood Road
Geoduck Lane
Dogtooth Lane
Hidden Springs Drive
Lewis Road
F-LOT
Overhulse Road
Student Residences
DORM
Indian Pipe Loop
ADA Parking
Housing Office
SOUP
HCC
Coppens Glenn Apartments
Student Residences MODS
Wild Currant Loop
ADA Parking
Maintenance Shops
LIB
DANIEL J. EVANS LIBRARY
POLICE PARKING 24 HOURS
SEM I
CLOCK TOWER
LH
LONGHOUSE
LAB II
PH
PURCE HALL
RED SQUARE
Grassy Knoll
LAB I
ARTS ANNEX
Organic Farm Sustainable Agriculture Lab Trail
Organic Farm Trail
Organic Farm
COLLEGE ACTIVITIES BUILDING
CAB
COSTANTINO RECREATION CENTER
CRC
GYM
SEM II
A
B
C
D
E
COM
Central Utility Plant
ATHLETIC & RECREATION FIELDS
Tennis Courts
REC. PAVILLION
CHILDREN'S CENTER
Charging Station
Fireweed Road
PARKING BOOTH
B-LOT
C-LOT
McCann Plaza
MAIN ENTRANCE
Evergreen Parkway
Overhulse Place
Kaiser Road
◄◄ Highway 101, Ocean Beaches
West Olympia, Cooper Point ►►
West Olympia, Cooper Point ►►
Driftwood Road
Accessible Route

Appendix H.

LEED v4 for BD+C: New Construction and Major Renovation

Project Name: TESC Seminar I Renovation

Date 7/12/2022

Y	?	N			
1			v4.1	Integrative Process	1

6	2	22	Location and Transportation		16
		16	Credit	LEED for Neighborhood Development Location	16
	1		Credit	Sensitive Land Protection	1
		2	Credit	High Priority Site	2
2		4	Credit	Surrounding Density and Diverse Uses	5
2			v4.1	Access to Quality Transit	5
1			v4.1	Bicycle Facilities	1
	1		v4.1	Reduced Parking Footprint	1
1			v4.1	Green Vehicles	1

7	3	0	Sustainable Sites		10
Y			Prereq	Construction Activity Pollution Prevention	Required
1			Credit	Site Assessment	1
2			v4.1	Site Development - Protect or Restore Habitat	2
1			v4.1	Open Space	1
2	1		v4.1	Rainwater Management	3
	2		Credit	Heat Island Reduction	2
1			Credit	Light Pollution Reduction	1

5	4	2	Water Efficiency		11
Y			Prereq	Outdoor Water Use Reduction	Required
Y			v4.1	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
2			Credit	Outdoor Water Use Reduction	2
2	2	2	v4.1	Indoor Water Use Reduction	6
	2		Credit	Cooling Tower Water Use	2
1			Credit	Water Metering	1

18	10	4	Energy and Atmosphere		33
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
6			Credit	Enhanced Commissioning	6
8	6	4	Credit	Optimize Energy Performance	18
1			Credit	Advanced Energy Metering	1
1			Credit	Demand Response	2
	3		v4.1	Renewable Energy Production	3
	1		Credit	Enhanced Refrigerant Management	1
2			Credit	Green Power and Carbon Offsets	2

7	6	0	Materials and Resources		13
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
2	3		v4.1	Building Life-Cycle Impact Reduction	5
1	1		v4.1	Building Product Disclosure and Optimization - Environmental Product Declarations	2
1	1		v4.1	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
1	1		v4.1	Building Product Disclosure and Optimization - Material Ingredients	2
2			v4.1	Construction and Demolition Waste Management	2

Y	?	N			
12	4	0	Indoor Environmental Quality		16
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			v4.1	Environmental Tobacco Smoke Control	Required
2			Credit	Enhanced Indoor Air Quality Strategies	2
3			v4.1	Low-Emitting Materials	3
1			Credit	Construction Indoor Air Quality Management Plan	1
2			Credit	Indoor Air Quality Assessment	2
1			Credit	Thermal Comfort	1
1	1		Credit	Interior Lighting	2
1	2		v4.1	Daylight	3
	1		Credit	Quality Views	1
1			v4.1	Acoustic Performance	1

2	4	0	Innovation		6
1	4		Credit	Innovation	1
1			Credit	LEED Accredited Professional	1

4	0	0	Regional Priority		4
1			Credit	Enviornmental Prouduct Declarations	1
1			Credit	Demand Response	1
1			v4.1	Renewable energy	1
1			v4.1	Sourcing of Raw Materials	1

62	33	28	TOTALS	Possible Points:	110

Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80 to 110

Appendix I.

Code Compliance & Analysis

The following codes, regulations, and standards apply to this project. The analysis and summary provided below are based on the current adopted versions of these codes at the time of this submittal. The final code compliance will be based on versions of these codes which are in effect at the time of building permits are obtained, with some modifications likely to be required.

2018 INTERNATIONAL BUILDING CODE (IBC) & WASHINGTON STATE AMENDMENTS
2018 Washington State Energy Code (WSEC)
2018 International Mechanical Code (IMC)
2018 International Fire Code (IFC)
2018 Uniform Plumbing Code
National Electric Code (NEC)
Standard for the Installation of Sprinkler Systems (NFPA)
National Fire Alarm and Signaling Code (NFPA)
Accessible & Usable Buildings and Facilities (ICC A117.1)
Safety Code for Elevators and Escalators (ANSI)
LEED v4.0 -.1 (USGBC)
International Association of Chiefs of Police (IACP)
International Property and Evidence Standards and American Correctional Standards.

Note: All Thurston County amendments to the above reference codes will be applied.

Building Code Analysis

The summary code analysis below indicates there are no significant regulatory impediments to the proposed project. At the time of Building Permit submittal, a complete code analysis will be finalized and submitted to the local jurisdiction (Thurston County) for review.

Occupancy Type – Seminar I will be a mixed occupancy with the primary use being Business Group B which includes Higher Education Facilities as well as Police Services. The large assembly seminar classrooms will be classified Assembly Group. The storage areas which are associated to a Group B use will be classified as S-1. 1-hour separation walls will be required at select locations to separate adjacent Group A-3 and Group B spaces. (Sections 302, 303,304, 311, and 508)

Building Construction Type – The existing building is constructed of non-combustible materials and will be classified as Type-III B construction and fully sprinklered. (Section Chapter 6)

Building Heights and Areas – Type III-B construction for Group B occupancies allows up to 4-stories in height within a 75 feet height envelop. For the Group A-3 occupancies, the code allows up to 3 stories within a 75 foot envelop. The existing building is 55’ in height and 4-stories with no planned additions to overall height. The planned location and construction of the A-3 uses within the existing building will comply with the 3-story regulation.

The regulations for a mixed Group B and Group A-3 occupancies building allow for the construction of a 114,000 sf 4-story building. The existing building with proposed minor additions will be 43,800 sf and 4 stories and comply with the area envelop. (Sections 504 and 506)

Zoning Code Analysis

Seminar I falls under the jurisdiction of Thurston County. As project entails the renovation of an existing building without a change of use, we anticipate no issues affecting land use approval.

Sustainable Design and LEED

The project will be designed to meet LEED v4.1 NC Silver certification with LEED Gold as a goal identified by TESC leadership, facilities, and design team. An additional project goal has been set to eliminate or significantly reduce operational carbon by removing the building from the existing fossil fuel energy source for heating, cooling, and building services.

Appendix J.

Facility Condition Survey Summary

Enter assessments on the attached systems assessment sheets. The ratings will transfer automatically to this sheet. Data must be entered for each of the shaded fields.

Institution ID		Agency ID number from OFM FIS
Institution Name		Agency name from OFM FIS
Site / Campus ID	376	SiteID; From OFM FIS Site
Site name	Seminar I	Name of site. From OFM FIS Site
Facility ID	11	Facility ID # from OFM FIS
Facility Name	The Evergreen State College	Facility name from OFM FIS

Uniformat II Category	System Level II	Component Level III	Component Level III Score 1 - 5	System Level II Score 1 - 5
A. Substructure		Standard Foundations	2	2.4
		Slab on Grade	3	
B. Shell	Superstructure	Floor Construction	2	2
		Roof Construction	2	
	Exterior Closure	Exterior Walls	3	3.5
		Exterior Windows	4	
		Exterior Doors	4	
	Roofing	Roof Coverings	2	3.5
		Roof Opening	2	
		Projections	2	
C. Interiors	Interior Construction	Fixed and Moveable Partitions	3	3
		Interior Doors	3	
		Specialties	3	
	Staircases	Stair Construction	2	3
		Stair Finishes	3.5	
		Wall Finishes	3	3
		Floor Finishes	3	
		Ceiling Finishes	3	
D. Services	Plumbing	Plumbing Fixtures	4	4
		Domestic Water Distribution	4	
		Sanitary Waste	3	
		Rain Water Drainage	4	
		Special Plumbing Systems	4	
	HVAC	Energy Supply	3.5	3.5
		Heat Generating Systems	3	
		Cooling Generating Systems	3.5	
		Distribution Systems	3	
		Terminal and Package Units	4	
		Controls and Instrumentation	4	
		Special HVAC Systems & Equipment	3.5	
	Fire Protection	Fire Protection Sprinkler Systems	3	2.5
		Stand-Pipe and Hose Systems	3	
		Fire Protection Specialties	3	
		Special Fire Protection Systems	4.5	
	Electrical	Electrical Service and Distribution	3.5	3.5
		Lighting and Branch Wiring	4	
		Communication and Security Systems	4	
		Special Electrical Systems	4	
E. Equipment & Furnishings	Furnishings	Fixed Furnishings	3	3
		Moveable Furnishings (Capital funded only)	3	
F. Special Construction	Special Construction	Integrated Constr. & Special Constr. Systems	#REF!	0
		Special Controls and Instrumentation	3	
G. Building Siteworks	Site Improvements	Roadways		
		Parking Lots		
		Pedestrian Paving		
		Rain Water Drainage		
		Site Development		
		Landscaping		
	Site Civil / Mechanical / Electrical Utilities	Water Supply & Distribution Systems		
		Sanitary Sewer Systems		
		Storm Sewer Systems		

		Fuel Supply		
		Electrical Supply		
Total Score				3.35

Figure 1: TESC campus with Seminar I at lower left

SECTION 1 EXECUTIVE SUMMARY

Project Analysis

The Evergreen State College's Seminar I was completed in 1974 and anchors the northwest corner of Red Square. Its original uses – small-scale instruction, faculty offices, and campus administrative support – were largely supplanted as Evergreen's interdisciplinary program-based pedagogy took root and created preference for large-scale highly flexible classroom/lab environments. This advancement has directly contributed to the building's loss of purpose and its conversion to a secondary facility despite its prominent location at the ceremonial heart of campus. Seminar I was also intended to be the first phase of a much larger facility and its service spaces and equipment were sized to support the full build-out. As a result, Seminar I suffers from an exceptionally low net-to-gross efficiency (42 percent) and highly inefficient use of its (now obsolete) mechanical and electrical equipment.

The building currently houses the college's Health and Counseling Center, Police Services and affiliated Parking Services, the Advancement Division's call center, and miscellaneous unrelated offices, none of which fit well within the building's constraints. In recent years it has also served as surge space during campus construction projects. As its classroom spaces are too small for practical use, some have been leased to an international language school on a short-term basis. To return Seminar I to prominence and to re-set its support infrastructure to a scale commensurate with actual need we propose a full renovation of, and minor additions to, the facility. Work will include converting oversized mechanical spaces into occupied facilities. The central intent of this project is to return the building to primary use as an instructional facility.

Renovation and expansion of Seminar I is part of a long and deliberate effort to improve Evergreen's earliest campus buildings and is clearly articulated in the college's campus master plan. Beginning in 2007, Evergreen has successfully improved the Daniel J. Evans Library, Labs I and II, Art Science Annex, Communications Laboratory, College Activities Building (CAB), and most recently the Lecture Halls facility. Of the campus core buildings, quite literally, Seminar I is the only building that has not received any substantive improvement since its completion. Today it projects a dated and insular aura well out of step with the dynamic institution that surrounds it.

Program Analysis

During the predesign process the planning team met regularly with a core committee representing college leadership, program stakeholders, and Facilities Services. In addition, the team facilitated programming workshops with representatives for all current and prospective occupants and produced detailed functional and space requirements for each program. By contrast, the focus of core committee meetings was to verify programming conclusions and to determine how the needs of each program could best be distributed and organized within the available volume of Seminar I, and to decide the size and characteristics of each space necessary to meet the project objectives.

The proposed renovation and expansion of Seminar I will house flexible instructional spaces serving arts and science programs (including the Sustainable Design Program), a computer lab, faculty offices and studio/research spaces, an administrative suite for TESC's Reservation-Based Community-Determined Program, a convertible call center for the college's Advancement Division, offices and studio/research spaces in support of Longhouse programs, and operations and administrative facilities for Police Services and Parking Services.

The college is separately proposing design and construction of a stand-alone Health and Counseling Center in the 2017-19 biennium. This capital request derives from the compelling benefit seen in locating the Center in a location more easily accessed by vulnerable students and co-located with the Costantino Recreation Center (CRC), enabling a holistic approach to health and wellness. If this separate proposal is successful, the second floor of Seminar I will house instructional spaces, faculty/administrative offices, and informal learning areas. If not, the Health and Counseling Center will occupy the entire Floor 2 of Seminar I in lieu of the academic uses the college prefers for that location. Plan diagrams for both solutions are found in Section 8.

Site Analysis

The building occupies a prime location between Red Square and the future Indigenous Arts Campus. A key attribute of Seminar I is its sloped site. This feature should allow for excellent on-grade access to two floors, but today – other than a loading dock and one stairwell – the Lower Ground Floor is subterranean and used solely for mechanical/electrical equipment and storage. Through this project we propose to relocate all mechanical functions to an existing sub-basement and adapt the Lower Ground Floor for use by Police Services. Work associated with the Lower Ground Floor renovation include the addition of ADA-compliant on-grade access into the south wing from the west, development of secure transfer and police vehicle storage areas directly accessible to the campus road network, and construction of light wells to facilitate daylighting of newly occupied spaces.

All required utilities serve the existing facility through the campus tunnel system. Geotechnical and groundwater characteristics of the site are well-understood from its original development and present no known obstacle to the intended development.

There are no known hazardous materials on the proposed site and there have been no known past uses with potential to contaminate the site.

At the conclusion of construction, and accommodated in projected construction costs, the staging area north of the building on Geoduck Lane will be restored in the pursuit of LEED project goals and in accordance with planning documents for the adjacent future Indigenous Arts Campus.

Project Budget Analysis

The cost analysis provided herein details the estimated cost of the project based on concept-level drawings, renderings of intent, and outline specifications. The estimated construction cost is **$18,264,000** – less construction contingency and taxes – escalated to mid-point of construction (June 1, 2020), all of which we request be sourced from state appropriations. Estimated escalated total project cost is **$26,864,000** including design fees, artwork, commissioning, and FF&E.

Proposed construction type, systems, and quality are appropriate for a 50-year life institutional building. All costs are within the norms for similar projects in Thurston County.

Project costs anticipate a single phase of construction. There is adequate space available on site for construction staging and parking. The budget analysis accounts for requisite utilities improvements, the impact of LEED sustainability goals, and GC/CM project delivery. GC/CM was selected due to the complexity of the project, including a large number of stakeholders with highly varied programmatic needs [RCW 39.10.340 (1-5)]. Temporary relocation of building occupants in existing portable structures adjacent to the site (Police Services and Parking Services) or in campus surge space will be provided by the college using local resources.

Legislative Intent

In enacting Second Engrossed House Bill 1115 on June 30, 2015, the state government appropriated $400,000 for this pre-design study.

This bill identifies $23,718,000 for future design and construction of Seminar I. This amount, established from the original Capital Project Request submitted in September, 2014, was based on a renovation-only project with very limited sitework. As a result of this predesign process, the college has become convinced that project goals cannot be satisfactorily reached without modest additions to the facility and significant sitework. This added scope requires a modified budget as summarized above and described in detail in Section 5 and Appendix B. Costs remain reasonable for an academic facility.

Master Plan and Policy Coordination

This project is an identified priority in The Evergreen State College's "Campus Master Plan – 2014 Update" and continues the college's commitment to improvement of its earliest campus buildings (a commitment demonstrated by successfully completed improvements to other campus core facilities). The facility proposed herein fully

conforms to the policies, goals and objectives established by this long-range planning document.

The project also connects to another master plan priority, the renovation of the Costantino Recreation Center (CRC). This project went to the students for a vote in spring of 2015. Although the vote failed, results of student surveys and focus groups identified a strong desire to have the Health and Counseling Center located closer to residence halls (currently on the opposite side of campus) and co-located with the CRC in order to facilitate a holistic approach to wellness: mind, body, and soul.

Renovation of Seminar I also directly supports all six primary goals identified in the college's "Strategic Plan 2015-2020."

This project has been reviewed by DAHP and declared exempt from further review.

Facility Operations Analysis

Minor additions and the conversion to occupied space of the Lower Ground Floor and select covered exterior areas on Floors 1 and 2 will have little effect on TESC's gross building inventory but will increase by 12,300 gross square feet such operational costs as custodial services, maintenance & repair, and technology support. These added costs will be partially offset by savings from considerably more energy efficient mechanical and electrical systems. A renovated Seminar I will also be a far more capable facility, with more extensive and complex systems requiring operations and maintenance support.

The estimated additional cost to maintain and operate this building is **$16,859** per year (in 2017-2019 biennium dollars) including an additional 0.55 FTE for facilities maintenance and operations staffing. Maintenance and operations costs were estimated based upon TESC historical data and comparable state properties.

Project Diagrams and Drawings

Our predesign effort included development of concept-level plan and section diagrams. To communicate planning intent to as broad an audience as possible, the planning team also developed renderings depicting possible outcomes of planning decisions. Please see Section 8 for the complete set of concept diagrams and renderings.

Acknowledgments

The development of this program and predesign included many team meetings and programming sessions with key project stakeholders. This report is the culmination of an intensely interactive and collaborative effort. The planning team wishes to acknowledge the core participants for their dedication, creativity, and interest in this endeavor. The following individuals served on the core committee and played critical roles in developing the needs and goals of the building users, and helped distill those goals and needs into a plan for the renovation of Seminar I that supports each constituency at the expense of none:

The Evergreen State College:

	Jeanne Rynne	Director of Facility Services
	Azeem Hoosein	Asst. Director for Planning & Construction, Facility Services
	David Shellman	Construction Project Manager
	David McAvity	Academic Dean, Budget & Space – Faculty
	Susan Keefe	Space Analyst 1
	Andy Corn	Executive Associate to the VP for Student Affairs
	Tony Alfonso	Director, Computing & Communications
	Pamela Garland	Campus Police Sergeant
	Elizabeth McHugh	Director, Health & Counseling Center
	Michelle Pope	Manager, Visual Arts Ops
	Tina Kuckkahn-Miller	Director, Longhouse
	Sheryl Dorney	Manager, Conference Services
	Susan Seip	Supervisor, Parking Services
	Rob Rensel	Associate Director, Electronic Maintenance
Planning Team:		
	Ross Whitehead, AIA	Schreiber Starling Whitehead Architects
	Keith Schreiber, AIA	Schreiber Starling Whitehead Architects
	Brett Ingham, AIA	Schreiber Starling Whitehead Architects
	Riley Lacalli	Schreiber Starling Whitehead Architects
	Roz Estime	The Estime Group – Healthcare Planning
	Craig Stauffer, SE PE	PCS Structural Solutions – Structural
	Kevin Rothrock, PE	PCS Structural Solutions – Structural
	Audra Mackay, PE	Wood Harbinger – Mechanical
	Charlie Li, PE	Tres West Engineers – Electrical
	Sharon Kennedy	The Robinson Company – Cost Estimating

Figure 2: Seminar I from Red Square

SECTION 2 PROJECT ANALYSIS

2.1 PROJECT DESCRIPTION

Agency Name: The Evergreen State College

Agency Code: 376

Project Number: 30000125

Project Title: **Seminar I Renovation**

Agency Contact: Jeanne Rynne, Architect
Director of Facilities
Office of Facilities Services
The Evergreen State College
2700 Evergreen Parkway NW
Lab II Building, Suite 1254
Olympia, WA 98505
Telephone: 360.867.6115
rynnej@evergreen.edu

Project Mission: The primary mission for this project is to return Seminar I to a more significant percentage of instructional use. The secondary mission is to improve the facilities of all other building occupants so as to enhance and streamline their operations.

Project Scope: This predesign proposes (1) the complete renovation of Seminar I, including reconfiguration of interior and exterior spaces, improvements to the building envelope, and total systems replacements, and (2) selective additions intended to simplify the existing building envelope and to provide large-scale instructional space not otherwise achievable in adequate quantity. Our ability to expand instructional functions while meeting the needs of existing occupants is primarily achieved through adapting the Lower Ground Floor level – now containing mechanical and electrical equipment – to house Police Services.

Work involves renovation of 38,750 gsf, 9,800 gsf of which is captured space not presently occupied, and minor additions totaling 2500 gsf.

2.2 OPERATIONAL NEEDS

Program Requirements:

TESC envisions a renovated Seminar I as a highly flexible academic facility capable of serving many institutional needs. Program requirements include:

- Classroom instruction spaces serving two instructors and 50 students, with convenient break-out spaces serving 10-12 students.
- Food-safe science labs serving two instructors and 50 students. [This is a sub-set of science lab requiring little in the way of typical lab services (i.e. hoods, utilities, etc.) and which carries no prohibition of eating within the lab.][1]
- Art studio space serving two instructors and 50 students.
- Flexible seminar rooms sized for one instructor and 25 students.
- All instructional spaces must be outfitted with the latest media technology, consistent with TESC classroom standards.
- Faculty offices, and faculty offices with associated studio space. The latter is a specific requirement of the Indigenous Arts programs for its artist residencies and summer camps, but the concept may be expanded to aid the college in recruitment and retention of faculty.
- Administrative offices for the Reservation-Based Community-Determined Program.
- Critique and gallery space for housed art programs.
- Peer-based casual learning space to support out-of-classroom learning.
- A student lounge focused on underserved populations.
- A Police Services facility fully compliant with the needs of a commissioned police force.
- Administrative and cashier functions for Parking Services.
- A call center operated by the college's Advancement Division, for use in fundraising and student recruitment.
- Support services for all stated functions.

Seminar I currently houses the college Health and Counseling Center. It consists both of the student services functions of a health clinic, counselling services, and the Office of Sexual Violence Prevention functions, and the academic function of housing the Medical Assistant Training program. This latter function, a nine-month pre-medical practicum offering students the opportunity to work with health care professionals in a clinical setting, serves a high demand field.[2] TESC is seeking funding for a new stand-alone facility to house the Health and Counseling Center. In the event this effort is unsuccessful, we have fully developed program requirements, space planning, and cost

[1] The concept of food safe labs is further addressed in Section 3.
[2] For additional information on the Medical Assistant Training program, see http://evergreen.edu/health/studentmedicalassistant.htm

estimates for locating all Health and Counseling Center services on Floor 2 of Seminar I. However, including the Health and Counseling Center in Seminar I would reduce space available for academic use thus compromising the primary mission of this project.

Existing Facilities:

Seminar I is among the early campus buildings, completed in 1974. *It is the only one these building to have not received substantive renovation in the ensuing years.*

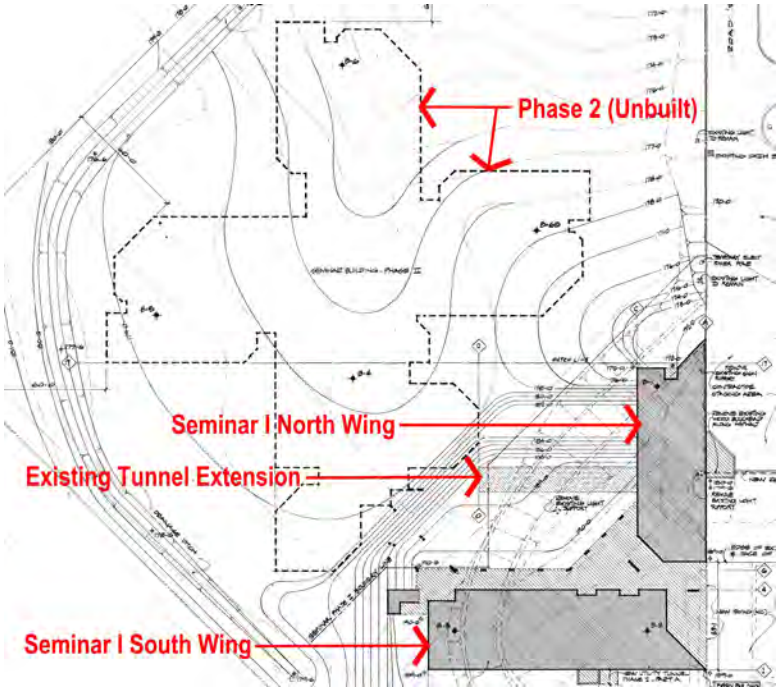


Figure 3: Original site plan, showing existing and intended development. (Note: Above the ground floor the south and north wings are linked as depicted by the lighter hatch pattern.)

Its existing enclosed gross area varies floor by floor* as follows:

Sub-Basement:*	4,495
Lower Ground Floor:*	10,045
Floor 1 (Primary Entry Level):	8,160
Floor 2:	10,300
Floor 3:	10,500
Service Penthouse:	630
Total Existing Gross Area:	44,130

**Note: Indicated area includes utility tunnel extension.*

Its general structure consists of concrete bearing walls and columns with a flat-slab elevated floor system. There are wide-shallow concrete beams at several locations around the central core (i.e. the point at which the north and south wings join). Vertical circulation is through interior (two) and exterior (one) stairways, and one passenger elevator.

The design live load of Seminar I is an unusually high 100 psf which should allow for very flexible use and makes it an ideal candidate for labs and studios. However, the

interior column network is very restrictive as befits a building that was originally intended for light-duty, small-scale use.

Figure 4: Exterior of Seminar I from courtyard

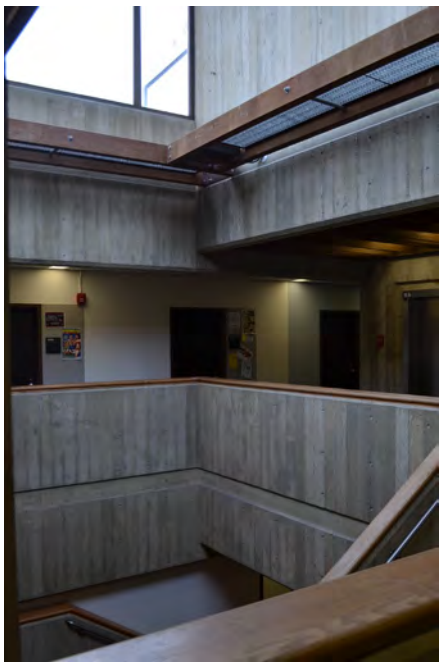


Figure 5: Interior of Seminar I at core stairwell

Figure 6: Primary entrance w/ police vehicles

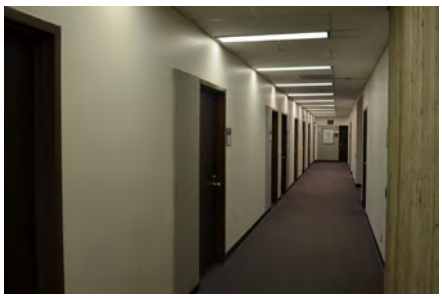


Figure 7: Typical interior corridor

Existing Operational Shortfalls:

As its name suggests, Seminar I was designed to house small-scale instructional spaces; its largest rooms (of which there are only three) hold one instructor and 25 students in a lecture-style configuration. While this met the institution's need in 1974 when the student-to-faculty ratio was 15:1, the college of today has only limited need for this type of instruction space. Evergreen's current student-to-faculty ratio is 25:1 but a large proportion of classes are conducted by two instructors with 50 students and today's instruction is much less lecture-based.

Central to understanding TESC's facilities needs is its unique curriculum. While students at conventional colleges and universities enroll in discreet courses, most students at Evergreen enroll in single full-time programs focused on in-depth exploration of a central idea or theme. In program-based study, faculty members from

different subject areas teach in teams, drawing on several disciplines to develop in students critical tools needed to understand complex issues from multiple perspectives.[3] This approach is graphically explained in the following diagram:[4]

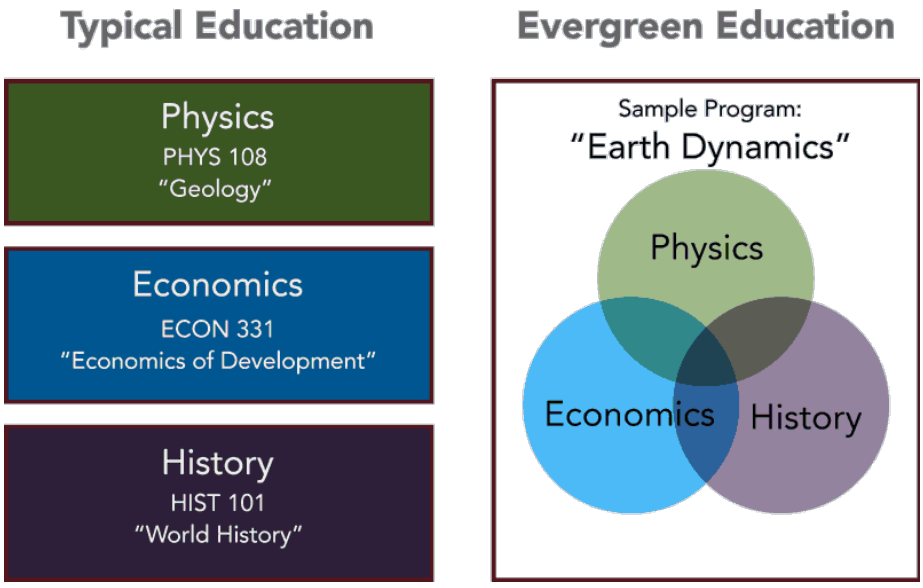


Figure 8: Venn diagram depicting TESC pedagogy.

The instructional spaces needed to support this pedagogy must by nature be flexible and large. The college's experience at Seminar II, which has such spaces, proves that 2,500-3,000 nsf is the ideal size.

While Seminar I has always supported non-instructional uses (originally housing the registrar's office and other campus administration, faculty offices, music practice rooms, etc.) the proportion of non-instructional use has steadily increased as the ability for the building to support evolving pedagogy has declined. This project seeks to reverse this trend and restore Seminar I to a primarily instructional facility. That said, the building houses critical support functions – Police and Parking Services, the outreach offices for the Reservation-Based Community-Determined Programs, and the Advancement Division's phone bank – that use small-scale spaces and are thus well-suited to the building and should remain.

In addition, all existing occupants consider their spaces undersized.

Health and Counseling Center: The existing Health and Counseling Center is located on two floors of Seminar I's south wing. As such it is not able to take advantage of space efficiencies possible were the Center housed on a single floor, e.g. shared support facilities, reception and waiting areas, etc. Most critically, Seminar I is not convenient to the center of campus nor to the residence halls to the detriment of its potential in proactive healthcare management.

[3] TESC website curriculum description, http://evergreen.edu/advising/curriculum.htm
[4] TESC website Programs & Classes description, http://evergreen.edu/academics/programs.htm

Proposed Response (Preferred Alternate)

This predesign proposes three actions, (1) renovation of existing occupied spaces totaling 28,950 gsf, (2) capture and renovation of existing service spaces for active occupancy totaling 9,800 gsf, and (3) minor additions sufficient to improve the building's environmental closure and providing one ground-floor column-free classroom/lab totaling 2500 gsf, distributed as follows:

	Existing	Renovation*	Addition
Sub-Basement:	4,495	0	0
Lower Ground Floor:	10,045	7,725	0
Floor 1 (Primary Entry Level):	8,160	10,035	2310
Floor 2:	10,300	10,490	0
Floor 3:	10,500	10,500	190
Service Penthouse:	630	0	0
Total Gross Area:	44,130	38,750	2500
Total Proposed Project Area:		**41,250**	

**Note: Includes captured space.*

The primary driver for renovation comes from Seminar I's antiquated and inadequate interior space layout, its lack of relevance to the college of today's pedagogy, and its exhausted, obsolete, and inefficient systems. The existing structure is robust and requires just minor seismic upgrades to qualify it for Immediate Occupancy in the event of natural disaster, making it an excellent candidate for cost-effective improvement and an exemplar of sustainable thinking.

It also contains far more interior volume than is presently usable, stemming from mechanical/electrical equipment and spaces sized to support a much larger building (Seminar Phase II). It is the capture of these service spaces (primarily at the Lower Ground Floor) that will allow each existing occupant group moderate expansion while returning Seminar I to greater academic use. In the process this project will:

- provide badly needed flexible instruction space, and in the appropriate balance of sizes;
- create a distinct Arts Zone at the west edge of campus, simplifying movement between Seminar I's new classroom/labs arts (when used as flexible studios) and existing dedicated-use studios in Lab II and the Art Science Annex;
- support the Longhouse and Reservation-Based Community-Determined programs by housing functions critical to development of the future Indigenous Arts Campus;
- provide student support and informal gathering spaces utterly lacking on the west side of campus;
- provide Police and Parking Services space to efficiently operate without visual intrusion on the campus core.

Lastly, additions to the building are driven by a desire to enclose a leak-prone exterior walkway accessing the existing southwest stairwell, and by the expressed need for one more large-scale column-free classroom/lab than the existing building can reasonably

accommodate. While we propose a single large-scale column-free classroom/lab on Floor 3, creating more such spaces within the confines of the existing building, as demonstrated by a structural assessment undertaken during this predesign, would be prohibitively expensive. By placing the classroom/lab addition on Floor 1 at the southeast corner of the building, it can enhance the building's entrance and – through transparency – introduce a dynamic learning environment to Red Square.

Health and Counseling Center: Should the Health and Counseling Center not be relocated to a new stand-alone facility, the entire Center will be located on Floor 2 of Seminar I. This would allow each Center component to share common support facilities and result in a more effective facility and operation than presently exists. In addition to the clinic, counseling center, and Office of Sexual Violence Prevention, the Center facility would provide conference and study spaces for the Medical Assistant Training program. However, were the Health and Counseling Center to remain in Seminar I:

- it would continue to operate in a location distant from the center of campus pedestrian movement, thus making access difficult for the genuinely ill, eliminating its visibility to the vulnerable, and compromising its potential for proactive healthcare management;
- the college will lose the opportunity to significantly increase its inventory of flexible classroom/labs, the primary mission of this project.

Project Origination

Renovation of Seminar I is part of a long-term effort to modernize the early campus core buildings.

Moving the Health and Counseling Center to a different location – proposed separately – has also been a long-term goal, first considered as part of the CAB renovation and more recently as part of a student initiative to renovate the CRC using student funds. The latter failed to gain student support not because of the Health and Counseling Center concept nor the $30,000,000 total project cost, but rather the funding mechanism which relied on a $10 per credit hour charge. Students considered this amount excessive.

Mission: The Board of Trustees approved TESC's mission statement on April 28, 2011:

"As an innovative public liberal arts college, Evergreen emphasizes collaborative, interdisciplinary learning across significant differences. Our academic community engages students in defining and thinking critically about their learning. Evergreen supports and benefits from local and global commitment to social justice, diversity, environmental stewardship and service in the public interest."

Strategic Plan Integration:

Renovation and expansion of Seminar I directly addresses the six primary goals identified in TESC's Strategic Plan 2015-2020:

Goal 1: Enhance Evergreen's distinct educational experience

This goal directly supports the *Five Foci*, *Six Expectations*, and *Core Themes* also in the Strategic Plan, with attention paid to supporting learning beyond the classroom.[5] The existing Seminar I has few spaces for students and staff to comfortably gather to exchange ideas. A renovated and expanded Seminar I will include a variety of informal spaces (e.g. lounges, break-out rooms, and flows/eddies in circulation pathways) proven to foster peer-to-peer and peer-to-instructor exchanges as well as spaces for quiet contemplation.

Goal 2: Recruit, develop, and retain outstanding faculty and staff
TESC has pursued offering creative benefits other than salary to attract and retain faculty and staff. The predesign team focused on improving the faculty work environment, one aspect of total compensation directly addressed in the Strategic Plan. To provide space for private exploration as well as to provide collaboration opportunities, the team proposes grouping private offices around both shared and single-occupant studios or research spaces. Taking this concept further, with the proviso that this particular aspect has not yet been explored at TESC, the future design team may also consider opportunities for selective student participation in these environments as well.

Goal 3: Effectively employ technology, facilities, and the natural attributes of our campus to enhance teaching, learning, and community
This goal explicitly calls on the college to seek authorization and funding for facilities improvements, including renovations of existing buildings. TESC's campus is a living educational environment. Unlike many campus buildings that embrace the campus' natural setting, Seminar I is very insular. This project seeks to better integrate the building into the broader campus by actively engaging it to its site on both the Lower Ground Floor and Floor 1 levels, by introducing daylight deep into the interior, and providing accessible views from within and without. A new highly transparent classroom/lab addition will anchor the southeast corner of Seminar I, a clear statement of intent by TESC to humanize the Brutalist campus core. Furthermore, the renovated facility will have IT infrastructure far improved over what presently exists, with distribution pathways that are easily accessible and adaptable throughout the building.

Goal 4: Build and strengthen mutually beneficial internal and external partnerships
Seminar I will house the Reservation-Based Community-Determined Program administrative offices as well as faculty offices and studios for the Longhouse, continuing TESC's engagement of tribal governments and commitment to indigenous peoples.

Goal 5: Ensure enrollments and revenues sufficient to achieve the goals and aspirations outlined in the strategic plan
The primary mission of this project is to increase usable instructional space at Evergreen, thus enabling the institution to support higher enrollment. As good stewards of limited resources, this goal is achieved through renovation rather than replacement, and through capture of oversized service spaces. We feel this is a highly

[5] For full Strategic Plan see Appendix I.

cost-effective approach and one which recognizes the essential soundness of the existing facility.

Seminar I also houses the Advancement Division's call center, a facility engaged in targeted outreach. This facility is presently cramped and antiquated. Its capacity for outreach will be greatly enhanced by this project. Advancement views an effective facility capable not just as a tool for fundraising but for student recruitment.

Goal 6: Enhance recognition of Evergreen as an extraordinary institution locally, regionally, nationally, and globally

This goal is focused on visibility and engagement. Renovation of Seminar I will take an insular facility and make it a model of physical transparency, actively engaging Red Square and its occupants in dialogue with campus events and achievements and acting as an effective representative of Evergreen's interdisciplinary model.

Government Priorities:

Executive Order 13-04 commits the state government to continuous improvement of services, outcomes, and performance through the "Results Washington" process. Renovation and expansion of Seminar I supports all five goals articulated in "Results Washington" through its focus on performance and accountability:

- Goal 1 – World Class Education

  Sub-Goal 1.3.a calls for increasing annual attainment of college degrees. This proposal increases TESC's instructional space capacity and focuses on space types best aligned with the college's unique program-based pedagogy. In so doing it enhances TESC's ability to attract students and to assure those students' individual objectives – and their probability of success – are met.

  Sub-Goals 1.3.f, h, and i call for increased enrollment, graduation, and success in STEM programs at public 4-year colleges. Renovation and expansion of Seminar I would give TESC a new class of flexible science lab not dependent on high-cost infrastructure. Such facilities would be particularly effective for multidisciplinary scientific inquiry yet today are wholly lacking at the college. Providing such facilities would significantly increase TESC's capacity for science instruction, and likelihood of successful outcomes, at considerably less cost than typical STEM facilities.

- Goal 2 – Prosperous Economy

  There are several aspects to this goal, from business vitality, quality jobs, expanding opportunities, sustainable and efficient infrastructure, to quality of life. Access to education offers a proven pathway to employment success and as such is an ideal outlet for government support. Through its focus on increasing instructional space, this project will allow Evergreen to increase its enrollment capacity as well assure these spaces are aligned with the college's pedagogy.

- Goal 3 – Sustainable Energy & Clean Environment

  Sub-Goal 1.3 focuses on efficient buildings. Achieving at minimum LEED Silver, and most dramatically by replacing inefficient mechanical and electrical equipment, this

project will reduce TESC's impact on the environment in the near- and long-term and support its "2020 Carbon Neutrality" initiative (see Appendix F). While its building systems are outdated, the building's strong structural shell will be entirely re-used, a strategy that is not only cost-effective but lies at the core of sustainable thinking. New materials will be regionally sourced to the benefit of local businesses, energy use will be reduced, and the indoor working environment will be markedly improved. This project will include extensive use of low-toxicity, renewable, and recycled materials.

Sub-Goal 2.1 & 2.2 addresses improved habitat for shellfish and Pacific salmon. TESC's campus includes frontage on Puget Sound. The college has undertaken improvements to its stormwater system, which discharges into the Sound from salmon-bearing Snyder Cove Creek. TESC also has a successful student-run shellfish club that maintains oyster beds on Eld Inlet. For Seminar I, stormwater quality and quantity will be controlled in furtherance of the college's efforts.

- Goal 4 – Healthy & Safe Communities

  This goal focuses on healthy, safe, and supported people. While for this goal the tie-in to Seminar I is inferential, we stress again that access to education offers a proven pathway away from the health, safety, and support issues plaguing economically challenged state residents. Further, Evergreen's Police Services has been a commissioned police force for 20 years and as such directly interfaces with such public safety issues as identified in Sub-Goals 2.1 and 2.3. Despite this responsibility, Police Services operates out of facilities suitable at best for a small-scale campus security operation. In moving Police Services to the Lower Ground Floor level as proposed in this predesign study, the police will have the professional-grade facilities expected of a commissioned force, enhancing community and officer safety, hiring, and retention.

  Because of the need for Police Services to operate in times of crisis, this project includes structural upgrades necessary to satisfy life safety code standards and assure the building is available for Immediate Occupancy in the event of natural disaster (e.g. earthquake).

- Goal 5 – Efficient, Effective & Accountable Government
  Subgoals 2.1 and 2.2 address aspects of effective government and fiscal responsibility. The capital budget process that applies to Seminar I requires the design team and contractor to provide data on a wide range of topics and at various stages in the project development, which will provide the state demonstrable evidence to support its customer satisfaction efforts. Mandated life cycle cost analyses, Value Engineering, and Constructability Review and their GC/CM equivalents are all tools consistent with Lean thinking and will assure Seminar I represents the best value to Washington taxpayers.

The renovation of Seminar I supports the Governor's vision of an engaged, collaborative, and accountable government, and as a result would constitute a highly effective use of state resources.

2.3 ALTERNATIVES CONSIDERED

The proposed solution is an amalgamation of three alternatives studied in detail by the planning team and core committee:

Alternate 1 – Renovate within the Existing Shell Only:

This alternative included full renovation of Floors 1 through 3, and conversion of the Lower Ground Floor into an occupied floor housing Police Services with requisite sitework. This alternate comes closest to matching the assumptions of TESC's Capital Project Request submitted in September, 2014, including its proposed budget. All mechanical systems were replaced with new equipment located in the sub-basement. Due to Police Services space requirements this alternate required relocation of the primary electrical service room (containing a transformer, switchgear, and fire alarm panels). This alternative was rejected as it did not satisfy the primary project mission of increasing large-scaled instructional spaces best aligned with TESC's unique pedagogy, specifically column-free interdisciplinary classroom/labs suitable for a wide array of subjects and sized to accommodate two instructors and 50 students.

Health and Counseling Center: This alternative resulted in the least net area considered, making it particularly vulnerable to disruption were the separately proposed stand-alone Health and Counseling Center not funded. In this circumstance the entire Floor 2 of Seminar I would be renovated to house the Center's functions. While fitting on Floor 2 is possible and would provide operational improvements over the existing condition, it would result in significant loss of potential instructional space at Seminar I and thus unacceptably compromised the project's central driver.

Alternate 2 – Reconfigure the Building Structure to Provide Column-Free Interior Volumes:

As with the Alternate 1, this alternate also assumed full renovation of four building floors. However, this alternate studied the potential for column-free large-scale classroom/labs, as the core committee had a strong preference that instruction spaces not be interrupted by columns. In this alternate we conceived removing the heavy concrete roof structure and replacing it with a lightweight steel-framed structure

spanning if possible from bearing wall to bearing wall, and locating three large-scale classroom/labs on Floor 3 (two in the south wing and one in the north wing) directly below this new structure. Our structural analysis of this alternate concluded that a genuinely column-free space was possible in the north wing under this scenario, but not in the south wing. As a result, the core committee concluded that this alternate did not sufficiently achieve its objective to justify the cost of re-configuring the entire existing roof structure. However, since the objective was met in the north wing and the cost fell within the available budget, one column-free Floor 3 classroom/lab was incorporated into the proposed solution.

Alternate 3 – Provide Column-Free Instructional Spaces Through Additions:

This alternate again explored the core committee's preference for column-free spaces by housing the three large-scale classroom/labs in clear-span additions at the Floor 1 level. This alternative included additional Lower Ground Floor space as well, which allowed for additional occupied functions on that level. The added space totaled 15,000 gsf. This alternate had the secondary benefit of permitting occupancy of Floor 2 by the Health and Counseling Center without creating a loss in programmed academic spaces. Estimates of probable cost developed for use by the core committee identified the maximum allowable construction cost (MACC) for Alternate 2 as $20,557,000 using design-build-build project delivery (as opposed to the preferred GC/CM which would be still higher). While the preferred concept from an issues resolution standpoint, this alternative was ultimately rejected as its cost premium over the Capital Budget Request proposed cost was simply too high, but a scaled down version with just a single column-free instructional space at greatly reduced added cost was incorporated into the proposed solution.

This alternate – in providing space for the Health and Counseling Center without loss in programmed instructional space – also left unresolved the college's conviction that the Health and Counseling Center would be more effective if located at the center of campus pedestrian circulation. Importantly, our analysis concluded that this alternate would also cost more than the combined costs of the Seminar I renovation and the separately proposed stand-alone Health and Counseling Center.

No Action: This alternative was rejected as it does not meet TESC's stated objective (as expressed in the Campus Master Plan) of improving its early facilities and increasing the campus inventory of interdisciplinary instructional spaces sufficiently sized to house two instructors and 50 students. Additionally, failure to improve Seminar I would:

- limit TESC's ability to recruit and retain quality faculty;
- eliminate Police Services' assurance that its facility will survive a major disaster.
- continue reliance on oversized, obsolete, and inefficient mechanical and electrical equipment.

2.4 SUMMARY OF LCCA RESULTS USING THE LCCT

During development of this predesign, OFM issued new predesign guidelines replacing the predesign-level LCCA/LCCT with a new Life Cycle Cost Model (See Appendix H).[6] This new manual was published after the planning team completed the ELCCA required as part of the LCCA/LCCT process. This ELCCA, developed in compliance with RCW 39.55 and ELCCA guidelines developed by the Washington State Energy Office (and also included in Appendix H), concluded that chilled beams would be the most cost-effective HVAC system for the facility. As a result chilled beams were assumed in the project budget analysis (see Section 5) and outline specifications (see Appendix D).

To provide the broadest amount of information to the planning team, the ELCCA was run using Alternate 3 above, which assumes both full renovation of Seminar I and 15,000 gsf of new construction. The ELCCA remains valid with the preferred smaller project, as the assumed envelope performance between new and existing construction were very similar. In addition to lowest life cycle cost, chilled beams are well suited to the existing building's constraints. Seminar I's limited floor-to-floor heights suggest that overhead ducts be as small as possible, a hallmark of chilled beam systems, and an existing chase network will serve the requisite piping distribution.

2.5 ISSUES IDENTIFICATION

Attention to, and resolution of, several issues is key to TESC's definition of project success. In addition to highlighting them herein, the budget (Section 5) includes reasonable costs for their implementation.

Project Drivers

The central driver for this project is TESC's need to increase the percentage of Seminar I spaces dedicated to instruction, and to assure that those spaces are appropriate for TESC's interdisciplinary pedagogy. The secondary objective is to maintain and improve the remaining spaces housing critical support functions.

Life of Proposed Facility and Investments:

The proposed renovated and expanded facility will be of permanent construction meeting all current codes and standards for Immediate Occupancy facilities. It will have a minimum expected service life of 50 years.

Security Needs:

Campus security is handled by TESC's Police Services. Seminar I houses and will continue to house Police Services and its subsidiary Parking Services division. Police Services has been a commissioned police force since the 1990s but is now housed with little modification in a facility originally used by the college registrar. As a result, in many aspects the present Police Services facility fails to meet reasonable expectations, best practices, and government mandates for modern police facilities including:

- separation between the public lobby and dispatch functions;

[6] See OFM Predesign Manual dated June, 2016.

- support facilities for officers, including decontamination facilities, weapons clearing, custody processing, and secure and ventilated storage;
- holding facilities separated by gender and with toilet facilities;
- secure custody transfer (vehicle to station);
- secure parking for police vehicles.

Commissioned police forces are by code required to be housed in facilities designed to withstand major disasters such as earthquakes. This project includes structural upgrades necessary to meet what is known as "Immediate Occupancy" criteria.

Facilitation of Use by Others:

Seminar I is directly adjacent to the Longhouse, which in addition to performing college functions is considered a public service center. It operates an international residency program and summer studios but does not have sufficient facilities to support its broader objectives. It is also the gateway to the future 7.2 acre Indigenous Arts Campus (IAC), which received Board of Trustee approval in 2014. A carving studio associated with the IAC – due west of Seminar I – was completed in 2013. The next IAC facility – a fiber arts studio funded by a grant from the Ford Foundation – is currently in design with construction scheduled to begin in 2016. Seminar I is intended to play a support function as follows:

- It will house the Reservation-Based Community-Determined Program administrative offices.
- It will house (offices + studios) visiting instructors associated with Longhouse international residencies and summer studios.
- Renovation of Seminar I, coupled with completion of the Lecture Hall renovation currently under construction, will allow demolition of portable buildings located north of the building and site restoration along the eastern edge of the future Indigenous Arts Campus.

Sustainability: The proposed facility will be designed to attain LEED Silver certification from the United States Green Building Council. An initial evaluation of likely LEED credits is included in Appendix C. The project's sustainable design goals will be established during the eco-charrette conducted during Schematic Design.

Information Technology & Telecommunications:

This project seeks to improve the effectiveness of technology as an instructional tool. Information technology signal distribution will include connections to the campus tunnel network, accessible data pathways throughout the facility, and stacked secure data closets on each floor. Design and construction of IT systems will comply with TESC standards. To assure the quality and distribution of space is adequately reflected in the floor plan diagrams found in Section 8, our predesign effort included participation by representatives of IT services in programming sessions and the preliminary LEED charrette.

2.6 PRIOR PLANNING AND HISTORY

Previous Action and Legislative Intent:

This project is part of TESC's long-term efforts to rejuvenate its core campus facilities. The legislature appropriated predesign funds through Second Engrossed House Bill 1115 enacted on June 30, 2015.

Compliance with the Campus Master Plan:

TESC's Campus Master Plan was last updated in 2014. Within this plan, the intent to renovate and expand Seminar I is clearly identified (see Section 6). This project includes space for all functions identified in the Campus Master Plan including Police and Parking Services, the Health and Counseling Center, classrooms, arts studios, faculty offices, and general campus administrative offices, but excludes other functions (e.g. the fiber art studio) that have been separately resolved.

The Campus Master Plan identifies the following schedule:

Predesign:	2015-17
Design:	2017-19
Construction:	2019-21

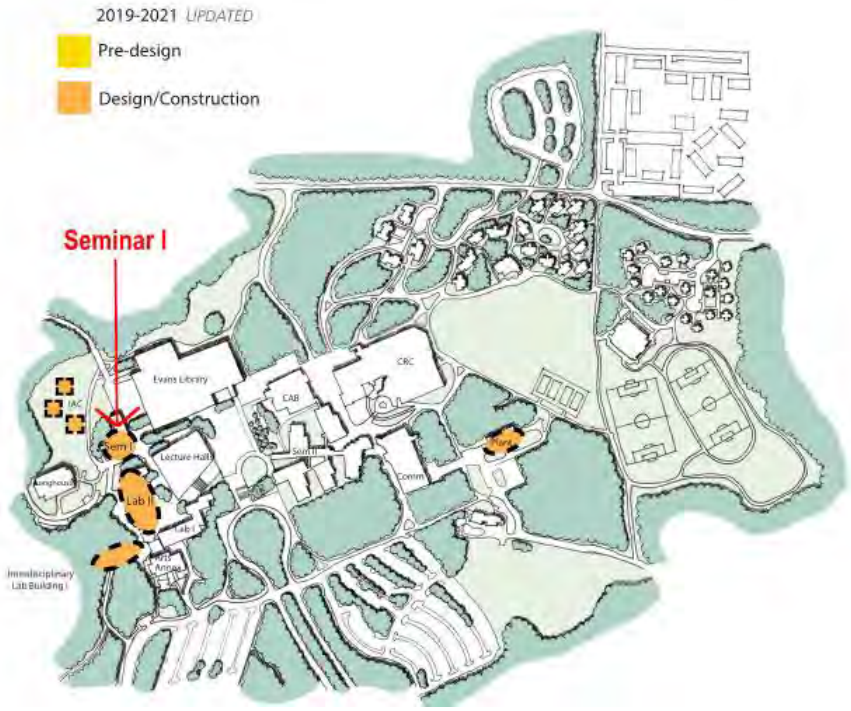


Figure 9: Excerpt from Campus Master Plan depicting construction timeline

2.7 STAKEHOLDERS

The primary stakeholder of this project is The Evergreen State College and its various programs and departments. Because of its organization, location, and the presence of Police Services in the facility, additional stakeholders include:

- Thurston County (permitting)
- Thurston County Sheriff
- City of Olympia (select utilities)
- Washington State Patrol

2.8 IMPLEMENTATION APPROACH

We propose the project be funded by state appropriation.

Methods of Accomplishment:

We propose that the GC/CM method of project delivery be used. GC/CM – which allows for incorporation of the contractor during design – has proven effective for complex projects, such as projects incorporating both renovation and new construction. In addition, it is useful on programmatically diverse projects as anticipated at Seminar I [RCW 39.10.340 (1-5)]. It has been effectively employed on Evergreen's current Lecture Halls project.

Design-Build-Build, for years the mainstay project delivery method, would work at Seminar I with the addition of Value Engineering and Constructability Review processes. However, the advantage to the college of contractor participation in the design phases and oversight of cost estimates would be lost. Also lost would be the agency's ability to participate in contractor selection.

Design/Build delivery methodology, still in the earlier stages of adoption by state agencies, appears best suited to new construction projects with limited stakeholders. A project requiring sensitive renovation of a building prominently located on campus appears ill-suited to the relinquishing of control that must happen for Design/Build to be most successful.

To secure LEED credit for enhanced commissioning, we propose an independent commissioning agent be hired during design and construction. We also propose, to protect state interests, that an independent testing agency participate in construction. Costs for both are included in the project estimate.

Programs to be housed in the new facility currently occupy the building and will require temporary housing, the costs of which will be paid by TESC. Police Services and Parking Services will be housed in the two modular buildings temporarily being occupied by the Lecture Hall renovation contractor and the temporary campus Emergency Operations Center.[7] If the college's separate effort to secure funding for a stand-alone Health and Counseling Center are successful, the existing health clinic, counselling center, and Office for Sexual Violence Prevention will move to their new facilities prior to the start of the Seminar 1 renovation. All other current building occupants will move to surge space elsewhere on campus.

2.9 PROJECT MANAGEMENT

[7] The EOC will be moved to the Lecture Hall building upon completion of construction.

Organization: The Evergreen State College Facilities Services will manage the design and construction of improvements to Seminar I. Facilities Services has successfully provided management and oversight on on-campus projects including the Lecture Halls renovation currently underway.

To assure vigilance over its construction projects Facilities Services assigns a Senior Architect and/or Engineer management responsibilities for overseeing technical aspects and cost management. Together with the assigned Construction Project Manager, and with additional construction phase oversight by the design team, TESC will provide sufficient monitoring, management, and control during the construction phase. The costs of these services have been included in the project budget.

Strategy: The following are the primary duties/responsibilities of the primary participants in project management:

Programming: TESC Facilities Project Manager:

- Directs consultant selection
- Manages consultant contracts
- Coordinates stakeholder participation
- Participates in detailed programming
- Reviews and approves detailed programming and budget

Design Consultant:

- Provides programming services per agreement

Design: TESC Facilities Project Manager:

- Coordinates selection of Value Engineering and Constructability consultants
- Manages consultant contracts
- Participates in periodic design meetings
- Provides design decisions including program adjustments to achieve budget
- Approves design and estimates at SD, DD, and CD

Design Consultant:

- Provides design services per agreement

GCCM Selection: TESC Facilities Project Manager:

- Issues RFQ and RFP documents
- Participates in GC/CM selection
- Leads proprietary meetings with GC/CM shortlisted teams
- Manages consultant contracts

Design Consultant:

- Provides GC/CM solicitation services per agreement

Bidding: TESC Facilities Project Manager:

- Participates in pre-bid conferences
- Manages consultant contracts

Design Consultant:

- Provides bid services per agreement

Construction: TESC Facilities Project Manager:

- Manages consultant contracts
- Monitors quality and schedule
- Advises college in all matters related to the construction
- Oversees construction activities
- Participates in periodic construction meetings
- Provides construction decisions including field adjustments and change orders

Design Consultant:

- Provides construction administration services per agreement

Commissioning:

TESC Facilities Project Manager:

- Coordinates selection and contracting of commissioning agent (during design phase as necessary to achieve LEED credits)
- Monitors both commissioning agent and design consultant
- Advises agency in all matters related to acceptance of systems
- Participates in system commissioning
- Attends operating instruction

Design Consultant:

- Provides support to the commissioning agent services per agreement

Warranty:

TESC Facilities Project Manager:

- Assists in obtaining warranty repairs
- Identifies warranty issues
- Notifies consultant of needed warranty repairs

Design Consultant:

- Notifies contractor of needed warranty repairs
- Monitors contractor warranty response

2.10 SCHEDULE

Risks: Initial evaluation of the selected site has not identified unique risks to schedule accomplishment due to environmental or archeological sensitivity. To assure this, a detailed assessment of these factors will occur in the Schematic Design phase.

The existing building structure, and the presence of hazardous materials such as asbestos-containing-materials (ACMs) in common use at the time of its construction, are well understood and the college has complete record documents and recent experience on buildings of a similar age. We consider the probability of latent conditions and unanticipated hazardous materials being encountered during construction to be low, and at worst would require only minor costs to mitigate.

The projected use of the site is in compliance with the regulatory land-use established by Thurston County and there are no permitting or regulatory impediments to the projected development.

Site soils and groundwater characteristics, based on record documents and the understanding that the building footprint and those areas identified to receive additions under this project, appear adequate to support conventional construction without the need for substantive ground improvement.

Health and Counseling Center: The single greatest risk associated with this proposal is the risk of TESC not securing appropriation for a stand-alone Health and Counseling Center. If this separate proposal – intended to be designed and constructed within the 2017-19 biennium – is not successful, the Health and Counseling Center will be located on Floor 2 of Seminar I with the following impacts:

- The existing clinic, counselling center, and Office of Sexual Violence Prevention will require temporary relocation or this portion of the project must be phased. These functions have needs that prevent easy accommodation in generic surge space.
- The Health and Counseling Center will remain outside the pedestrian core of campus, inhibiting the Center's outreach efforts and reducing the potential to positively influence student healthcare decisions.
- The college loses instructional functions planned for Floor 2.

Schedule: The project will be developed with the following schedule milestones:

Activity	***Start***	***Complete***	***Duration***
Predesign	**January 1, 2016**	**June 30, 2016**	**6 months**
Design and Permitting	**July 1, 2017**	**January 31, 2019**	**19 months**
• Consultant Selection	July 1, 2017	September 30, 2017	3 months
• Schematic Design	October 1, 2017	January 31, 2018	4 months
Owner Review	February 1, 2018	February 15, 2018	2 weeks
• Design Development	February 16, 2018	June 15, 2018	4 months
Value Engineering	May 16, 2018	May 31, 2018	2 weeks
Owner Review	June 16, 2018	June 30, 2018	2 weeks
• Contract Documents	July 1, 2018	December 31, 2018	6 months
Constructability Review	October 1, 2018	October 15, 2018	2 weeks
Owner Review	January 1, 2019	January 15, 2019	2 weeks
Incorporate Comments	January 16, 2019	January 31, 2019	2 weeks
• Plan Check/Building Permitting	November 1, 2018	January 31, 2019	3 months
• Design/Permitting Float	February 1, 2019	June 30, 2019	5 months
Bidding and Construction	**July 1, 2019**	**April 30, 2018**	**22 months**
• Bidding/Award	July 1, 2019	August 31, 2019	2 months
• Construction	September 1, 2019	February 28, 2021	18 months
(Mid-point of construction for use in determining cost escalation: June 1, 2020)			
• Substantial Completion	March 1, 2021		
• Start-up/Commissioning	March 1, 2021	April 30, 2021	2 months
Occupancy (FF&E Move-In)	**May 1, 2021**	**June 30, 2021**	**2 months**

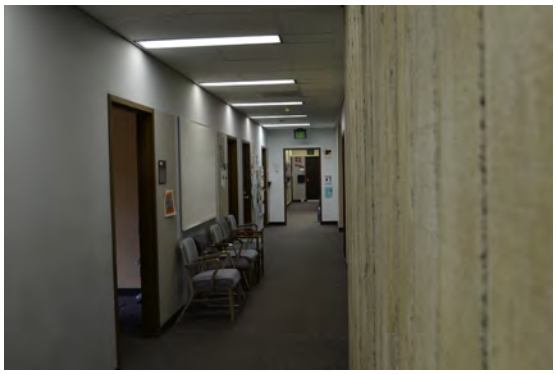


Figure 10: Counselling Center waiting area in public corridor

SECTION 3 PROGRAM ANALYSIS

3.1 PLANNING ASSUMPTIONS

Throughout the programming and planning process, the following assumptions have been made that directly impact the project development function, form, schedule, and costs:

- The Evergreen State College's commitment to its interdisciplinary pedagogy is the single greatest influence on facilities planning for instructional spaces.
- The building will be designed to comply with TESC standards.
- Administrative space allocation will be based upon the Washington State Space Standards published by the Department of Enterprise Services.
- To the maximum extent possible, open-plan workstations will be used for administrative space including adjunct faculty offices. Private offices will be limited to faculty positions or staff/support positions requiring acoustic privacy.
- The facility will make flexible provisions for the use of current and future technology.
- The building will have internal security zones to facilitate public use during off hours, including 24/7 access to Police Services.
- The public safety mission of the building arising from the presence of Police Services is an important element in planning and as a result the existing structure will be improved to satisfy current code seismic standards for "Immediate Occupancy."
- Utilities reach the building through the campus utility tunnel system or direct burial. Required utilities include potable water capable of supporting both domestic and fire suppression use (from City of Olympia), steam and condensate return, chilled water, storm sewer, sanitary sewer (from City of Olympia), telecommunications, and three phase power.
- The facility will include an emergency power generator with capacity adequate to support Police Services in the event of a power outage.

3.2 EXISTING FACILITIES INVENTORY

Existing uses by floor are:

- Sub-Basement (North Wing Only): Mechanical equipment

Phase 2 Tunnel Extension: Storage

- Lower Ground Floor, North Wing: Mechanical equipment
  Loading dock
  Phase 2 Tunnel Extension: Caged storage

- Lower Ground Floor, South Wing: Electrical equipment
  Campus fire alarm head-end panel[1]
  Access to campus tunnel network
- Floor 1, North Wing: Police Services
- Floor 1, South Wing: Health clinic
  Primary building entry
- Floor 2, North Wing: Parking Services
  Faculty offices
- Floor 2, South Wing: Phone Bank
  Miscellaneous offices
  Access to campus tunnel network
- Floor 3, North Wing: Language school (temporary use)
- Floor 3, South Wing: Counselling Center
  Office of Sexual Violence Prevention
- Penthouse (South Wing): Elevator equipment

3.3 SPACE REQUIREMENTS

Programming – General

To establish space requirements for existing and proposed building occupants, the planning team led individual programming with key tenant stakeholders. The results are published below. The planning team also met with Facilities Services staff (mechanical, electrical, IT) to determine support systems requirements.

To facilitate allocation of administrative office space, the Space Standards published by the state's Department of Enterprise Services were referenced.

Arts and Science Classrooms and Labs

The driving motivation behind renovation of Seminar I is to create flexible large-scale classrooms and labs suitable for simultaneous use by two instructors and 50 students.

TESC's original campus vision was that its academic buildings not be specialized so as to encourage cross-pollination between disciplines. In practice this has become impractical. As examples of this impracticality:

- Wet science instruction requires highly specialized labs with costly service infrastructure. Distributing this infrastructure throughout the campus is difficult to justify in an era of limited funding.
- There is a limit to how far students can carry heavy in-process projects – sculpture, for instance – to dispersed studio labs.
- A significant quantity of science lab instruction does not require highly specialized labs, but it does require lab prep space for storage and preparation

[1] Monitored by Police Services.

of equipment. Such labs are referred to as "food-safe" labs as they do not require prohibition of eating during lab hours. TESC has no food-safe labs on campus, the result being that such instruction unnecessarily takes place in fully-outfitted (i.e. wet) labs or that lab techs move equipment in carts (often in the rain) across campus.

The result of such pressures can be seen in the floor-by-floor renovations TESC has recently completed at Labs I and II: Due to the very presence of costly service infrastructure, it was inevitable that classrooms and art studios within these buildings were converted to wet labs. This decision was made easier by the existence of art studios in Seminar II, but these studios are on the top floor and distant from studios in the Art Science Annex and accessed only from weather-exposed walkways.

Proposed Response: In response, TESC proposes Seminar I contain four large-scale classroom/labs (housing two instructors and 50 students) for use in art and science instruction and for Sustainable Design programs. From the perspective of art instruction, these will replace the two 2D studios in the less easily accessed Floor 4 of Seminar II (which will be re-assigned for general program instruction). Among other benefits, this will establish the west end of campus as an Art Zone and facilitate much easier movement of student artwork between art education facilities in the Art Science Annex, Lab II, Seminar I, and the future Indigenous Arts Campus. The existing critique space in Seminar II will be replaced with an equivalent space on Floor 3 of Seminar I.

For science instruction, each classroom/lab will be equipped with storage and prep rooms to allow easy conversion between art and science without the need to transport instructional materials from storerooms in existing science facilities. These spaces will take pressure off the full wet labs in Labs I and II thus increase TESC's capacity for STEM instruction.

For Sustainable Design, Seminar I gives these various high-demand programs a home, one that in future can be expanded through completion of an outdoor work space in the Seminar I courtyard directly communicating with a Floor 1 classroom/lab.

Due to the need for classroom/lab spaces to be 2500-3000 nsf and as column-free as possible, these spaces will be located on Floors 1 through 3 of the north wing, which has a less confining column layout than found in the south wing, and in a new addition at the southeast corner of Floor 1. This addition space and the Floor 3 classroom/lab will be entirely column-free, the latter being achieved by limited replacement of the heavy concrete roof structure with a lightweight steel structure configured to admit abundant natural light. Each classroom/lab will feature current media integration, electric and daylight controls, and flexible furnishings, making them suitable for many styles of instruction. *Note that if TESC's separate proposal for a stand-alone Health and Counseling Center does not receive state appropriation, the Floor 2 classroom/lab will not be built and art-instruction will continue albeit at reduced scale at Seminar II.*

Also in high demand are technology-rich classrooms scaled for two instructors and 50 students, with associated break-out spaces for use by 5-10 students. We propose

break-out spaces directly adjacent to each classroom/lab to meet this need while maximizing flexibility.

Lastly, the six existing small seminar-scaled spaces in Seminar 1 will be replaced with one studio classroom and one computer classroom, each scaled to serve a 25:1 student-to-faculty ratio and with capacity for flexible furnishings.

Instruction space in Seminar I presently occupies **6** percent of the building's total net area. By this propose we seek to dedicate **43** percent of total net area to instructional use. This percentage would drop to **29** if the Health and Counseling Center occupies the building.

Reservation-Based Community-Determined Program

The Evergreen State College and Grays Harbor College collaborate to provide a Bachelor of Arts degree on various Indian reservations in western Washington.

Designed for place-bound students deeply connected to tribal communities, the program has been "reservation based" from the beginning with classes held on Indian reservations in western Washington. "Community-determined" means that the program is initiated at the tribes' request, that a tribal advisory board provides curricular direction, and that program content addresses significant community issues and utilizes community resources.

Students attend weekly classes at the reservation sites and also attend Saturday classes at the Longhouse where all students come together for classes, workshops and cultural events. Hundreds of students have earned their degrees through the reservation-based programs and gone on to graduate school and various positions in tribal government, social services, education, and other fields.[2]

Proposed Response: The Reservation-Based Community-Determined Program requires on-campus space for program administration. Due to program's tie in with the Longhouse, Seminar I is the ideal location. We propose administrative space be located in the southwest corner Floor 1, directly convenient to the Longhouse entrance.

Health and Counseling Center

The Health and Counseling Center consists of three distinct student services elements – the health clinic, the counseling center, and the Office of Sexual Violence Prevention. It also houses TESC's Medical Assistant Training program. The Center serves the medical (including mental health) needs of Evergreen students. The Office of Sexual Violence Prevention (OSVP) offers a confidential starting point for students affected by sexual assault, relationship violence, stalking, and related concerns. OSVP offers a place to discuss experiences and receive support.[3]

The health clinic and counseling center (the OSVP is a newer service) were once housed together, but demand for their services ultimately required they be located on separate

[2] The text for this section is taken directly from the TESC website, http://evergreen.edu/tribal/home
[3] The description of OSVP services is taken directly from the TESC website, http://evergreen.edu/violenceprevention/

floors of Seminar I. For operational efficiencies it is highly desirable that all functions be again located on a single floor.

The Health and Counseling Center is too distant from the residence halls for easy access by the genuinely ill, and too invisible to be able to positively influence student healthcare decisions. Center administration is unanimous that the organization would be more effective if it were located closer to primary student gathering areas. This has been studied in depth, and attempted twice without success – during renovation of the CAB and in the recent CRC renovation initiative.

Proposed Response: The college will submit a capital project proposal requesting funding for design and construction of a stand-alone clinic within a single biennium (2017-19). This represents the college's best effort to support and improve the health of its students. TESC proposes this center be located on the existing raised structure (*"The Bridge to Nowhere"*) between the CAB and CRC. Not only is this area highly accessible, but it offers the opportunity to enclose 8400 gsf without any need for foundations and floor structures.

If the Health and Counseling Center initiative is unsuccessful, the Center will be occupy the full extent of Seminar I's Floor 2. It will include conference and study spaces for use by Medical Assistant students.

Police Services

Police Services performs myriad functions, including (1) safety and security (i.e. enforcement), (2) public relations, (3) campus switchboard, (4) monitoring of alarm systems, and (5) operation of the campus food bank. It is the college's only 24/7 operation. While its public roles require convenient access, Police Services prefers to perform its enforcement duties out of public view.

Police Services is a fully commissioned police force but operates out of facilities intended for the campus registrar's office on Floor 1; the holding room, for instance, occupies the former registrar vault. Other deficiencies include:

- police dispatchers also operate the campus switchboard, act as lobby receptionists, and report fire and DDC alarms. These additional functions are unusual for a commissioned police force and potentially compromise emergency response;
- no secure parking facilities or parking convenient to the station entrance, requiring officers to park police vehicles on the pedestrian plaza directly in front of the primary building entry. This not only exposes police vehicles to vandalism but resembles a state of siege – visible from Red Square – out of keeping with Evergreen's efforts to promulgate an inclusive campus environment;
- no separate circulation or support facilities for those in custody and officers/staff, which potentially compromises officer/staff safety and eliminates any possibility of hiring student staff (for reception, etc.). For instance, officers must escort those in custody to a common toilet since the holding area has no toilet facility of its own;
- no area for custody processing, interviews;
- no properly vented evidence storage room;
- no gender separation to any degree;

Proposed Response: We propose to provide Police Services with facilities expected of a professional, commissioned police force. The ideal solution is to move Police Services into the Lower Ground Floor, which accommodates its expanded footprint and offers direct access to the campus road network. Needs not presently accommodated that would be resolved in this location include:

- patrol locker room (equipment, shower, radio charging stations) separated by gender;
- on-grade secure police vehicle (cars, Segways, and bicycles) parking directly accessed from Geoduck Way;
- service vestibule for weapons clearing, mud room, security;
- secure custody transfer (personal, vehicular);
- interior custody processing;
- separate holding facilities by gender, and a juvenile holding room;
- properly ventilated evidence and secure property storage rooms;

- dispatch center distinct from public lobby, with direct toilet access and coffee bar.

Parking Services

Parking Services serves under the Chief of Police Services, but owing to space restrictions and due to the fact it employs students (who cannot interact with victims, suspects, etc.) it operates from separate facilities on Floor 2. Parking Services patrols the parking lots, collects fines, sells day-use parking passes from a remote booth at the main vehicular entry, and sells long-term parking passes. Owing to the latter function it sees a surge in activity at the beginning of each academic quarter, suggesting the facility be located in an area with overflow capacity.

Proposed Response: We propose that Parking Services be re-located to facilities on Floor 1, where the building lobby and lounge spaces can double for waiting areas during busy times. Parking Services vehicles will share the secure vehicle yard at the Lower Ground Floor level.

Faculty Offices

Currently, Seminar I spaces not claimed by any occupant group are used for faculty offices, in particular in the north wing of Floor 2. Campus-wide there is a high demand for faculty and staff offices, as clearly articulated in the Campus Master Plan.[4] Recent trends suggest this will continue – Evening classes have typically been taught by part-time or adjunct faculty. When on campus, instructors in these classifications work from shared offices. TESC has recently converted some of these positions to permanent positions and is considering converting more. From a policy standpoint the provost does not want permanent faculty housed in shared offices. In addition, Evergreen is experimenting with means beyond salary to attract and retain top talent. TESC has no standardized space requirements for faculty offices.

The Longhouse offers artist residencies and popular summer camps, but lacks offices and associated private or semi-private studios to attract and house visitors on campus.

Proposed Response: We propose a variety of spaces be created to serve a variety of faculty and Longhouse needs, with the goal of creating office/research environments with personality and appeal. The Longhouse concept of pairing offices with private studios in particular resonates as a tool to attract not just visiting artists but college-wide faculty in new ways beyond salary; this has the potential to benefit Washington taxpayers. Examples of clustered offices and private/semi-private studio/research rooms appear in the Floor 2 and 3 concept plan diagrams in Section 8. These concepts demonstrate that private work environments need not be silos, and if sensitively implemented could provide more opportunities for collaboration between faculty and between faculty and students. The most desirable approach consists of clustering

[4] The CMP projects a need for 30 additional faculty offices and 15,000 gsf additional staff offices to support projected student growth of 600 FTE.

offices around a central studio/research space, a concept that will be further explored during design.

Advancement Support

The Advancement Division operates a small call center from Seminar I. If sufficiently improved during renovation this facility's role may be expanded from fundraising to recruiting new students, etc. Because it is an evening-only operation, with sufficiently secure and/or portable equipment the call center may serve a daytime role as an informal learning space (i.e. study lounge).

Proposed Response: We propose the call center be located on Floor 3, and double as a study lounge during daytime hours. The proposed design assumes that the phone equipment will be secured to support shared use.

Program Summary

See Appendix K for a complete space tabulation summary of all functions identified in programming workshops held with each building occupant.

Functional Interrelationships

The conceptual plans presented in Section 8 came from an iterative process balancing the needs of current occupants and prospective new occupants. Because of the wide range of responsibilities, most occupants have little need to interact with other occupants. That said, the college gains efficiencies by grouping small-scale occupants together in a single facility through the ability to share common services.

Functional Planning

Instruction

Instruction is conducted in highly flexible classroom labs of varying scales, with preference given to large-scale spaces with capacity to hold two instructors and 50 students. Dedicated instruction spaces include technology-rich classrooms, flexible classroom/labs capable of serving uses as diverse as art studio, science lab, and Sustainable Design workshop, flexible seminar rooms, and conference rooms (the latter associated with specific programs). Ground-level instructional spaces are intended to be highly transparent so as to visually engage the campus community.

Recognizing that much learning takes place outside the classroom, the building offers a wide range of informal gathering spaces intended for peer-to-peer and peer-to-instructor interactions. These spaces take the form of lounges, widened corridors, breakout spaces (when not dedicated to scheduled instruction), and similar interior spaces.

Storage

Storage is required for all building occupants. In particular, each flexible classroom/lab requires adjacent space to serve both storage and preparation purposes. To gain space at the Lower Ground Floor level for Police and Parking services, storage capacity at that level will be reduced and must be distributed throughout the building

Common Use Space

Common use spaces include the building lobby and circulation, toilets, facilities maintenance, and mechanical/electrical rooms. Toilet spaces will be sized as necessary to meet IBC plumbing fixture requirements and accessibility codes, and will include gender neutral facilities. Space will also be provided adjacent to meditation rooms for those occupants requiring foot washing facilities. Typical of college facilities, common corridors will be sized to permit unimpeded two-way traffic. This establishes a minimum of 7'-0" clear in major corridors and 5'-0" for hallways.

Mechanical and electrical areas will be sized to contain the planned equipment with sufficient area for maintenance and servicing. Adequate clearances to permit removal of large components will also be provided.

Functional Arrangement

The conceptual plans presented in this report were developed in direct response to both the internal functional requirements of the spaces contained in the building and as a response to access opportunities arising from the sloped site. Initial planning included scaled "bubble diagrams" of all the functional areas. These diagrams were reviewed for operational function by building stakeholders. Based on review of the diagrams, a number of plan options addressing functional interrelationships were developed.

Some of the functional considerations necessary to arrive at the optimum functional configuration are:

- Orientation of the main public entry should be towards the adjacent public access in order to maximize the visual presence of the building for cross-pollination and general campus awareness. Building security provisions at this location must be effective yet visually subtle.
- The internal organization of the building should be organized to allow off-hours isolation of sensitive areas while permitting 24/7 public access to Police Services.
- All areas of potential expansion should be located along the perimeter of the building to permit ease of expansion. This is demonstrated on the Floor 1 plan diagram (Section 8) which indicates a future exterior work yard associated with the north wing's classroom/lab. This function would be particularly useful for the Sustainable Design programs, but may not be supportable by the current project budget.
- Service areas such as toilets, mechanical, electrical, IT, etc. should be stacked.
- Mechanical equipment should be located to permit effective zoning of like spaces.
- To reduce energy use, the building should maximize the use of daylight. Internal partitions should be optimized for daylight at the interior and opportunities for clerestory lighting of high volume spaces should be explored. Daylighting should be filtered at the east and west elevations.

Room Data Sheets

Room data sheets and diagrams provided in Appendix E provide detailed program requirements for identified spaces.

3.4 FUTURE REQUIREMENTS

As the type and composition of occupants in any dynamic and responsive educational institution are subject to change, improvements to Seminar I must be designed to accommodate both evolving needs as well as wholesale changes in occupants. The need for change is historically driven by changes in information technology infrastructure and equipment.

3.5 CODES AND REGULATIONS

The following building codes and regulations apply to this project. The code analysis and summary that are presented in this section are based on the latest adopted versions of these codes at the time of publication. Actual code compliance is based on versions of these codes in effect when building permits are obtained, so some modifications will likely by required.

- 2015 International Building Code with Thurston County (TC) Amendments
- 2015 International Fire Code with TC Amendments
- 2015 International Mechanical Code with TC Amendments
- 2015 Uniform Plumbing Code with Washington State Amendments
- 2015 National Electrical Code with TC Amendments
- 2015 International Fuel Gas Code
- ANSI A17.1 - Safety Code for Elevators and Escalators
- ICC/ANSI A117.1-2009 Accessible and Usable Buildings and Facilities
- 2015 Washington State Energy Code (WSEC)

3.5a Building Code Analysis

A full and complete code analysis will be required in the design phase of the project; however, an initial code evaluation is critical in pre-design to determine if there are any significant regulatory impediments to the proposed project:

Governing Code
International Building Code, 2015 edition with Thurston County amendments.

Occupancy Type (Chapter 3)
Seminar I will be a mixed occupancy (508) with the primary use being Business Group **B** (304.1). This occupancy applies to education use above the twelfth grade as well as healthcare and police services. Large-scale instructional spaces will be classified Assembly Group **A-3** (303.4) due to their flexible seating potential. Differing occupancies must be separated from adjacent uses per 508.4.4 (see Table 508.4) which requires a 1-hour separation between A-2 or A-3 and B or S-1 occupancies.

Building Construction Type (Chapter 6)
The building is constructed of non-combustible materials and will be classified as Type-II B construction (602.2). There are no specific fire-resistance rating requirements for building elements in this type of construction per Table 601.

Allowable Building Height & Area (Table 503)
Type-II-B construction for the Group B occupancy allows up to 3 stories in height and, 23,000 sf per floor. Assembly A-3 occupancies allow up to 2 stories in height and, 9,500 sf per floor. The occupancies are considered separated (508.4).

The code permits 1 additional story as well as an increase in maximum building height from 55 to 75 feet for buildings equipped with an approved automatic sprinkler system (504.2). An approved sprinkler system also allows increasing the building area 200 percent for buildings higher than one story and 300 percent for one story buildings (506.3). The proposed project includes upgrading building fire protection from the current standpipe system to a full automatic sprinkler system.

3.5b Zoning Code Analysis

Seminar I falls under the jurisdiction of Thurston County. As project entails renovation of an existing facility without change in use, we anticipate not issues affecting land use approval.

3.5c Sustainable Design and LEED

The Evergreen State College is committed to creating high performance facilities that will ensure the optimal health and productivity of occupants and buildings users. They also support and will comply with all State of Washington LEED compliance mandates.

The renovation of Seminar I will be certified LEED Silver minimum by the United States Green Building Council (USGBC) in accordance with Chapter 39.35d RCW "High Performance Public Buildings." Sustainability was discussed during a preliminary eco-charrette during predesign and the resulting checklist of targeted credits is presented in Appendix C. A detailed eco-charrette will be conducted during Schematic Design to

further explore sustainability goals and opportunities. As the building design progresses, additional credits may be identified for possible incorporation into the project, while others are found not to be cost-effective. While not required, targeting LEED Gold certification may benefit Evergreen in the long term provided it can be achieved without added cost; this is worthy of further discussion with the selected design and construction teams.

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SECTION 4 SITE ANALYSIS

4.1 EVALUATION OF POTENTIAL SITES

Site Requirements and Support

As this project involves renovation of an existing facility, there is no need for evaluation of potential sites. That said, the Seminar I site has characteristics – today largely untapped – that are a key to project success and have the potential to greatly increase the efficiency and utility of Seminar I as well as improve housed program operations.

Specific site requirements stem from the needs of building occupants. For example, Police Services and Parking Services require:

- direct access to campus road network;
- secure parking for police vehicles;
- secure transfer of suspects from police vehicles to custody processing area;
- convenient access to Red Square without visual prominence/visibility.

A major negative attribute of Police Service's existing location in the north wing of Floor 1 is that this location offers no convenient secure storage for police vehicles. By default these vehicles are parked adjacent to the Police Services entry, visually blocking the primary building entry used by all other occupants, inviting vandalism, and presenting an overt police presence on Red Square at odds with the campus culture. Furthermore, the vehicle traffic has degraded the brick paving of Red Square.

Figure 11: Police and Parking Services vehicles parked at primary entrance to Seminar I.

In addition to Police Services and Parking Services, building occupants associated with the Longhouse (the Reservation-Based Community-Determined Program, and visiting

faculty offices and studios) benefit from direct on-grade access to the Longhouse and future Indigenous Arts Campus and accordingly are located in the southwest corner of the building and convenient to the circulation pathway serving those locations.

Site Alternatives

As an existing facility there are no site alternates to be considered.

4.2 SITE ANALYSIS

4.2a Description/Location

Seminar I lies at the northwesternmost corner of Red Square, adjacent to Lab II to the south and Daniel J. Evans Library to the east. Primary building access is near the southwest corner of Floor 1, on axis with – but not visible from – the pedestrian loggia of the Library. Major site features by cardinal point include:

- to the north, a landscaped courtyard and accessible parking, with the building site demarcated by an extension of Geoduck Road;
- to the east, the space between Seminar I and the Library features a sloped landscaped area and a paved service lot serving building loading docks. This area also includes a generator for powering essential operations at the Library in the event of power loss;
- to the south, a landscaped pedestrian pathway aligned with entry to the Longhouse;
- to the west, the Longhouse and future Indigenous Arts Campus;

Figure 12: Panoramic view of core campus buildings with Seminar I on far left (Source: TESC Wikipedia page).

The courtyard formed by Seminar I's L-shaped plan is level with Floor I, then slopes sharply both on its west and north edges. This manmade topography is simply explained by the fact that a two level utility tunnel, oriented east-west, exits from the midpoint of the north wing and travels westward toward what was intended to be a second phase structure but never built.[1] The flat courtyard is cover over this tunnel.

4.2b Ownership/Acquisition

The site is owned by the State of Washington and is located within TESC's 1008 acre campus. No acquisition is required to enable this project.

[1] This Phase II ultimately took form in 2004 as Seminar II, but located in a separate area of campus.

4.2c Jurisdiction

The site is under the regulatory jurisdiction of Thurston County. Some utilities are provided by the City of Olympia. This project causes no conflict with any of the approved Growth Management plans for either jurisdiction.

Zoning

The college must comply with the Thurston County Zoning Ordinances and Shoreline Master Plan. The college is included in the Thurston County Comprehensive Plan, a requirement of the Growth Management laws of the State of Washington. None of these documents present significant obstacles to the renovation of Seminar I.

4.2d Features

All site elements date from the original construction in 1974, including now-mature trees along the primary pedestrian pathway leading to the Longhouse and at sloped landscaped areas to the north and east of the building. Some original site furnishings in the building courtyard were removed in Winter 2016 due to advanced rot.

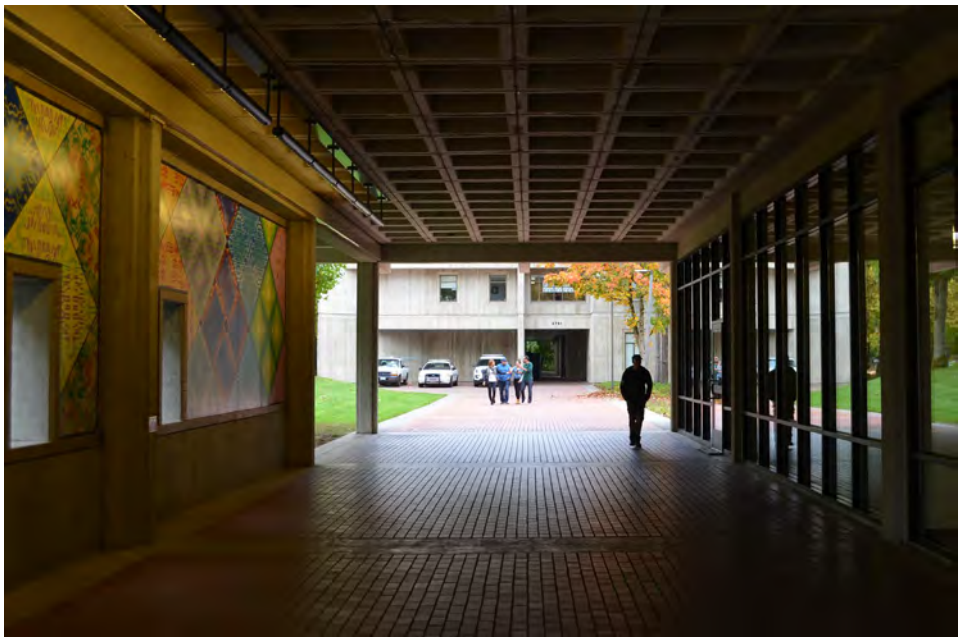

Figure 13: Seminar I primary entrance as viewed from the Daniel J. Evans Library loggia. Note that entrance doors are not visible.

Topography

The site slopes downward to the north and west. The elevation of the paved service area spanning between Seminar I and the Daniel J. Evan's Library allows for raised loading docks at both facilities. The Lower Ground Floor of Seminar I is accessible on-grade from the north end of the north wing. This project aims to improve pedestrian access – including ADA access – to the Lower Ground Floor and Floor 1 levels, a goal achieved through construction of an exterior stair between the Floor 1 primary

entrance and the entrance to Police Services at the Lower Ground Floor level. Site development associated with this stair includes retaining walls positioned to enable daylight access to Police Services' administrative spaces. An existing exhaust well in this location will be replaced with a ducted exhaust stack within the building.

Climate

The site experiences climatic conditions typical to the south Puget Sound. Prevailing winds come from the south. Based on climate and solar access the traditional preferred orientation for classrooms and offices is to the south. However, art-focused classroom labs will benefit from north-facing glazing facing, as seen with incorporation of new overhead glazing at the classroom/lab planned for the north wing of Floor 3.

Soils

Due to its prior development the soil characteristics at Seminar I are well-known and documented. The project site is underlain with Alderwood Gravelly Sandy Loam. Given that this is a renovation project and that new work dependent on soil characteristics is limited to minor additions and site features (e.g. retaining walls and pavement) work, we see foresee no soils issues.

Environmental

- Wetlands: There are no wetlands in the vicinity of the project site.
- Hazardous Materials: There are no known hazardous materials on the project site, and there have been no known past uses which would potentially source hazardous materials on the site.
- Public Wells: Thurston County regulates property use to protect the water quality of its well-based public water systems. Potable water for the campus is sourced from the City of Olympia, so wells and the need for wellhead protection do not exist.
- Protected Species: An visual onsite survey revealed no evidence of Mazama Pocket Gophers, which are protected at both the state and federal levels and are traditionally found in prairie ecosystems in Thurston County. No other threatened or endangered species or habitat were observed onsite or are mapped within 300 feet of the site.

Easements

There are no recorded easements on the site which would impact or otherwise restrict its use.

Historical/Cultural

The state's Department of Archaeology & Historic Preservation has influence over any changes to the Brutalist-style architecture of the early campus buildings (Seminar I included). This proposed project was reviewed by DAHP in accordance with Governor's Order 05-05 and was declared exempt from further review. See Appendix G.

4.2e Utilities

Adequate utilities exist at the proposed site for the building as programmed. The existing systems and the proposed modifications are described below, the cost for the

modifications have been included in the project cost estimate (see Section 5, Budget Analysis).

Electrical Service:
Electrical power is available from the campus tunnel distribution system. A transformer exists in the Basement level main switchgear room providing 480-volt 3-phase power. This transformer is not original to the building, does not contain PCBs, and does not require replacement.

Water Service:
The City of Olympia provides potable water to TESC. The existing service – both for domestic use and fire protection – is adequate for the projected improvements. Static pressure and fire flow have been tested to verify adequacy.

Water for fire protection is established in the International Building Code (IBC) by reference to National Fire Protection Association (NFPA) and International Fire Code (IFC). Fire flow is based on building size and construction type. The required fire flow rate must be provided for individual buildings. Greater flow for simultaneous fires in more than one building is not required.

Sanitary Sewer System
The City of Olympia provides sanitary sewer service to the campus.

Storm Drainage:
The Evergreen campus within four different drainage basins. The precise nature of the campus' existing storm drainage system was recently mapped and TESC published in 2014 its Stormwater Plan to serve as a policy statement for future development and current mitigation. TESC must follow the Washington State Department of Ecology Non-Point Discharge Elimination System (NPDES) Permit as a secondary MS4 permittee. The planned development includes creation of additional impervious area in excess of 2000 sf, which will require meeting the Department of Ecology 2012 Stormwater Management Manual for Western Washington, as amended in December 2014 (The 2014 SWMMWW).

Furthermore, Thurston County has adopted the 2010 Drainage Design and Erosion Control Manual (DDECM). Development of the site will require that the stormwater be controlled and treated to meet water quality requirements. Flow control may be provided through detention and release to a downstream conveyance system or through infiltration to the site's subsoils.

Natural Gas:
There is no natural gas service to the building, nor will it be required.

Telecommunications:
Telecommunications service – including fiber optic cable – is available from the campus utility tunnel network and already serves the building.

4.2f Vehicular Access

The project site is adequately served by a surface campus road network in uniformly good condition and capable of heavy vehicle traffic. Trucks used in staging events at Red Square access the area by way of Geoduck Lane and the pedestrian walkway on axis with the Longhouse. This will impact the extent of the Police Services secure access point proposed at the southwest corner of the building.

4.2g Parking Requirements

Parking at Evergreen is available for a modest fee at surface lots distributed throughout the campus. The overall capacity is ample even at peak times, but adequate parking is traditionally essential for such an isolated campus. There are no plans or requirements to expand parking as a result of this project.

4.2h Landscaping

Landscape areas untouched by development will be left in native condition. New landscaping will follow best practices for low-maintenance planting. Drought tolerant, native species will be utilized to the greatest extent possible.

4.3 SITE DEVELOPMENT

4.3a Site Components

Please see Section 8.0 for the project concept site plan and renderings.

SECTION 5 PROJECT BUDGET ANALYSIS

5.1 SCOPE NARRATIVE

5.1.1 Basis of Estimate and Assumptions

The renovated and expanded Seminar I will be of permanent construction and meet all codes and standards for Immediate Occupancy facilities. It will allow The Evergreen State College to realize significant energy, maintenance, and operational efficiencies through building envelope improvements and replacement of mechanical, electrical, and conveyance equipment. Construction will be robust and of high quality, but at reasonable cost, with a projected life span exceeding 50 years. To the greatest extent feasible, existing building elements (e.g. cast in place concrete and relatively new EPDM roofing) will remain. The project will be designed and constructed to achieve at minimum a LEED Silver sustainability certification**.** Outline specifications describing the general scope, quality, and character of the project are provided in Appendix D of this report.

The budgeting of the proposed Seminar I project was prepared by measurement of approximate quantities based on site and building program analysis as provided herein (Sections 2 and 3). The following narratives describe the major building components assumed for the project for the basis of costing.

5.1.2 Civil/Site Improvements

Project Location:

The building is located at the far northwest corner of Red Square, west of the Daniel J. Evan's Library, north of Lab II, and east of the future Indigenous Arts Campus.

Acquisition:

The site is owned by the State of Washington.

Soils:

The existing structure was built with conventional spread footings and there is no reason to believe anything but conventional footings are appropriate for the proposed addition at the building's southeast corner. There have been no groundwater issues over the 40-year life of the existing facility, including in the sub-basement.

Topography:

Floor 1 of the building is level with Red Square and functions as the primary building entry. The site slopes to the west and north to the degree that the Lower Ground Floor level is accessed on grade to the north and northwest. Site improvements will be graded to direct runoff away from the building and paved areas. Infiltration is the preferred means of stormwater management. All new walkways will be graded to meet accessibility requirements.

Erosion and Sedimentation Control:

Throughout construction, erosion and sedimentation control measures will comply with the 2015 Drainage Design and Erosion Control Manual (DDECM) adopted by Thurston County. Sediment-laden water will be prevented from leaving the site. Currently, Best Management Practices are required for erosion control, perimeter protection, and sedimentation control. A Stormwater Pollution Prevention Plan (SWPPP) is required for the National Pollution Discharge Elimination System (NPDES) permit. The SWPPP will include a description of the site and construction activities, an explanation of the project's Best Management Practices, and a description of the pollution prevention team. A Notice of Intent (NOI) will be submitted to the Washington State Department of Ecology.

Typical erosion control consists of delineating clearing limits, covering disturbed areas, and controlling surface water. A perimeter filter fabric fence provides perimeter protection. A sedimentation pond or Baker tanks will provide sedimentation control.

Drainage & Wetlands:

There are no known wetlands within the vicinity of the project site.

Stormwater detention and/or infiltration facilities will be required as the project adds impervious surface to the site (through an addition and additional pavement). Water quality facilities are required for flow from vehicle parking/storage areas which are considered pollution generating impervious surfaces. The secure vehicle parking area required by Police Services is identified herein to be gravel-surfaced, but regulatory requirements may ultimately dictate impervious surfacing be used.

Utilities:

<u>Water:</u>
The building is adequately served with potable water from the City of Olympia.

<u>Fire Protection:</u>
The building has adequate fire truck and fire hydrant access.

<u>Sanitary Sewer:</u>
The City of Olympia provides sanitary sewer service to the building.

<u>Gas:</u>
There building is not served by natural gas, nor is any gas-fired equipment proposed.

<u>Primary Power:</u>

12.5kV electrical power is provided by Puget Sound Energy via overhead lines to an electrical vault south of the Central Plant, then distributed through the campus utility tunnel network to the main electrical room at the Lower Ground Floor level. The primary transformer in this room steps down the supply to 480-v 3-phase. This transformer is not original to the building, does not contain PCBs, and is adequate to serve the proposed project.

Signal and Telecommunications:
Telecommunication service, originating from Century Link and including fiber cables, is provided via cable tray in the utility tunnel system to an MDF at the Basement level. IDF rooms will be provided at central locations on alternate floors. Distribution cabling throughout the building will be the performed by the Contractor.

Roads and Parking/Service Access:

For service and police access the building is adequately by an existing extension of Geoduck Lane and the large loading zone spanning between Seminar I and the Daniel J. Evan's Library.

Ample parking is available at surface lots distributed throughout the campus. Other than service and delivery vehicles, only accessible parking is provided at the building. Police vehicles will be stored in an enclosed secure yard adjacent to the Police Services facility along the north side of the building.

An existing loading dock in the north wing at the Basement level will be converted to the main entry for Police Services. Direct on-grade access to the facility will be improved on both the Lower Ground Floor and Floor 1 levels. The existing passenger elevator will be replaced with an elevator sized for freight use.

Waste will be collected in containers located in the existing loading zone.

Sidewalks & Plaza:

The primary building entry is reached by a plaza extension (surfaced in a combination of clay pavers and concrete) from Red Square and the Daniel J. Evan's Library. The Basement level is accessed from ramps and sidewalks at the northeast corner of the north wing. New minimum six-foot-wide concrete sidewalks will be provided to serve secondary entrances. Selected sidewalks may be thickened to support manlifts employed for window cleaning.

5.1.3 Landscape Criteria and Considerations

In general, landscape improvements will include native trees, shrubs, and ground cover at disturbed areas of the site. Plantings will be drought tolerant and low-maintenance. Permanent irrigation systems, if employed, will be low-water-use-type and limited in scope to primary public areas. Native planting areas, such as the restored staging area, will receive temporary irrigation with the limited purpose of establishing the plants.

5.1.4 Architectural Criteria and Considerations

Codes and Standards:

2015 International Building Code with Washington State Amendments.

Materials and Systems:

As the planned life of the building is 50+ years, proposed building materials and systems have been selected on the basis of durability, ease of maintenance, appropriateness, and initial cost. Materials and equipment will comply with TESC standards and LEED Materials and Resources criteria.

Exterior Walls:

Existing exterior walls will remain the original cast-in-place concrete, furred on the interior to achieve R-20 system insulation rating. Spray foam insulation will be used as a strategy to reduce thermal bridging and control vapor transmission. All single-pane aluminum windows will be replaced. Select window openings may be enlarged in response to interior space needs.

New walls will be of contrasting materials such as brick, wood, or aluminum composite panels to clearly differentiate new work from old, and in addition will feature large expanses of glazing.

Windows, storefront, and/or curtain wall will use thermally broken aluminum frames with Kynar painted finish. Glazing will consist of clear or lightly tinted insulating glazing units with hard coat low emissivity (Low-E) coating. Design intent is for all new glazing to be minimally tinted to emphasize transparency.

Roofing:

The majority of the building has been recently re-roofed with an EPDM single-ply membrane system which will be retained except where noted. New penetrations will be patched using compatible materials. The roof structure over much of the north wing will be demolished and replaced with a lightweight steel structure spanning from bearing wall to bearing wall to eliminate interior columns and to increase the interior volume of the large classroom/studio planned for that location. This new area will be insulated to achieve R-38. The roof structure shall include north-facing monitors or clerestories for bringing in daylight. Overhead glazing will consist of thermally broken aluminum frames with Kynar painted finish. Glazing will be clear or lightly tinted insulating glazing units with laminated inner lites and hard coat low emissivity (Low-E) coating.

Openings:

Exterior openings will consist of thermally-broken aluminum storefront with glazed aluminum doors.

Interior openings will feature grouted hollow metal frames with sidelights except at service spaces and spaces requiring a high degree of privacy (e.g. exam and counseling rooms). Doors will be solid core wood with wood veneer, Forest Stewardship Council (FSC) sourced. Glazing at office sidelights may feature surface-applied films for privacy. Doors at exam and counseling rooms will be sound rated.

All hardware will follow TESC standards. Building entrances and major interior spaces will receive access control devices.

Interior Walls:

Interior spaces will be configured to admit as much natural light into the building as is practical.

Interior concrete walls with board-formed finish will be retained to the greatest extent possible. Nonbearing interior walls will be universally full height, consisting of gypsum wallboard on 3-5/8-inch metal studs. Walls at instructional spaces, exam rooms, and counseling rooms will be sound-rated (min. STC = 52). Walls at offices will have sound batt insulation, full height, with intent to achieve a minimum STC of 45.

Interior openings will feature hollow metal frames with sidelights except at service spaces and spaces requiring a high degree of privacy (e.g. exam and counseling rooms). Doors will be solid core wood with wood veneer, FSC sourced. Glazing at office sidelights may feature surface-applied films for privacy. Doors at exam and counseling rooms will be sound rated.

Interior Finishes:

All interior finishes will be based on TESC standards and to the greatest extent possible be PVC-free.

Acoustics:

Primary acoustic attenuation in the building will be provided by acoustic ceilings and carpeting. To preserve a sense of interior volume in larger spaces overhead structure will remain exposed, with acoustic control achieved with suspended clouds or panels, fabric-faced wall panels, or similar devices.

To support effective learning environments, the ASHRAE recommendation that general classrooms should have a background noise level of no greater than 35dB will be followed. All mechanical equipment will be isolated on vibration dampening bases and supports. Further, ducts will have isolation connections.

Energy Conservation:

The project will make maximum use of available energy through passive design features, conservation, and low-use fixtures and equipment. Passive energy features include the use of entry vestibules at primary entrances, and orientation of the building to maximize daylight and minimize exposure to prevailing winds.

Conveyance System:

The existing elevator will be replaced with a larger stretcher-compliant elevator (as required by current code) with load capacity to function as a freight elevator. This will require enlarging the elevator shaft by capturing an adjacent mechanical shaft.

5.1.5 Structural Criteria and Considerations

Design Parameters:

The proposed modifications to the existing building will trigger a seismic upgrade to the facility. While the existing lateral system is fairly sound, the design of lateral systems has changed significantly since the building's original construction date. Additionally, the college desires to have the building classify as an Essential Facility, as it houses Police Services. This classification dramatically increases (by 50 percent) the lateral design forces.

Existing Building Design Parameters:

- ASCE 41-13 "Seismic Evaluation and Retrofit of Existing Buildings"
- Immediate Occupancy
- BSE-1N: S_{Ds} = 0.903; S_{D1} = 0.485

New Construction Design Parameters:

- 2015 International Building Code
- Immediate Occupancy
- Floor Live Loads:
  - Corridors: 100 psf
  - Offices: 50 psf + 15 psf for partitions
  - Classrooms: 40 psf

Existing Building:

The primary structural framing elements in the Seminar I Building have remained unchanged since its original construction in 1974. It is a relatively robust concrete system with exterior concrete walls and interior concrete columns supporting reinforced, flat-slab concrete floors. Some areas, primarily around the center core, are framed with wide-shallow concrete beams. The roof system is similar to the floor framing below, and it supports a thick, non-structural concrete topping that provides drainage. The lateral system consists of concrete shears walls. The foundations consist of spread and continuous concrete footings.

Several modifications to the existing building are anticipated, and are described below:

Level 1 Floor Infill: Very large floor openings occur in the Lower Ground Floor north wing. These openings will be infilled with steel beams and a composite steel/concrete floor system.

Roof Modifications: At the north wing, a large portion of the existing concrete roof system will be removed, and interior concrete columns supporting the roof system will be demolished from Level 3 upwards. A new structural steel system will be installed that clear-spans the space. The exterior concrete walls will be strengthened to support the increase vertical load.

Seismic Force Resisting System Improvements: Improvements to the existing seismic force resisting system is required. Due to the configuration of the building floor plate, and the existing locations of shear walls, a high-level seismic analysis is necessary to develop final solutions. However, it should be anticipated that some strengthening will be required near the core, as well as near the north and west ends of the building. This strengthening may consist of infilling areas with concrete walls, or strengthening existing walls by applying a layer of shotcrete.

New openings will be installed in existing exterior walls at the Lower Ground Floor level to support occupied use.

New Construction:

New construction is expected to be minimal. All new construction will be supported on spread and continuous concrete footings. The exterior envelope of any additional space will be framed with steel perimeter columns, supporting open-web roof joists and 1.5 inch metal roof deck. Walls will have metal stud infill or glazing.

5.1.6 Mechanical Criteria and Considerations

Codes and Standards:

- 2015 International Building Code with Washington State Amendments.
- 2015 International Mechanical Code with Washington State Amendments.
- 2015 International Fire Code with Washington State Amendments.
- 2015 Uniform Plumbing Code with Washington State Amendments.
- Washington State Energy Code – 2015.
- National Fire Protection Association (NFPA), Codes, Standards, Recommended Practices, Manuals and Guides. List all that apply 90A, 90B, 13, etc.
- Department of Labor, OSHA, Occupational Safety and Health Standards.
- ASHRAE Standards 90.1-2010; 62.1-2010; 55-2010.

The authority having jurisdiction is Thurston County.

Sustainability Goals and Strategies: LEED Version 4 for New Construction and Major Renovation.

The project shall achieve, at a minimum, LEED Silver certification. The building performance criteria for EA Credit 1, whole building simulation achieving an energy cost savings goal of 25 percent when compared to ASHRAE 90.1-2010 baseline building.

Design Conditions: Environmental Air Conditioning to meet the following criteria:

Design Temperatures	Heating	Cooling
Outdoor Conditions Olympia, WA	17 F	85 F DB/67 F WB
General Occupied Space	70 F DB	75 F DB
Conference Rooms	70 F DB	75 F DB/50% RH
Mechanical Spaces	65 F DB	Ventilate to 97 F DB
Electrical Spaces	65 F DB	86 F DB
Comm Rooms (MDF, IDF, Telecomm)	NA	85 F DB
Classroom	70 F DB	75 F DB/50% RH
Cells	70 F DB	75 F DB/50% RH
Office, Conference, Dispatch	70 F DB	75 F DB/50% RH

Air Filtration will be accomplished using the following:

Air Handling Units: Pre-filters will be 2-inch thick pleated media filters with a Minimum Efficiency Reporting Value (MERV) of MERV 8 when evaluated under the guidelines of ASHRAE Standard 52.2. Final filters will be high efficiency 12-inch thick pleated media filter MERV 13 when evaluated under the guidelines of ASHRAE Standard 52.2.

Ventilation: Minimum ventilation rate requirements are as follows:

Application	Estimated Maximum Occupancy (P/1000 ft2)	People Outdoor Air Requirements (cfm/person)	Area Outdoor Air Requirements (CFM/ft2)	Air Change Rate (AC/Hr)
Cells	25	5	0.06	1 CFM/FT2 exhaust
Corridors	-	-	0.06	-
Classroom	35	10	0.12	6
Offices	5	5	0.06	4-6
Conference	50	5	0.06	6-10
Restrooms	-	-	-	50/70 (CFM/FT2)

Equipment Heat Rejection to Environment: Following are the miscellaneous heat gains that will be assumed for use in calculating space cooling loads where specific loads are not known.

General Office Space	1.5 Watts per sq. ft.
Restrooms	.5 Watts per sq. ft.
Corridors	.5 Watts per sq. ft.
(Electrical Room)	To be determined as design progresses.
(MDF/IDF Rooms)	To be determined as design progresses.

Existing and Demolition:

The existing building has 37,015 sq.ft. main areas served by a variable air volume air handling unit and a combination of zone controlled 4-pipe induction units and air terminal units with HW reheat.

The existing mechanical room contains but is not limited to: Chilled water pumps; heating water pumps; waste pumps; drainage pumps; 26,700 CFM air handling unit; 11,500 CFM exhaust fan; 6,000 CFM exhaust; steam to water heat exchangers; ductwork; piping; and appurtenances.

Demolition will include all HVAC equipment, ductwork, and piping in the building.

Exterior Envelope Requirements: Components of the building envelope will be insulated to meet or exceed the Washington State Energy Code.

Existing roofs are assumed to be concrete with insulation entirely above deck.

New roofs are assumed to have insulation entirely above deck in compliance with Washington State Energy Code requirements.

Existing walls are assumed to be concrete mass walls.

Existing windows are to be demolished.

New windows are assumed to have thermally broken aluminum frames in compliance with Washington State Energy Code requirements.

Current Energy Code minimum U-Values as stated for Climate Zone 4C:

Components	Thermal Performance Criteria
Opaque Walls	U=0.104 Mass Wall
Roof	U=0.027 Insulation above deck
Floor, slab-on-grade	U=0.031
Opaque Doors	U = 0.34 for metal door
Glazing	U = 0.38; SHGC = 0.40
Skylight	U = 0.50; SHGC = 0.35 (With Curb)

Mechanical Systems – General:

The following information describes features and systems which are unique to this project.

A minimum of four feet of clearance will be provided around all mechanical equipment wherever possible. As a bare minimum, clearance will be provided on one side of each air handling unit for maintenance access and coil removal.

Noise, vibration and seismic control will be provided for the appropriate Mechanical Systems. Sound attenuation will be provided as an integral part of the air handling equipment supply and return fan systems described below. Additional noise and vibration controls will be provided as determined by the Acoustical Consultant.

Identification of ductwork, piping, valves and equipment shall be provided.

Insulation of mechanical systems will include domestic hot water/cold water/hot water circulation piping, nonpotable water piping, refrigerant piping, storm drain piping, chilled water piping, secondary chilled water piping, condenser water piping, condensate piping, heating water piping, steam piping, outside air ductwork, and supply ductwork. The insulation will be in accordance with the Washington State Energy Code.

Fiberglass duct liner will be used for thermal insulation and sound control as directed by acoustical. The air handling unit casing will be fiberglass lined with an acoustical perforated metal liner. Sound lining will be used on toilet exhaust ductwork and on short, low velocity transfer ducts to control cross talk between rooms.

Testing and Balancing of the Air and Water Systems will be accomplished by an Agency certified by the Associated Air Balance Council or the National Environmental Balancing Bureau specializing in Air and Water System Balancing. The A-E drawings will state the final design System capacities for reference by the Contractor and use by the maintenance personnel.

Commissioning of the Systems will be accomplished by a third party Agency certified by the Building Commissioning Association (BCA). The mechanical drawings will stipulate the minimum commissioning requirement per the 2015 Washington State Energy Code and as required by the Commissioning Authority. The A-E drawings will state the final design System capacities for reference by the Contractor and use by the maintenance personnel and Commissioning Authority hired on by the Owner.

Heating, Ventilating and Air Conditioning (HVAC):

The existing building is approximately 44,000 square feet and will be a major renovation. An existing sub-basement mechanical room will remain to be used for the HVAC systems. The existing building will be conditioned with three heat recovery units.

The existing campus utility tunnel runs to the building Lower Ground Floor mechanical room. The existing chilled water, steam, and condensate will be utilized and tied into this building. The main waste line that also feeds this building will be salvaged and reused for the new plumbing connections.

Air Handling Systems:

Three Heat Recovery Air Handling systems are planned to serve the Seminar I Building as follows:

System	Areas Served	Area (Sq. Ft.)	Approximate Capacity - CFM
HRU-1	Basement, Police Station	10,400	4,200
HRU-2	1st, 2nd, 3rd Floor, North	19,650	7,900
HRU-3	1st, 2nd, 3rd Floor, South	21,500	8,600

Each system will be variable air volume using heat recovery unit consisting of a supply fan array, hot water heating coil, chilled water cooling coil, filters and mixing box, and reverse flow heat recovery technology. A wrap-around coil may be required to ensure the proper humidity control. Each system will have a return fan array to ensure proper air flow and space pressure control. Air volume will be controlled by variable frequency drives on the supply and return fans. The number of supply and return fans in each heat recovery unit will be determined as design progresses.

The equipment will be manufactured by Haakon Industries/BKM or approved equal including direct drive supply and return fans utilizing fan array technology. The mixing box, filter and coil plenum sections will be of 4-inch thick double wall construction with perforated galvanized steel liner.

Downstream of the HRUs the individual zone spaces will be served by a Chilled Beam system. This type of system is not only highly efficient (see ELCCA in Appendix H), but, due to its low profile, is particularly advantageous for use in buildings with limited floor-to-floor heights such as found at Seminar I. The beams will be equipped with a cooling coil. Upstream of the chilled beams will be Terminal unit boxes with hot water heating coils, serving multiple similar usage chilled beam zones. The hot water heating coil control valve will be used to provide proper supply air temperature to each zone.

The individual zoned chilled beam will provide the zone comfort cooling and heating. The terminal unit will vary the volume of outside air to maintain CO2 levels in the classroom and conference room. The average CO2 levels shall maintain below a maximum of 350 PPM above ambient (outdoor) CO2 level which equates to a nominal CO2 level of 700 PPM inside the room.

Supply air to the spaces will be delivered overhead and return air will be relieved into a ceiling return air plenum.

A central exhaust system will be provided to serve all toilet and janitor rooms in the building.

Mechanical and electrical rooms containing heat generating equipment will be ventilated with outside air using wall or roof mounted ventilation fans.

The science and art labs will have dedicated exhaust systems to serve the functions for those rooms.

Heating System:

The basis of design for the heating water system assumes that the central plant will provide steam at 50 psi to the Seminar I building. New steam piping will tie-in to the existing campus steam lines in the utility tunnel and be routed to the mechanical room. A steam to water heat exchanger will be provided. Two dedicated heating water pumps, each sized to handle 100% of the building heating water load, will distribute heating water to the air handling units, heat recovery units, and terminal units. An above grade condensate return pump will be provided and connect to the existing condensate return line located in the utility tunnel.

Heating water piping will be either steel or copper piping.

Heating water system valves will be butterfly type for 2-1/2" and larger and ball type for 2" and smaller. Gate valves will not be used.

Steam BTU meter and condensate flow/conductivity meter will be provided in mechanical room.

Steam piping may be routed through the mechanical space to accommodate a future building. This will be confirmed as design progresses.

Cooling:

The basis of design for the chilled water system assumes that the central plant will provide primary chilled water (44 degrees F) to the Seminar I building. The central plant consists of two High Efficiency R-134a chillers providing between 42 degrees F and 44 degrees F chilled water. The chillers operate at 0.43kw/Ton. There is no water side economizer at the central plant. The campus chillers and chilled water pumps are shut down in the winter. New primary chilled water piping will tie in to the existing campus chilled water lines in the utility tunnel and routed to the mechanical room. Two dedicated chilled water pumps, each sized to handle 100% of the building chilled water load, will distribute chilled water to the air handling units and heat recovery units.

No cooling will be provided to the heat recovery units and air handling units when the central plant is turned off.

A de-coupled secondary chilled water loop with 57 degrees F water will be provided to serve the chilled beams using two dedicated chilled water pumps. Each chilled water pump will be sized to handle 100% of the building chilled beam load.

A cooling tower with a plate and frame heat exchanger will be provided off of the secondary chilled water loop to provide a water side economizer. The cooling tower will be located on the roof. Chemical treatment, condensing water pump, and condensing water piping system will be provided. The cooling tower condensing system will also serve the chilled beam system when the central plant is turned off. Cooling during this time will be limited.

Chilled water piping will be steel or copper piping.

Chilled water system valves will be ball type for 2 inches and smaller and butterfly type for 2-1/2 inches and larger. Gate valves will not be used.

Chilled water BTU meter will be provided in the mechanical room.

MDF/Elevator Equipment Room: These rooms will be served by separate split system DX air conditioning units that will operate continuously, independent of the building HVAC systems. Each system will consist of a packaged ductless room air conditioning unit with an associated air cooled condensing unit.

Chilled water piping may be routed through the mechanical space to accommodate a future building. This will be confirmed as design progresses.

HVAC Controls:

Controls for the Seminar I Building mechanical systems will be Tridium Direct Digital Controls (DDC) tied in to the existing campus DDC system, no substitutions. The system will be open protocol with both Lon Works/BACnet interface.

Plumbing:

The existing sewer line shall require a camera analysis of the existing condition of the pipe. If reusable the existing main line shall remain and tied into from all the new fixtures.

New water piping will be connected to the existing cold water main in the utility tunnel to provide new water service to the fixtures and equipment.

Electric water coolers will be provided with bottle filler.

Water closets and urinals will be provided with hard wired sensor operated low flow flush valves. Flush valves for water closets shall be 1.28 gpf and urinals shall be 0.125 gpf.

Lavatories will utilize hard wired sensor operated faucets with a low flow aerator delivering 0.5 gpm.

Two electric water heaters both sized at 100% capacity for redundancy will provide domestic hot water. There is no existing gas provided to the building. The domestic water heaters shall not be tied to the campus steam system as the steam from the central plant is turned off in the summer.

Floor drains will be provided in toilet rooms and in the mechanical rooms and other locations as indicated on the drawings.

Hot water re-circulation will be provided on the domestic hot water system to ensure hot water at all fixtures.

Rainwater on roof will be captured by roof drains and overflow roof drains. The rain leaders will tie to the storm water system 5 feet outside the building.

Separate water sub-metering will be provided for domestic cold water, make-up heating water, make-up condenser water, and irrigation.

Domestic piping for cold, hot, hot water circulating, nonpotable, and service water shall be Type L copper with wrought copper solder fittings and threaded adapters

Sanitary waste piping and sanitary vent piping shall be cast iron pipe. At contractors option, above ground piping can be copper drainage tube with wrought copper drainage fittings.

Acoustical Consultant:

An Acoustical Consultant will be procured to complete a sound and vibration isolation analysis of the mechanical system. They will provide recommendations for the project to meet the requirements of LEED version 4. The Acoustical Consultant will review design documents and make recommendations during the design phase. A sound and vibration analysis and project specifications will be provided during design.

Commissioning:

Commissioning services will be required per the Washington State Energy Code. A third party Commissioning authority or Owners Representative will be procured to complete the enhanced commissioning requirements for LEED version 4. The Commissioning Authority (or Owners Representative) will review design documents and make recommendations during the program phase, design phase, construction phase, acceptance phase, and post acceptance phase. Installation verification will be performed, functional testing, and performance period of measurement and verification. Commissioning documents will be provided during design, process, verification, and operation and maintenance documents.

Fire Protection:

The existing sprinkler service will be demolished from the utility tunnel to the main mechanical room and a new fire service connection will tie into the existing 6" fire pipe in the utility tunnel.

A new double check valve assembly will be provided in the utility tunnel.

An automatic, wet pipe sprinkler system will be provided to serve the entire building. Sprinkler protection will not be provided in non-accessible, non-combustible concealed spaces per NFPA-13.

An automatic dry-type sprinkler system will be provided to serve building exterior overhangs.

Compliance with 2015 International Fire Code with Washington State Amendments.

Compliance with UFC 3-600-01.

5.1.7 Electrical Criteria and Considerations

Codes: Governing Codes, Ordinances, and References:

- NFPA 70, National Electrical Code 2014
- Washington State Electrical Code
- International Building Code 2015
- UFC Unified Facilities Criteria
- NFPA 72 National Fire Alarm Code
- Washington State Energy Code 2015, Chapter 51-11 WAC
- Washington State Building Code, WAC 51-20-3100, Chapter 31, Accessibility
- TIA 568 Commercial Building Telecommunications Wiring Standard

Design Electrical Capacity:

The following is the minimum power density for the building. Actual electrical loads will be applied as the design is developed:

- Lighting 3.0 watts per SF
- Receptacles 3.0 watts per SF
- Appliance Plug Load 2.0 watts per SF
- HVAC 12.0 watts per SF
- Basic Minimum Load Capacity: 22 watts per SF

Electrical Service:

Service will be derived from campus 15 KV distribution system 15KV Feeders F4-1and F4-2. The existing primary service fused disconnect switches and 15 kv to 480 volt transformer will be retained to serve the building electrical load demands.

New 480 volt secondary distribution switchboard will be utilized to serve building lighting, HVAC system, motors and equipment with high power consumption rating. There will be a step down transformer located in the Main Electrical Room rated at 225 KVA, 208/120 volt to serve general purpose receptacles, 120 volt rated equipment and motors smaller than 1/2 horsepower.

Power distribution equipment will be sized for 20 watts per square foot of building area. The actual feeder, panelboard and branch circuit wiring will be sized in accordance with National Electrical Code plus 20% spare capacity. Distribution equipment is to be circuit breaker type consisting of distribution panels and branch

circuit panelboards. Energy Metering will be provided on the main switchboards and panelboards connected to building energy management system for the students.to record / identify energy usages.

Grounding System:

A grounding system will be provided to comply with Article 250 of National Electric Code and Washington State Electrical Safety Standards, Chapter 296-46B WAC.

Electrical main service equipment shall be grounded to made electrodes consisting of 5/8 x 8' driven copper-clad ground rods, and connected to the building's structural steel or rebar. Separately derived systems from distribution transformers will be similarly grounded.

All electrical outlets and equipment will be positively grounded by equipment grounding system integral with the power wiring.

Telecommunication Rooms shall be provided with a solid copper grounding bus bar, connected to the building grounding system.

Emergency Power:

Emergency power systems will supply only designated emergency equipment in compliance with Article 700 of the National Electrical Code. Power distribution from the emergency supply source to utilization equipment will be completely separate and independent from other electrical systems.

The emergency system will supply egress lighting, illuminated exit identification signs and the fire alarm system. Additionally, the generator power will also serve the Police Department area lighting and essential equipment as designated by the owner.

An automatic transfer switches will be provided that instantaneously apply emergency and standby power to the equipment upon failure of the normal power source. The automatic transfer switches will be served via a generator distribution panel.

Surge Protection:

Surge Protection Devices (SPD) will be provided to reduce possible damage to sensitive electronic equipment resulting from momentary excessive voltage surges. Electronic SPD equipment is to be provided at the main switchboard and each 120/208-volt panelboard serving receptacle outlets that supply computers and other sensitive equipment.

Wiring Methods:

Wiring systems power and lighting are to be installed in conduit. Electrical Metallic Tubing shall be used for indoor/dry locations. Underground conduit shall be PVC schedule 40 with Galvanized Rigid Steel bends. Exposed exterior conduit shall be Galvanized Intermediate Steel.

Spare conduits are to be installed from each panelboard to the ceiling space for future equipment.

Outlet devices and wiring junctions are to be installed in galvanized steel outlet boxes, sized for equipment and wire-fill.

Wire for power and lighting shall be type THHN/THW, 75°C 600-volt rated, thermoplastic insulation, copper conductor, solid & stranded.

Wiring in finished areas shall be installed concealed. Exposed wiring may be provided in mechanical equipment rooms and utility areas.

Lighting:

General lighting throughout the building will utilize LED lamp/fixtures. LED lamps shall have a correlated color temperature (CCT) of 4000□ Kelvin and a lamp life of 60,000 hours. Two- foot and four-foot fixtures shall be provided with Solid State LED lamps and drivers. LED lamps are to be used in down-lights and surface decorative fixtures. Solid State drivers for all LED fixtures will be provided with 7 year warranty.

Emergency/egress and exit lighting will be via generator.

Lighting systems are to be energy efficient and comply with the Washington State Energy Code.

Lighting control will be automatic by central switching equipment, occupancy sensors and light level sensors in areas with daylight contribution.

Illumination levels will be designed to comply with the recommendations of the Illuminating Engineering Society of North America. All stated illumination levels are average maintained levels, calculated at the work surface using an 80% maintenance factor.

The area with exposed open ceilings will be direct LED high bay fixtures, acrylic lenses with tool less swing down lenses. Room spaces with ceilings will be illuminated with recessed direct LED fixtures.

Average illumination levels (foot-candles) will be: offices & classrooms - 40, conference rooms -30.

Conference rooms will be provided with selective lighting control and or dimming.

The Labs/Studio will be illuminated to 50 foot-candles average and high vertical foot-candle levels.

Under counter light fixtures will be provided for performing tasks.

Restrooms will be illuminated to 20 foot-candles with cove mounted, wall wash, continuous row recessed LED fixtures.

Corridors and stairways will be illuminated to an average 15 foot-candles by direct and indirect LED fixtures. Stairwell fixtures will be easily maintained on landings.

Mechanical and electrical rooms and janitor's closets will be illuminated 15 foot-candles with 4-foot industrial LED fixtures with wire guards.

Illuminated exit identification signs will be provided to identify egress pathways in accordance with building codes.

Exterior Lighting will be LED fixtures with 100% cutoff to be "Dark Sky" compliant. Pedestrian pathways will be provided with LED lamp sources, and be 12'-14' in height which will match the existing pathway lighting fixtures.

Lighting Control:

General lighting throughout the building and exterior will be routed through a Lighting Control Panel (LCP). The LCP will utilize an astronomical clock with a touch screen interface and 20 amp mechanically held relays. Schedules for the lighting will be updated based on date and geographical position, which also automatically updates daylight saving times. Both parking and pathway lighting will be diminished in intensity at 50% at a predetermined time via the LCP. The interior general lighting will also provide after hour sweeps to conserve energy.

Energy Conservation:

Lighting and transformers shall be high efficiency to achieve increasing levels of energy performance above the baseline in the prerequisite standards and reduce environmental and economic impacts associated with excessive energy use. Equipment selection and design performance shall be specified to optimize energy performance and LEED 3.0 credit points to include IEQ Credit 6.1; Lighting Control and SS 8; Light Pollution Deduction.

Security:

Magnetic door contacts will be provided on all exterior doors. Contacts are to be connected to the access control system for continuous monitoring in the security office.

Video surveillance cameras will be located in corridors, building entrances, exterior circulation areas, lobbies and select rooms and parking lot lighting fixtures matching campus standards. Cameras will connect to a digital video multiplex recorder (DVMR) located in the information technology terminal equipment room. DVMR will record video only when motion is sensed by cameras. DVMR will have capacity to save video information from all cameras for a 2-week time period. DVMR will connect to the campus data network for remote access by authorized persons.

Access Control System:

Card reader/access security system will be provided at all exterior doors and selected interior doors. Each location will include provisions for a card reader, electric door strike, request to exit sensor and door position monitoring. Devices shall be connected to a local control panel/s that interconnects to the existing campus access control system. System will interlock with automatic door operators for proper operational sequence.

Fire Alarm, Detection and Communications:

The fire alarm system will match the existing campus standard, which is Edwards. The fire alarm system will consist of manual pull stations, smoke detectors, sprinkler flow switches, exterior bells and audio/visual notification devices will be provided to comply with the National Fire Alarm Code.

Fire alarm devices are to be connected to a fire alarm control panel located in the Police Department Dispatch Station. The system will automatically communicate all alarms and trouble to a 24-hour UL monitoring service.

A remote annunciator shall be installed in a location as required by the Fire Department. Annunciator shall indicate source and location of each alarm.

Voice and Data Communications:

The MDF and IDF rooms will connect to the existing campus underground fiber optic and copper system via the existing tunnel system. Fuse blocking is required for backbone copper. The IDF's throughout the building will be connected to the MDF via 100 pair copper, single-mode and multi-mode fiber.

Outlets for voice and data communications shall be installed throughout the facility. Outlets shall interconnect to a conduit and cable tray wiring system infrastructure. Wireless access points will be located in selected area for wireless connectivity.

In rooms with accessible ceilings, conduits will be provided from the outlets to above ceiling spaces. In rooms without ceilings, conduits shall be installed from the outlets to the cable tray system.

The cable tray system, consisting of basket type cable tray shall be routed throughout the building and terminate in IDF rooms.

Wiring will comply with Cat-6A data standards and will be installed from each data outlet to rack mounted patch panels located IDF rooms. Plenum rated cabling is the campus standard. Telecommunications network equipment is to be provided by the owner.

In classrooms with numerous data outlets located on walls, a divided Wiremold 3000 or approved equal surface metal raceway will be provided for both power and data above counters. This will give the owner the adaptability for adding additional devices as the room changes.

Mass Notification System:

A notification system will be provided throughout the building integrated with building fire alarm system.

Audiovisual System:

Classrooms, laboratories, studio space, and conference rooms will contain electrical power outlets, data outlets and rough-in raceway system to support AV system projector, speaker, input panel, control panel, AV equipment rack, teaching podium and wireless system. AV equipment wiring will contain fiber, copper, and data line connects to the campus Main AV equipment room located in the Library Building. AV

system infrastructure will be planned to support intercampus teleconferencing and telepresence.

5.2 DETAILED COST ESTIMATE

5.2.1 Overall project costs

We estimate that the project will have an overall construction cost of **$18,264,000** – less construction contingency and taxes – escalated to the mid-point of construction. Additional project costs for design, construction services, artwork, commissioning, and FF&E produce total project costs of **$26,864,000**. See Appendix B for a detailed cost description.

Funds totaling $400,000 for this pre-design study were appropriated in the 2015-2017 state budget.

5.3 COST BENEFIT ANALYSIS/LIFE CYCLE COSTS

5.3.1 Existing Program and Facilities

Keeping the existing programs and facilities unchanged will not resolve TESC's need for more quality flexible instructional space. Nor will it change the fact that each occupant group is housed in spaces not designed for their needs and which they have outgrown over time due to their expanding missions. Lastly, keeping the facilities as-is will mean the building continues to operate at 42 percent space efficiency, derived from the fact that it houses massive service infrastructure for a Phase 2 project that was never constructed.

5.3.2 Most Appropriate Solution

The most appropriate solution directly addresses each deficiency:

- It fully renovates the existing building with a variety of space types responsive to immediate needs but flexible enough to be useful to future occupants;
- It responds to additional space needs of the existing tenants by capturing surplus Lower Ground Floor space. No tenants were squeezed from the building even though each group will have more space;
- It includes large-scaled flexible classroom/lab spaces. These spaces are the college's highest need. A Floor 1 addition and structural modifications at Floor 3 assure two of these spaces are entirely column-free and with high roof structures configured to allow abundant natural light.

5.3.3 Impact of No Action

Without the proposed project:

- Evergreen will continue to operate Seminar I as a second-tier facility housing a variety of essential but background functions;
- Seminar I will operate at 42 percent space efficiency, and with a massively oversized, obsolete and inefficient mechanical system;

- Police Services will continue to stage its vehicles from the front plaza risking pedestrian-vehicle conflicts and inviting vandalism. Dispatch functions will continue to conflict with public reception duties;
- The Health and Counseling Center, barring construction of a stand-alone facility, will continue to lack visual presence and convenient access, thus losing an opportunity to positively influence students' personal healthcare decisions;
- The ability of TESC to attract and retain top talent will remain compromised;
- Maintenance and operations costs will continue to increase as materials and equipment exceed their useful lives.

5.4 AGENCY PROJECT REQUEST FORMS

Please see Appendix B for OFM's C-100 form. Estimated costs were prepared based on the project scope narrative (Section 5.0), concept plan diagrams and sections (Section 8.0), outline specifications (Appendix D).

5.5 ANTICIPATED FUNDING SOURCES

We request 100 percent state appropriation ($26,864,000) for this public project.

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SECTION 6 MASTER PLAN COORDINATION

6.1 CONFORMANCE WITH AGENCY MASTER PLAN

Planning History

Development of Evergreen's campus has been controlled by master plan since the 1008 acre site was acquired in 1968. TESC's current "Campus Master Plan – 2014 Update" (CMP) provides a comprehensive long-term framework for development of both buildings and grounds through the 2021-2023 biennium. It is organized in three volumes addressing (1) site specific recommendations, (2) goals and policies for land use, and (3) supporting data. The Campus Master Plan is deliberately consistent with the college's Mission, Strategic Plan (Appendix I), and other initiatives such as the college's ambitious Climate Action Plan (Appendix F), and Stormwater Management Plan.

Planning Goals/Objectives

This project is part of a long-term process of modernizing all campus core facilities, a process begun with renovation of the Daniel J. Evans Library in 2005-2009. It is also consistent with all five Goals and Objectives of the CMP, abbreviated as follows:

Goal 1: Develop State-of-the-Art Learning Facilities that Advance the Mission of the College

Seminar I is no longer used to any significant degree for instruction because there is very little need for the small-scaled seminar rooms it contains. Through Seminar II, completed in 2004, the college at last created a facility well-aligned with our mission to provide "…*collaborative, interdisciplinary learning across significant differences*…" Seminar II features large-scaled, technology-rich, highly flexible rooms sized for simultaneous use by two instructors and 50 students. This project seeks to create in Seminar I similar facilities in support of Evergreen's interdisciplinary, program-based pedagogy.

Goal 2: Provide an Open and Supportive Environment

The Brutalist architecture style prevalent in many campus core buildings, Seminar I included, is inimical to Evergreen welcoming, inclusive ethos. Our approach to renovation will respect the stylistic integrity of the original construction while introducing new elements that are both visually warmer and more transparent. Further, while the general academic community agrees that learning can no longer be contained with the walls of traditional classrooms or laboratories, Seminar I now contains literally no spaces to support informal learning. Students need a variety of contexts to explore and connect with all forms of learning. These can be a quiet nook for solitary study, a small table for one-on-one mentoring, a flexible lounge for peers to gather and debate issues of the day, or a simple access port for on-line discovery. The renovation of Seminar I includes an appropriate variety of gathering spaces in addition to state-of-the-art learning environments.

Goal 3: Create a Visibly Sustainable Campus

Seminar I – designed at the tail end of an era of abundant and cheap energy – in many ways represents the antithesis of sustainability. With massively oversized mechanical equipment, inefficient lighting, and poor daylighting, to name but a few of its shortcomings, the building is out of step with Evergreen's strong commitment to a sustainable campus as exemplified in our Climate Action Plan. At the same time it is durable and structurally sound, with much embodied energy that can see new productive use. Not only will this project reach LEED Silver certification or beyond, it will aid the college's goal to become carbon neutral.

Goal 4: Provide Educational Opportunities in the Delivery of Campus Planning, Operations and Services

Evergreen's campus is a living laboratory from which is drawn many lessons, from sustainable design to responsible forestry to organic farming. Seminar I by contrast is insular and inflexible, barely meeting the basic needs let alone supporting the aspirations of its occupants. A renovated Seminar I will re-integrate with the educational mission of the college and take on a didactic role through design, construction, and operation. As an example of didactic potential, the building will house the Sustainable Design Program, a studio-centered offering combining art, science, expression, and service in the study of sustainable practices. Seminar I will play an active role in the Sustainable Design pedagogy through such tools as transparency and display to communicate concepts and systems to program participants and to the broader campus community.

Goal 5: Integrate College Educational Activities with Cultural, Social, Civic, and Business Activities of the Surrounding Community

Despite being a very remote campus, the Longhouse facility adjacent to Seminar I functions as a public service center and is thus one of Evergreen's critical connections to the broader world. The southwest corner of a renovated Seminar I, Floors 1 and 3, will house the Longhouse-affiliated Reservation-Based Community-Determined Program and office/studio accommodations for residency programs and summer studios.

Planning Compliance

Proposed projects identified in the "Campus Master Plan – 2014 Update" include renovation and expansion of Seminar I (CMP "Project F" – See Appendix J for excerpt). The scope of work described in this predesign is consistent with, and requires no modification of, the CMP. The planned timeline for development of this project matches the schedule stated in Section 2 of this predesign report.

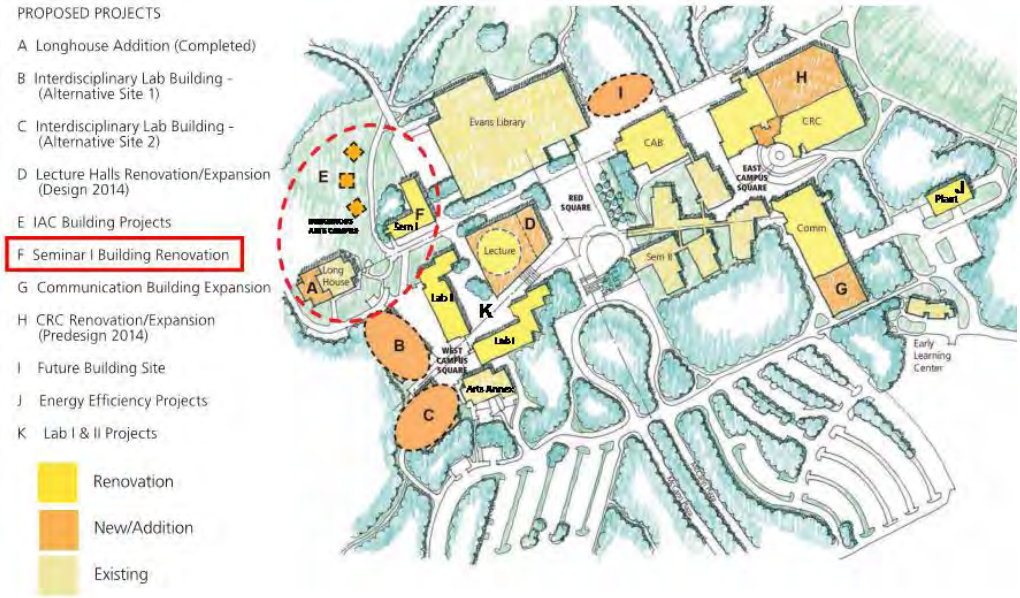

Figure 14: Core campus projects from Campus Master Plan – 2014 Update, indicating Seminar I project

Health and Counseling Center: Moving the Health and Counseling Center to a location more convenient to students and supportive of the center's outreach efforts – proposed separately – was studied in detail in the Costantino Recreation Center Predesign Report published in October 2015.

Figure 15: Excerpt from CRC Predesign Report showing Health & Counseling Center component

6.2 CONFORMANCE WITH STATE REQUIREMENTS

Renovation and expansion of Seminar I will further the following significant state and institutional policies:

Clean Air Act of 1991

Roughly 31 percent of Evergreen's total greenhouse gas emissions are associated with staff, faculty, and student transportation.[1] In part in response to the Clean Air Act of 1991, TESC:

- has convenient Intercity Transit bus service to downtown Olympia free of charge;[2]
- offers a "PASSPORT" parking permit, which allows limited bus use for those days when alternate commuting is impractical;
- encourages carpooling by providing convenient dedicated spaces;
- has an agreement with car-sharing service Zipcar to assure on-demand transportation is available on campus;
- provides Level Two (220-volt) charging stations for plug-in hybrid or electric vehicles;

[1] From "TESC Campus Master Plan – 2014 Update," Volume 1, p. 42.

[2] Students are charged a transportation fee based on credits taken. Employees receive STAR (State Agency Rider) passes as part of the state's own commute trip reduction program.

- provides bicycle lanes, covered racks, lockers, locks, air stations, and as well as a full-service bike shop;
- has dedicated parking spaces for motorcycles and scooters.

None of these college initiatives are negatively impacted by the Seminar I project. Specific to this project, HVAC requirements and material selection will improve indoor air quality and reduce outdoor emissions.

Growth Management Act of 1990

The Growth Strategies legislation of 1991 requires all state agencies to comply with local land use regulations adopted pursuant to the Growth Management Act. This project is subject to the plan review and environmental mitigation process of Thurston County. No significant issues are anticipated, as the development proposed by this predesign document is in full compliance with approved land use documents.

Clean Water Act

Seminar I construction documents will include storm water, drainage and erosion control plan requirements. National Pollutant Discharge Elimination System (NPDES) permit requirements will be implemented through the installation and maintenance of drainage systems.

High Performance Green Buildings

In accordance with RCW 39.35D, all state facilities in excess of 5000 gsf or renovation projects with cost greater than 50 percent of assessed value must be designed, constructed, and certified to at least the U.S. Green Building Council's "Leadership in Energy and Environmental Design" (LEED) Silver standard. This requirement was carefully considered in the development of this predesign. For a detailed description of TESC's commitment to environmental awareness and anticipated strategies for LEED Silver certification see Appendix C.

Hazardous Substances

TESC will engage an approved outside consultant and/or chemical hygiene expert to prepare an inventory of all hazardous substances to be utilized in, or removed from, the project. This consultant will assist in developing a mitigation plan for removal and/or abatement and for adherence to notification requirements.

Indoor Air Quality

ASHRAE 62.1 will be the basis for indoor air quality requirements, now that the Washington State Ventilation and Indoor Air Quality Code has been superseded (effective 2010) by the International Mechanical Code. ASHRAE 62.1 is also the basis of design for LEED projects.

Governor Executive Order 96-04

A key requirement of this project is to reconfigure Seminar I (including all entrances) to comply fully with the Americans with Disabilities Act through adherence to the current edition of ANSI 117.1 and Chapter 11 of the International Building Code with State of Washington amendments.

Governor Executive Order 05-05

This Executive Order requires state agencies to review capital construction projects and land acquisitions with the Department of Archaeology and Historic Preservation (DAHP), to determine potential impacts on cultural resources. DAHP performed its review during this predesign process. As confirmed by letter (Appendix G) DAHP considers this project exempt from further review.

Governor Executive Order 13-03
This Executive Order requires state agencies to consider life cycle and operating costs in public works project at the beginning of the planning process, as a means of reducing energy and other operating costs. This order applies to all new buildings in excess of 5000 sf and demonstration of compliance must be provided to OFM prior to the start of construction. Benchmarks will be established in the design phases.

Apprenticeship Participation
The proposed project will comply with RCW 39.04.320, which requires a minimum level of apprenticeship participation in construction of state agency projects.

Wage Rates
The proposed project will comply with Prevailing Wage Rates regulations as administered by L & I.

6.3 OTHER POLICY COORDINATION

Other policies affecting the Seminar I project include:

- The Evergreen State College Design Guidelines as produced by Facilities Services *(Note: These are expressed in CSI outline spec format. Narrative design guidelines are found in Volume 1 of the CMP)*
- State of Washington Department of Enterprise Services – Facilities Design Guidelines and Construction Standards.
- State of Washington Department of Enterprise Services – Engineering and Architectural Services – Construction Waste Management Plan.
- State of Washington Department of Enterprise Services – Leadership in Energy and Environmental Design (LEED) – Quality Assurance Process Guidelines for State Agency/College and University Facilities.

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SECTION 7 FACILITY OPERATIONS & MAINTENANCE REQUIREMENTS

This project proposes renovation of 38,750 gsf existing space, 9,800 gsf of which is captured from currently unoccupied service rooms and covered exterior paved areas or decks. Additions totaling 2,500 gsf yield total a project area of 41,250 gsf. For purposes of this analysis captured spaces are assumed to have significantly lower current operating expenditures and as such are considered new space.

7.1 OPERATING BUDGET IMPACTS

Project impact on TESC's annual operating budgets is as follows:

Utilities

The new building will be designed as an energy efficient facility following the USGBC's "Leadership in Energy & Environmental Design" (LEED) standards and achieving at minimum LEED Silver certification. All major mechanical, electrical, and conveyance systems will be replaced as a result of this project, and the existing building envelope will be upgraded with new windows and enhanced wall insulation. Despite increasing the occupied area of the building by 12,300 gsf through capture and addition, our ELCCA predicts a 27 percent decrease in annual energy costs, or a savings of approximately $20,850 per year expressed in 2017-19 dollars.

Security

Police Services, which by coincidence operates out of Seminar I, is responsible for building security. While the building gross area grows by 2500 gsf, this represents little added effort especially given the high visibility of the new spaces. As such we predict no significant cost increase for building security associated with this project.

Grounds

While the amount of landscaped grounds adjacent to Seminar I will decrease owing to the on-grade building addition and new pavements, this will be offset by restoration (with native plantings) of the staging area north of Geoduck Lane. In total we consider landscape maintenance costs associated with this project to be cost neutral.

Technology / Voice Data Video

These costs are expected to increase due to the larger occupied area (including building additions) coupled with sharply increased instructional media equipment. Based on similar institutions, we estimate annual costs for technology support will total $0.20/year or $8,250/year.

Custodial:

Custodians at TESC are responsible for approximately 30,000 gsf per day. This project will result in larger occupied area and as a result approximately 0.40 FTE increased custodial effort, or $20,000/year.

Capital Maintenance, General Repair

Maintenance staff are responsible for approximately 75,000 gsf per day. Larger occupied area will require an additional 0.15 FTE at the Maintenance Mechanic II level, or $9,000/year.

7.1a Operating Budget Impacts:

In tabular form, we project a very modest overall increase in operating costs associated with this project for the next five biennia. Costs assume annual escalation of 2.8 percent. *Note that these costs present the net change over the present condition, and not total maintenance and operating costs.*

Annual Net Facility Operating Costs Associated with Project						
Cost Source	**Biennium**					
	Current	2017-19	2019-21	2021-23	2023-25	2025-27
Utilities	$ (20,850)	$ (21,434)	$ (22,034)	$ (22,651)	$ (23,285)	$ (23,937)
Security	$ -	$ -	$ -	$ -	$ -	$ -
Grounds	$ -	$ -	$ -	$ -	$ -	$ -
Technology / Voice Data Video	$ 8,250	$ 8,481	$ 8,718	$ 8,963	$ 9,214	$ 9,472
Custodial	$ 20,000	$ 20,560	$ 21,136	$ 21,727	$ 22,336	$ 22,961
Capital Maintenance, General Repair	$ 9,000	$ 9,252	$ 9,511	$ 9,777	$ 10,051	$ 10,333
Total Impact:	**$ 16,400**	**$ 16,859**	**$ 17,331**	**$ 17,817**	**$ 18,315**	**$ 18,828**
Impact per GSF:	$ 0.40	$ 0.41	$ 0.42	$ 0.43	$ 0.44	$ 0.46

SECTION 8 PROJECT DIAGRAMS AND DRAWINGS

The following diagrams illustrate the conceptual arrangement of the building and programmed spaces on the proposed site. They are not intended to represent building design, but rather a scaled organizational diagram suitable for evaluating development issues and costs.

8.1 SITE PLAN

Improvements to the existing site are intended to accomplish several objectives:

- Minimize area of site disturbance and maintain maximum quantity of existing trees.
- Increase visual presence of Seminar I from Red Square.
- Re-contour site or introduce light wells to enable daylight access to occupied spaces in the Lower Ground Floor.
- Provide on-grade access to the Lower Ground Floor including the Police Services public lobby/food bank.
- Take advantage of the existing road network (for Police Services vehicular movement, service access, and accessible parking access).
- Provide accommodation for a future exterior work area dedicated to Sustainable Design programs.
- Maximize future flexibility.

8.2 BUILDING PLANS

A renovated and expanded Seminar I will be a flexible, technology-rich academic building. Specific objectives demonstrated on the attached floor plan diagrams include:

- Maximize daylight access to occupied functions.
- Locate large-scale spaces (i.e. classroom labs) in existing north wing, where the structural column grid is least restrictive.
- Provide at minimum two column-free and well-daylighted instructional spaces. This is accomplished through (1) one building addition, and (2) through removal of columns (by replacing the overhead concrete with a free-spanning steel structural featuring monitors/clerestories) on Floor 3 of north wing.
- Provide breakout spaces on each floor serving the classroom/labs, but also available for general use.
- Provide storage and prep rooms at classroom/labs to support "food-safe" science instruction.
- Provide a variety of informal learning spaces, both enclosed and open.
- Provide a variety of faculty office configurations, including offices associated with (shared and/or private) studio/research spaces.
- Locate Longhouse-affiliated functions in spaces close to (and ideally within view of) the Longhouse.

- Configure Police Services facilities to support typical professional (commissioned) force functions, out of view of the academic campus but easily accessed.
- Provide easily-accessed facility for Parking Services, with nearby surge space for overflow waiting at times of peak demand.
- Capture existing unoccupied spaces wherever possible, and minimize additions to only those essential to satisfy project objectives.
- If Health and Counseling Center must be located in Seminar I, assure all functions occupy a single floor (Floor 2).

8.3 BUILDING SECTIONS

Conceptual sections are intended to demonstrate:

- Use of site contours and light wells to daylight occupied spaces on the Lower Ground Level.
- Volume potential of Floor 3 north wing classroom/lab.
- Relation of mechanical/service spaces.

8.4 RENDERINGS

Renderings were used not to depict design solutions but to express broad project goals to a diverse campus audience. The exterior rendering conveys several preferences of project stakeholders:

- The existing shell should remain largely intact, a specific preference voiced by DAHP on past projects at the Brutalist campus core.
- New construction should contrast with original construction, through warm materials and a high degree of transparency.
- The building entrance needs to be clearly stated and welcoming.

The Floor 3 interior rendering is intended to convey the following:

- Increasing the visual height of interior volumes will create more welcoming large-scale spaces. If not possible to physically modify the structure (such as is proposed at the Floor 3 north wing), existing overhead structure should be left exposed to maximize apparent volume.
- Eliminating interior columns will produce more flexible spaces.
- Attempts should be made to maximize interior daylight and views.
- The didactic role of sustainability elements should be visually enhanced. In the case of this rendering, a photovoltaic array is located to be visible from the building interior.

8.5 ATTACHMENTS

Proposed Site Plan Diagram
Sub Basement Floor Plan
Proposed Lower Ground Floor Plan Diagram
Proposed Floor 1 Plan Diagram

Proposed Floor 2 Plan Diagram
Proposed Floor 2 Plan Diagram - Health & Counseling Center Alternate
Proposed Floor 3 Plan Diagram
Proposed Building Sections Diagram
Rendering: Proposed Main Entrance View (with new additions)
Rendering: Proposed Floor 3 Classroom/Lab (in Art Studio Configuration)

Seminar I

Renovation

The Evergreen State College

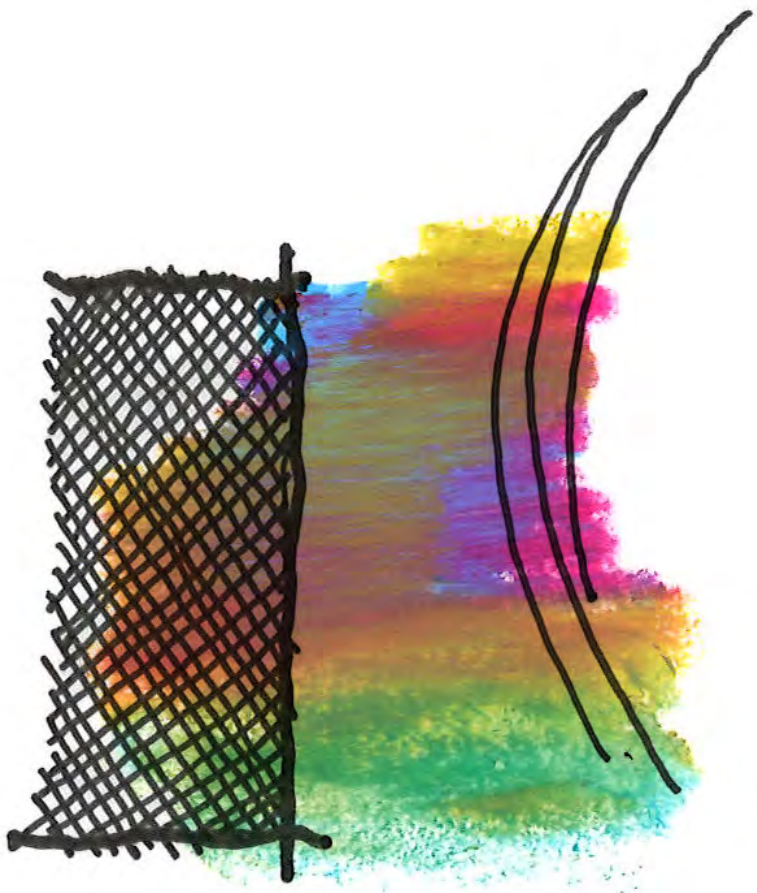


table of contents

Schematic Design Book

JULY 12, 2022


Ever-curious.
Ever-evolving.
Evergreen

SETTING THE TABLE

"WE DO THINGS DIFFERENTLY..."

- TREVOR SPELLER
INTERIM VICE PROVOST

Stakeholders

The following stakeholder groups continued to participate in and provided feedback during the schematic design phase.

Design Leadership Team

Dave Shellman
Kara Briggs
Harmony Gehlert
Abraham Guz
Linda Horn
Susan Keefe
Corey Larson
Michael Partlow
Tony Perez
George Phinn
Toby Sawyer
Taylor Slaughter
Trevor Speller
Tammy Van Natta
Bryce Winkelman
Dawn Barron
William Ward
Beth Mason
Lyn Dennis
Scott Morgan
Vauhn Foster-Grahler
Carri LeRoy

Program Working Groups

Native Pathways Program | Indigenous Arts Campus | Tribal Relations

Dawn Barron, Toby Sawyer, Corey Larson, Lyn Dennis, Kara Briggs, Laura Vermeulen, Liza Harrell-Edge

College Academics

Trevor Speller

College Facilities

Tammy Van Natta, Scott Morgan, George Phinn, Susan Keefe, Taylor Slaughter, Harmony Gehlert, Dave Shellman, William Ward

Police Services | Parking Services | Building Tenants | Comp & Comm

Tony Perez, Linda Horn, Bryce Winkelman, Michael Partlow, Abraham Guz, Beth Mason

Design Team

Architecture | Interior Design
Integrus Architecture

Historic Preservation
Richaven Architecture & Preservation

Landscape Design
Nakano Associates

Lighting Design
Luma Lighting Design

Acoustical Design
Yantis Acoustics

Project Facilitator
Emily Washines

Structural Engineer
Integrus Architecture

Civil Engineer
AHBL

Mechanical Engineer
FSi Engineers

Electrical Engineer
PAE Engineers

Cost Estimator
RC Cost Group

summary

The Seminar I renovation represents an opportunity by The Evergreen State College to re-vitalize this original campus building so it can effectively support contemporary approaches to teaching and learning as well as become a hub of student activity again at the western end of the central campus path.

The renovation includes the preservation of the existing building facades and key interior features, new enclosed and secure building entrances, complete remodel of interior spaces, and new building systems. This will set the stage for Seminar I to continue to support Evergreen students for another 50 years.

Critically, the project will directly support the academic success, growth and wellfare of Evegreen students. The building will be renovated to include needed seminar spaces for students across campus and academic programs at Evergreen. Provide much needed expansion space and resources to support the growing Native Pathways Program. Provide updated and expanded space for parking and police services.

The following document includes the project goals and schematic design ideas which were developed by the design team in collaboration with the Evergeen Design Leadership Team and Program Stakeholders.

the big picture 01

RELATIONAL

A key perspective of the College and this design is the importance of relationships and relational spaces. This stems directly from the ethos of Evergreen and greatly informs the renovation design of Seminar I.

For years Seminar I has felt removed from campus life and activites. Has felt like a barrier and unwelcoming to students and staff. A place which no longer supported or played a part in the daily lives of Evergreeen Students.

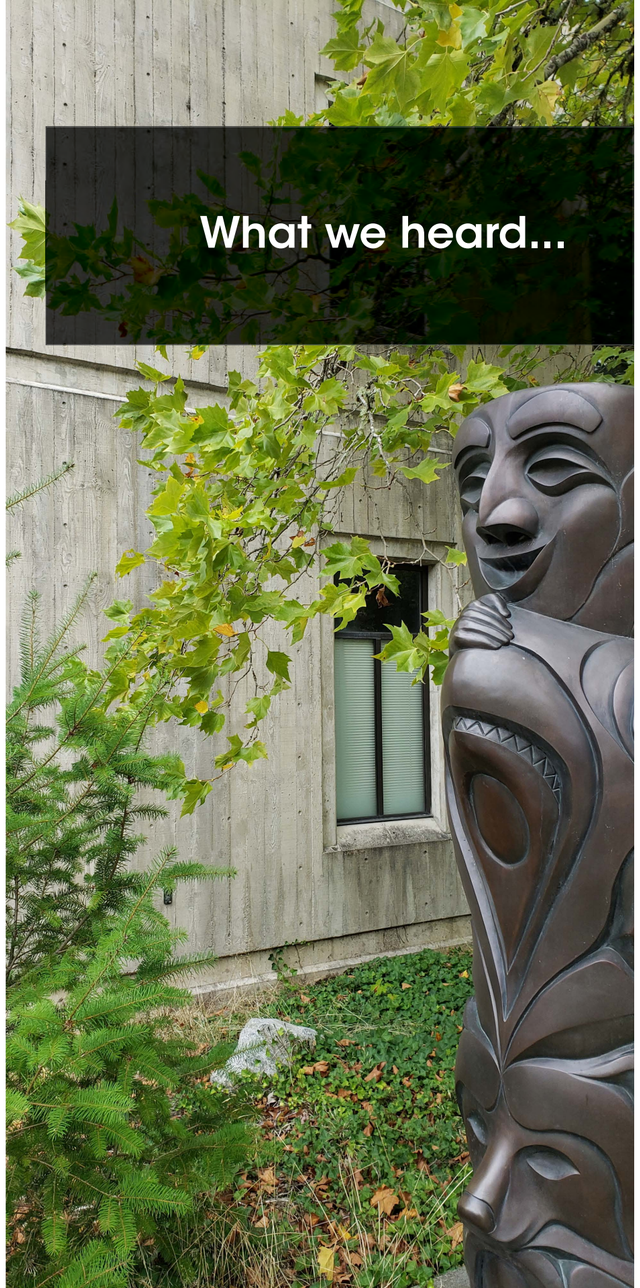
To revitalize Seminar I is to re-connect the existing building to the vital centers of campus, academic excellence, and the vibrant cultures and student life.

Key to this at Evergreen is the relational approach to learning. Driving the project is a desire to design spaces that are relational, foster relationships, and support Evergreen's relational model of learning.

From the stakeholder groups a set of characteristics emerged:

Support Relationships
Accessible
Visible
Holistic ability to be with students
Hands on Learning
Social Justice
Collaborative Learning
Daylight
Vibrant Color

What we saw...



What we heard...

These goals were outlined by various stakeholder groups during working sessions, tours, and various touch points. They act in conjunction with goals articulated in the Strategic Plan and Mission of the College. These working goals will be refined and distilled during the design process.

Enhance Distinct Educational Experience and Culture of Evergreen

Support Evergreen's interdisciplinary teaching and learning model.
Support the Five Foci, Six Expectations, and Core Themes
Reach and connect with people and students where they are at
Adaptable and Flexible spaces that support the Evergreen 'seminaring' teaching and learning approach
Prioritize relational interactions and engagement with regards to teaching and learning, staff, and social spaces.

Transform Seminar I into an Inviting and Welcoming Place on Campus

Take an insular facility (Sem I) and make it a model of physical transparency, actively engaging Red Square and its occupants in a dialog with campus events and achievements.
Improve daylight and access to views.
A clear statement of intent to humanize the 'brutalist' architectural style of the campus core.
Prioritize comfort, warmth, safe, accessible, and culturally relevant spaces and environments
Employ strategies that maintain an inviting and welcoming building during evening, night, and weekend courses.

Enhance and Support the success and growth of the Native Pathways Program

Develop a clear identity and presence as a home for this program
Support outward facing indigenous community presence
Spaces that are appropriate and visibly indigenous spaces
Enhance connection between the Indigenous Arts Campus and Seminar I

Respect and Balance the presences and needs of the various programs in Seminar I

Support ongoing cultural change toward shared spaces vs owning spaces across campus
Embrace the opportunities present with the range of programs in the building to develop connections while also support distinct core needs of the various programs

Sustainable Design

Continue and support long history of College environmental stewardship and activism
LEED Silver (minimum)
Eliminate/significantly reduce operational carbon and fossil fuel use heating, cooling, and building services
Improve Stormwater quality and quantity in furtherance of Colleges improved shellfish and pacific salmon initiative and program
Extensive use of low-toxicity, renewable, and recycled materials
Support 2020 Carbon Neutrality Initiative
Adaptable/Flexible design approaches as sustainable design approach
Environment as a critical part of teaching and learning at Evergreen

Enhance Natural aspects of Campus in support of Teaching, Learning, and Community

Engage campus as a living educational environment.

DAYLIGHT

PEER TO PEER LEARNING

ART INTEGRATION

ADAPTABLE LEARNING ENIVRONMENT

POTENTIAL CAMPUS CONNECTIONS

HANDS ON LEARNING

WALKING TOGETHER

Important to the team and stakeholder collaboration were a series of walks and walking tours. These walks established a direct shared experience of the various constraints and most importantly the potential which resides in each of the variouis programs that will reside in Seminar I. The walks also furthered the teams knowledge of key aspects of Evergreen culture, curriculm, and pedagogy. Finally, these walks enabled the team to build a level of interpersonal relationship and trust.

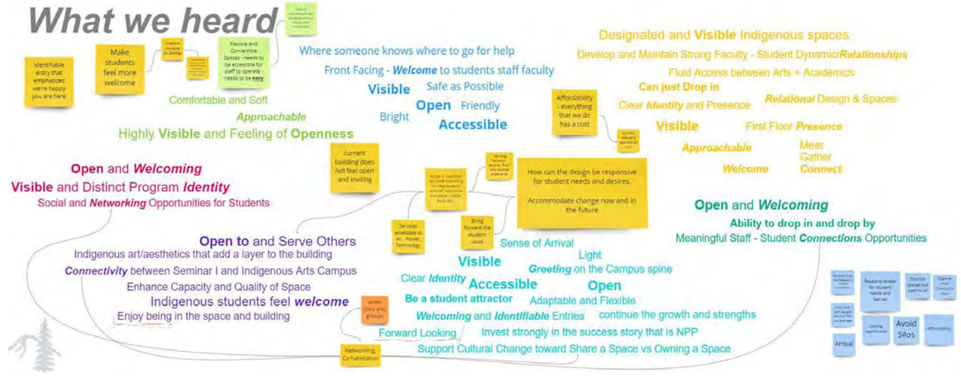
The select images shared here represent the broad themes experienced and shared.

WORKING TOGETHER

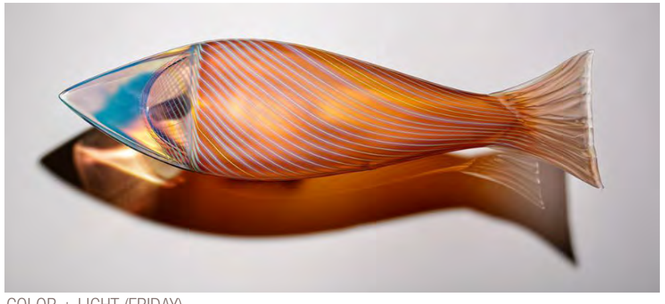
Early working sessions with stakeholders included disucssions to develop the set of shared goals and priorties for Seminar larticulated on the previous page.

The upper collage represents images and terms shared by members of the **Design Leadership Team** spaces and ideas which best represented their hopes and dreams for Seminar I.

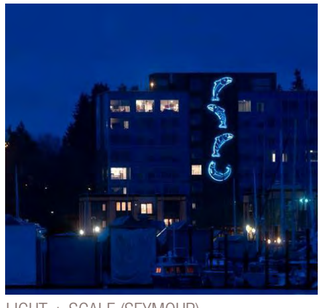
The lower collage contain the terms and phases shared by the **Program Working Groups** regarding priorities and outcomes.



COLOR + TEXTURE (FRIDAY)



COLOR + LIGHT (FRIDAY)



LIGHT + SCALE (SEYMOUR)

COLOR + TEXTURE (PETTIBON)

GATHERING INSPIRATION

Our walks and working sessions generated a series of artist and building precedent images from which the team is gathering inspiration.

Colors and textures represent a desired design approach which can establish Seminar I as a re-invigorated vibrant center of activity on campus. Developing a shared understanding of color and textures as a way to design culturally appropriate spaces will guide the next steps in design.

Materials and light are used to define new spaces throughout the existing building and develop new spaces which engage with and respect the existing 'brutalist' architectural context.

Included to the left are a few artist shared with the design team to inspire thinking regarding colors and light.

Visible and open collaboration and student study areas.

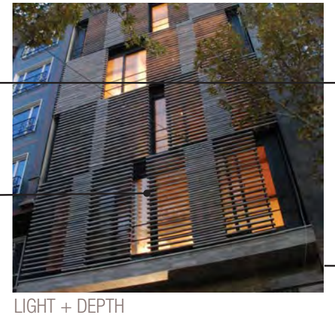
Distinct and 'light' building elements in relationship to solid concrete walls.

VISIBILITY + LAYERED MATERIAL

LIGHT + SOLID RELATIONSHIP

Highlight and celebrate natural materials, colors, and patterns

Effect of spill-over light through facade materials to provide inviting presence on campus.



LIGHT + DEPTH

MATERIALITY

Interior materials and patterns as a distinct layer in relationship to the existing building.

LAYERED MATERIAL + PATTERN (FEDDERSEN)

project opportunities 02

ENGAGED SURROUNDINGS

Learning from Evergreen

Beyond what the team saw and heard with the stakeholders four critical areas of context inform the design. The location of Seminar I is at a key location on campus that helps define and activate the western end of campus. It also acts as the threshold between the original Evergreen Campus buildings and the Indigenous Arts Campus buildings. The Evergreen Campus through the various generations of buildings and landscape has a well defined and experienced pattern language that defines the place. The clear ‘brutalist’ architectural style of Seminar I and the collection of original campus buildings dating back to the early 1970s is a defining character of both Evergreen and Seminar I. The various programs which will be located in the renovated Seminar I all bring distinct vital cultures and focus areas into the building. How each program engages with each other is an opportunity to further foster the Evergreen culture that centers collaboration, engagement, and reflection both with others and the surrounding environment.

Campus Analysis -
The design approach to re-invigorate Seminar I responds to existing campus patterns and spaces.

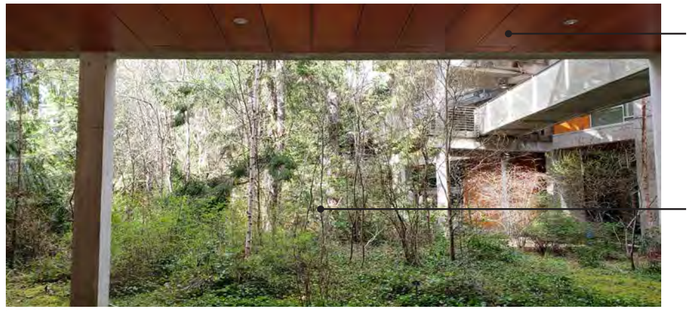
1. Seminar I forms a threshold between central campus and the Indigenous Arts Campus.

2. Building entries and approaches strongly relate to the E-W campus axis or Red Square.

3. Small scale landscape areas and plazas defined by the relationship between campus buildings or between buildings and the adjacent woodlands.

4. The strong E-W campus axis is defined by and incorporated into both landscape and campus buildings.

CAMPUS PATTERN LANGUAGE



Color and Material shifts to provide accent and designate key entries and thresholds.

Visual and direct connection to adjacent landscape

SEMINAR II

Defined rhythm and repetition of geometric forms. Particularly at windows and as a facade expression.

LAB I

Visual means of support and filtered daylight predominant pattern of surrounding woodlands

CAMPUS WOODLANDS

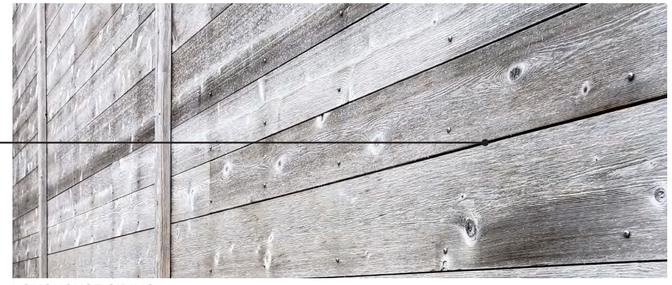
Integrated structure, materials, and art

LONGHOUSE

Vibrant colors set apart from surroundings

CAMPUS WOODLANDS

Expressed materials and textures



LONGHOUSE SIDING

VILLAGE APPROACH

The broad spectrum of programs to be located within the renovated Seminar I building necessitated an organizational approach the team referred to as 'The Village Approach.' In that each sub-program in the building needs to reside along side each other in such a way that each maintains a clear program identity and also is inviting to students and staff of all sub-programs.

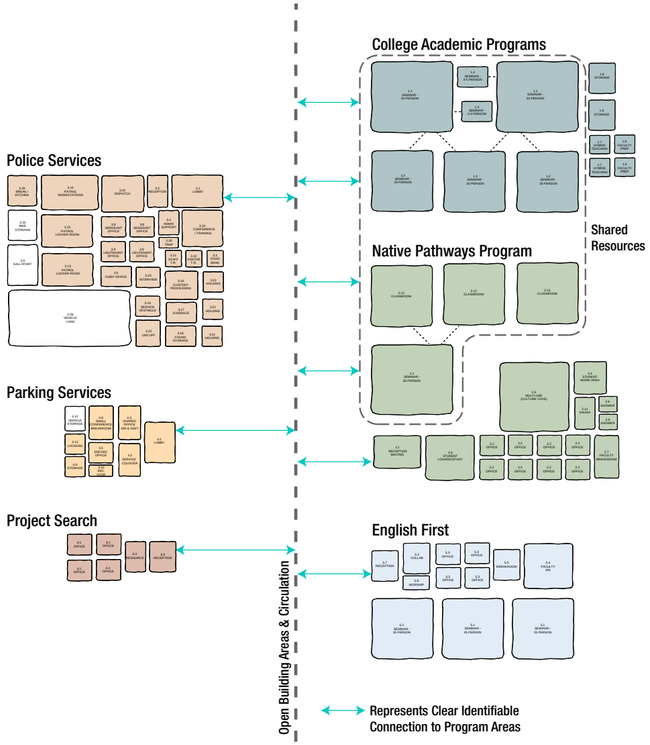
Clear Identifiable Connection

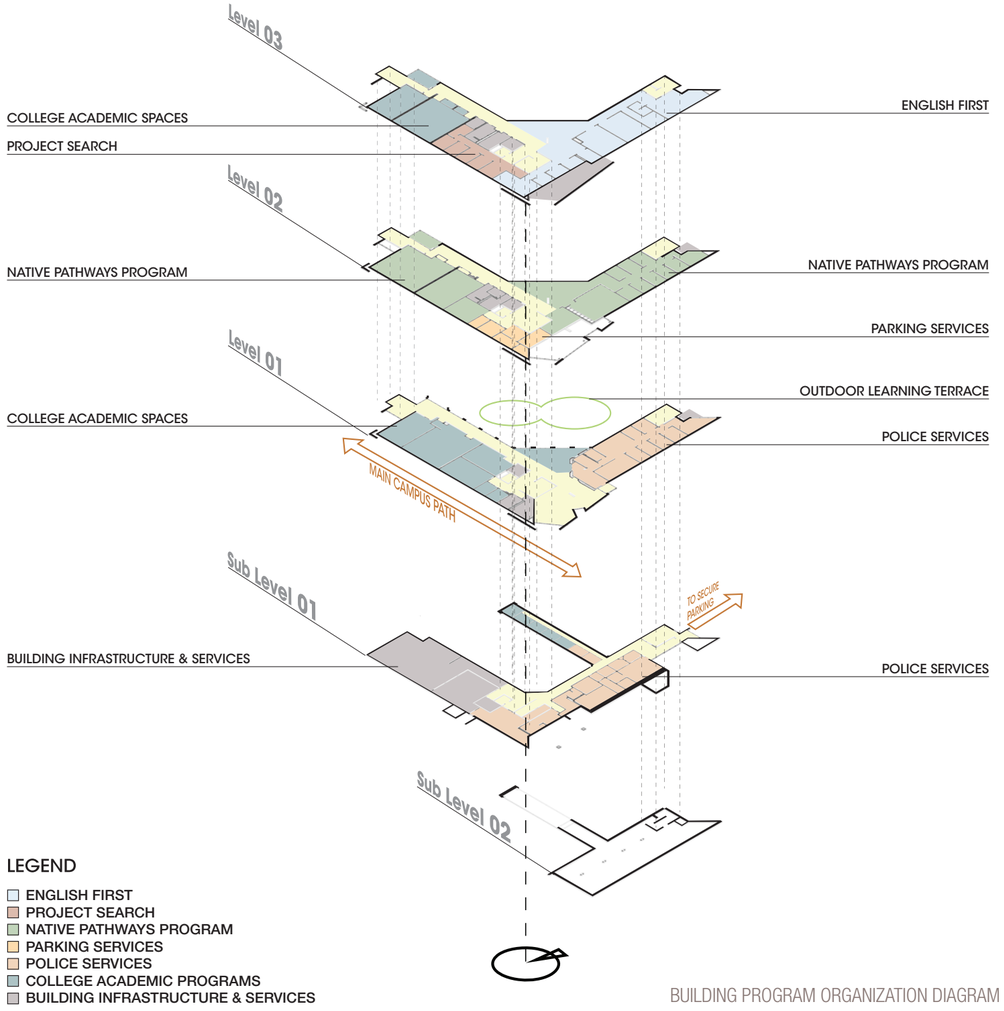
The building organization outlined here represents that each sub-program will have a clear identifiable connection to open building areas and circulation. This logic occurs both vertically and horizontally in the building and is not dependent on which floor each sub-program resides.

The allocation of sub-program areas on each floor level is reflected in the Building Organization Diagram

Optimize Shared Resources

To maximize the usable area within the existing building spaces which are able to serve multiple sub-programs are designed and located to optimize use by multiple programs. This is particularly true with the seminar and high-flex teaching spaces. The large and small seminar rooms are stacked in the south east wing to provide optimal shared use between NPP and Evergreen Academic Programs.





BUILDING PROGRAM ORGANIZATION DIAGRAM

EXISTING BUILDING CONTEXT

Seminar I was constructed in 1974 and is a representative example of the 'Brutalist' architectural style. A majority of the buildings on the Evergreen campus were designed within this style creating a coherent architectural context to the campus. This context informs design thinking for the renovation with inspiration taken from the 3 aspects of 'Brutalism' outlined by Reynar Banham. The qualities of that object [building form] may be summarized as follows:

1. Formal legibility of plan
2. Clear exhibition of structure
3. Valuation of materials for their inherent qualities 'as found'

'Brutalism' is not concerned with the material as such but rather the quality of material...the seeing of materials for what they were: the woodness of the wood; the sandiness of sand.

Ground plane material transitions at key thresholds

VIEW OF TERRACE

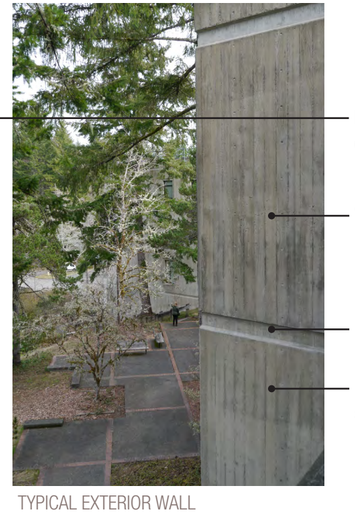
Large expanses of glass/openings at public building areas and entries.

Formal architectural response to make building plan organization legible

Repetitive window pattern at offices and classrooms.

VIEW FROM CENTRAL CAMPUS PATH

TYPICAL WINDOW DETAIL



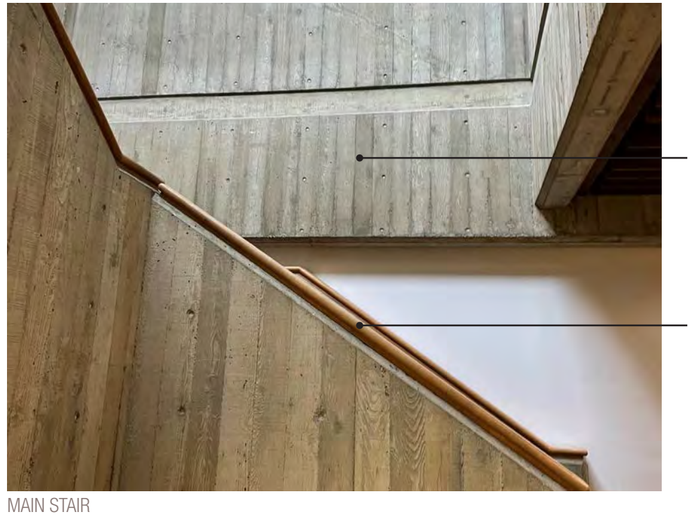
TYPICAL EXTERIOR WALL

Recessed windows expresses depth of concrete structure

Vertically oriented board-formed concrete

Consistent reveal at each floor line

Expressed load-bearing concrete structural system as building envelop and key interior public spaces



MAIN STAIR

Key public areas defined by natural daylight

Oak trim detail where people expected to place hand or touch

shaping the place 03

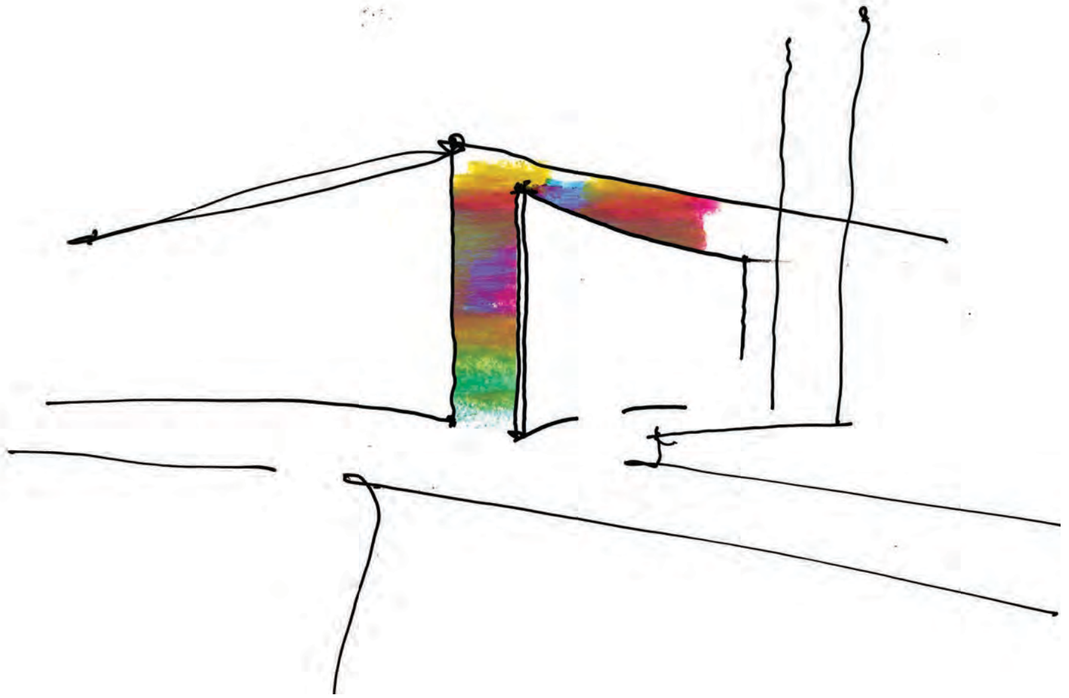
INSPIRED

A Meaningful Layer

The strong cultural and historic context of Seminar I specifically and Evergreen broadly has inspired critical inquiry by the team in to what is an appropriate and meaningful architectural response to the question - how to design relational spaces that can be both respectful of various historic narratives and meanings and also address current and future relationships. To shape a place that is restorative and resilient while critically centering student learning, experience, health and safety. This is approached architecturally through the strategic addition of a series of new layers in the form of walls, colors, and textures that establish new spaces. Spaces which are situated in between the new and the old. New found spaces where the various programs in the building can come together in collaboration. New layers which create vital spaces for meaningful connections to be fostered between students, faculty, and staff that is at the core of Evergreen.

This inspired four phases which guide the teams design approach

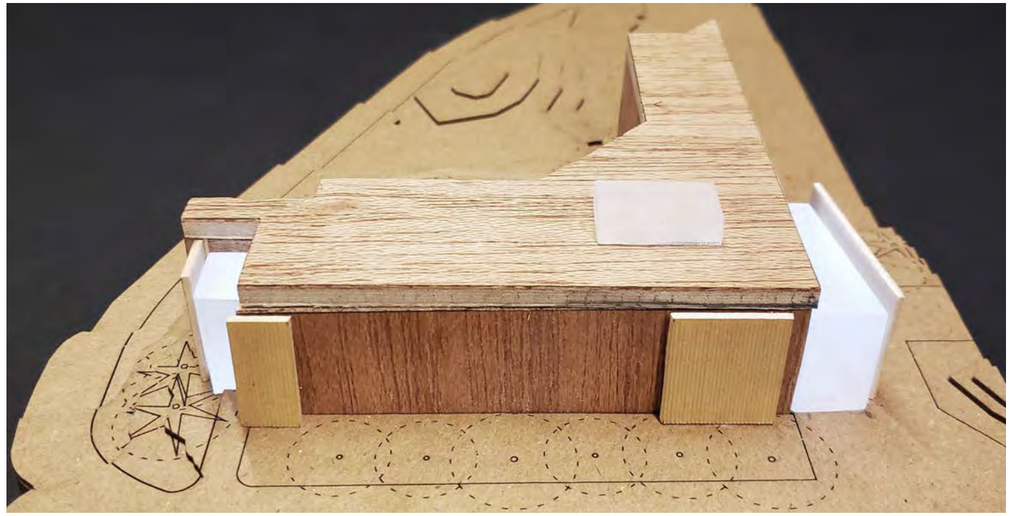
Thresholds Hold Meaning
A Vibrant Layer Sets the Table
The Space Between as Relational
A Setting for the Next Generation



THE SPACE BETWEEN AS A RELATIONSHIP

The new addition/entrances to the building are designed to be experienced as a dynamic space situated between existing and new. Natural daylight, vibrant colors, and natural materials infuse these new spaces between the existing 'brutalist' concrete structure and new cedar clad walls.

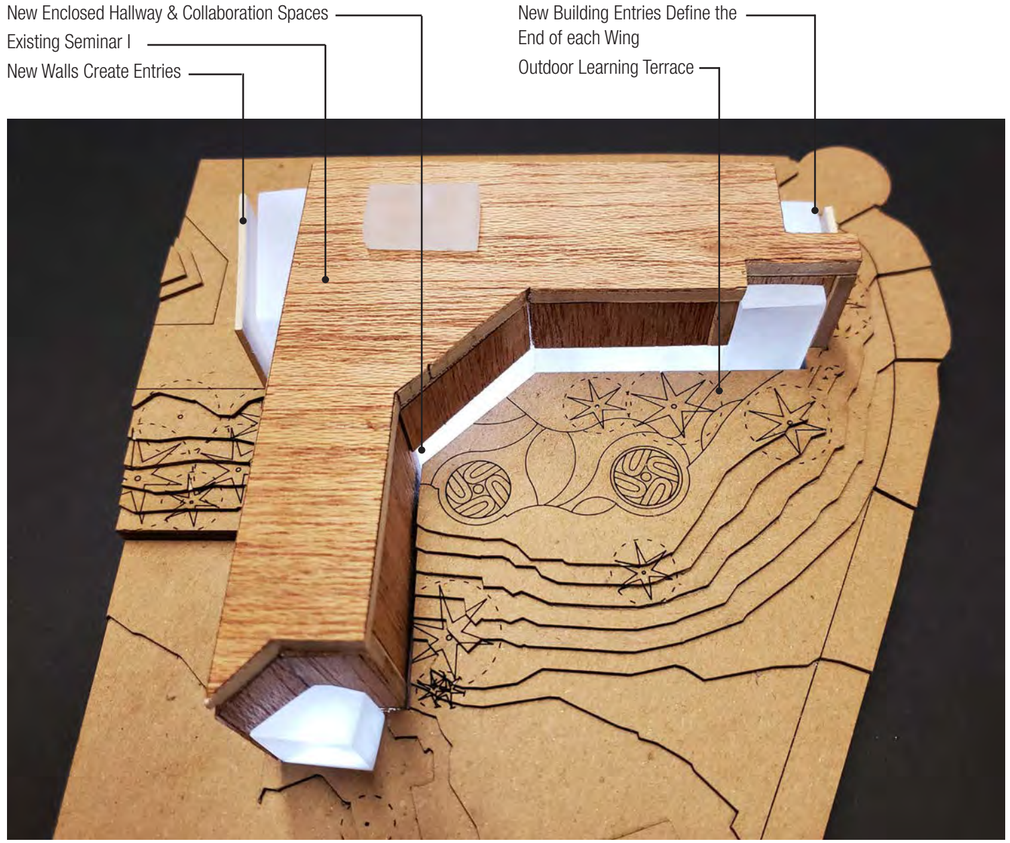
This design approach centers public and collaborative spaces where people move within an architectural relationship between form, light, materials, and various solids and voids.



CONCEPT MODEL - VIEW FROM CENTRAL CAMPUS PATH

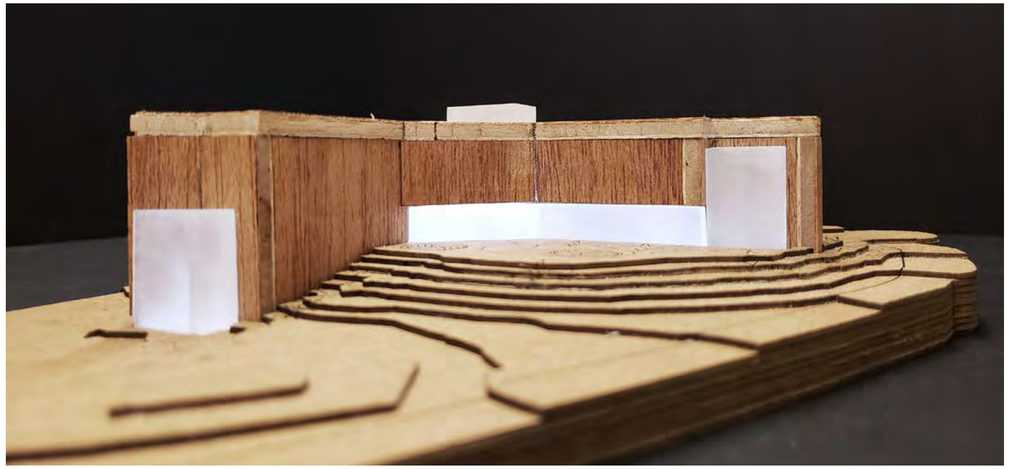
MODEL STUDIES

A series of concept models studied the relationship between the existing building scale, form, and solid nature (dark solid wood) and how by adding new layers (light wood) a series of vibrant spaces between old and new are created (plexglass).



CONCEPT MODEL - VIEW FROM NORTH

CONCEPT MODEL - VIEW FROM INDIGENOUS ART CAMPUS PATH

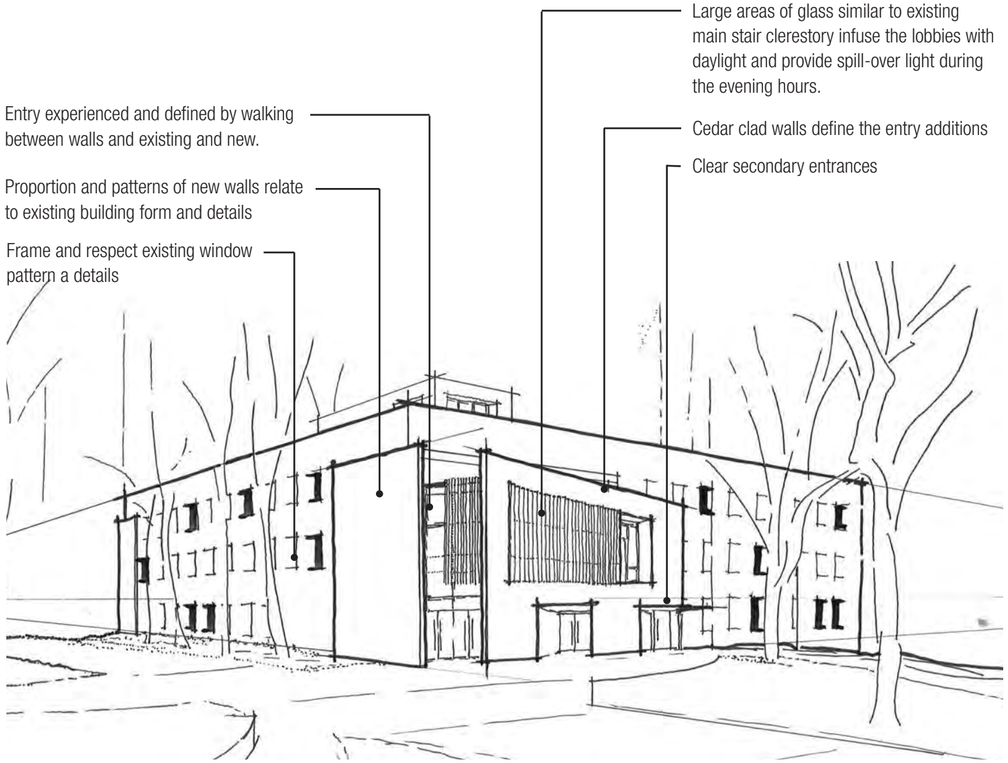


CONCEPT MODEL - VIEW OF TERRACE

A VIBRANT LAYER

During a stakeholder walk the idea emerged of how layers are used in indigenous art and clothing. How material layers also are a consistent architectural response to our northwest climate. How through adding layers one is able to both respect an existing identity or context while also establishing new and appropriate responses to current conditions.

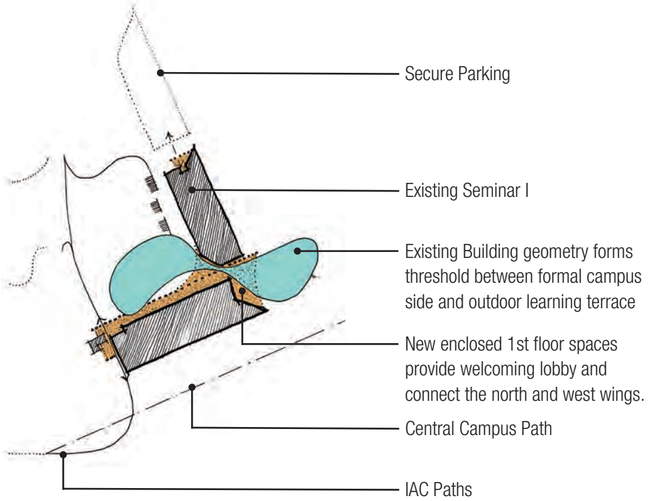
This resulted in a design approach where by adding layers of vibrant color or walls clad with natural materials the additions both frame the existing building and define new spaces. Creating an architectural dialog between new and old while creating spaces that are more culturally appropriate and fully support the collaborative teaching and learning model of Evergreen.



CONCEPT SKETCH - VIEW FROM CENTRAL CAMPUS PATH

THRESHOLD OF MEANING

As one moves through spaces and life transitions often are defined by thresholds that hold meaning. The intent of the design is to engage with thresholds at four scales that represent and foster meaning to establish a strong sense of place. At the campus scale Seminar I defines the threshold between the original Central Campus and the Indigenous Arts Campus. Enclosing the ground floor at the 90 degree corner of the building defines a new welcoming and safe entry into the building from the formal central campus path and more natural terrace to the west. Inside the building it is critical for each of the individual sub-programs to have a clear identity within the building. This is achieved by providing a clear view and entry threshold to each sub-program from the central historic stair and elevator. Finally details will develop a clear relationship between existing historic context and new spaces and materials creating a meaningful threshold between new and old.

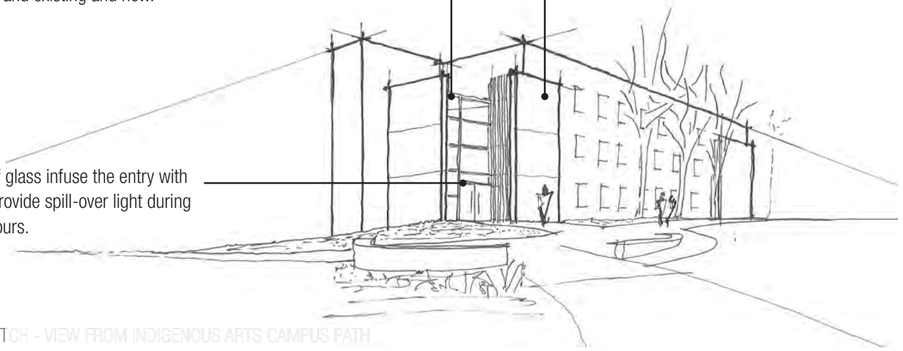


CONCEPT SKETCH - KEY THRESHOLDS

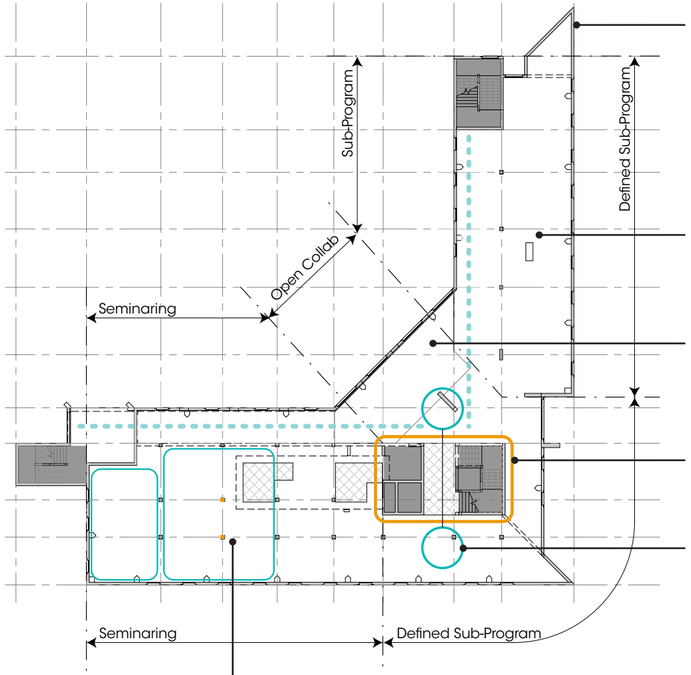
Entry experienced and defined by walking between walls and existing and new.

Cedar clad walls define the entry additions

Large areas of glass infuse the entry with daylight and provide spill-over light during the evening hours.



CONCEPT SKETCH - VIEW FROM INDIGENOUS ARTS CAMPUS PATH



Existing concrete structure and building envelop with all interior walls removed

Narrow floor plate conducive for offices and small spaces - North wing used for more defined spaces within a sub-program

Triangular building corner effective in support of open collaboration areas on each floor.

Preserved main stair and elevator core

Each sub-program has an established threshold and distinct identity from the main stair and elevator core. This pattern is established on every floor.

Deep floor plate with strategic structural modifications can provide for large seminar spaces - West wing used for flexible and collaborative seminar rooms.

BUILDING LAYOUT CONCEPT

SETTING FOR THE NEXT GENERATION

Seminar I is an opportunity for Evergreen to renovate the existing building and related infrastructure to meet the needs of students for the next 50 years. This approach respects the first 50 years of the building envisioned in 1974 and provides an educationally innovative and environmentally sustainable building into the future.

Environmental Stewardship

To continue the long history of Evergreen's environmental stewardship and activism the project is tracking to achieve LEED Gold.

Going beyond LEED

Support the Evergreen 2020 Carbon Neutrality Initiative - The project strives to eliminate/significantly reduce operational carbon and fossil fuel use for heating, cooling, and building services. The current design removes the existing obsolete and inefficient mechanical systems and replaces it with 100% electric source heating system. This will remove Seminar I from the campus steam loop which uses fossil fuels as an energy source.

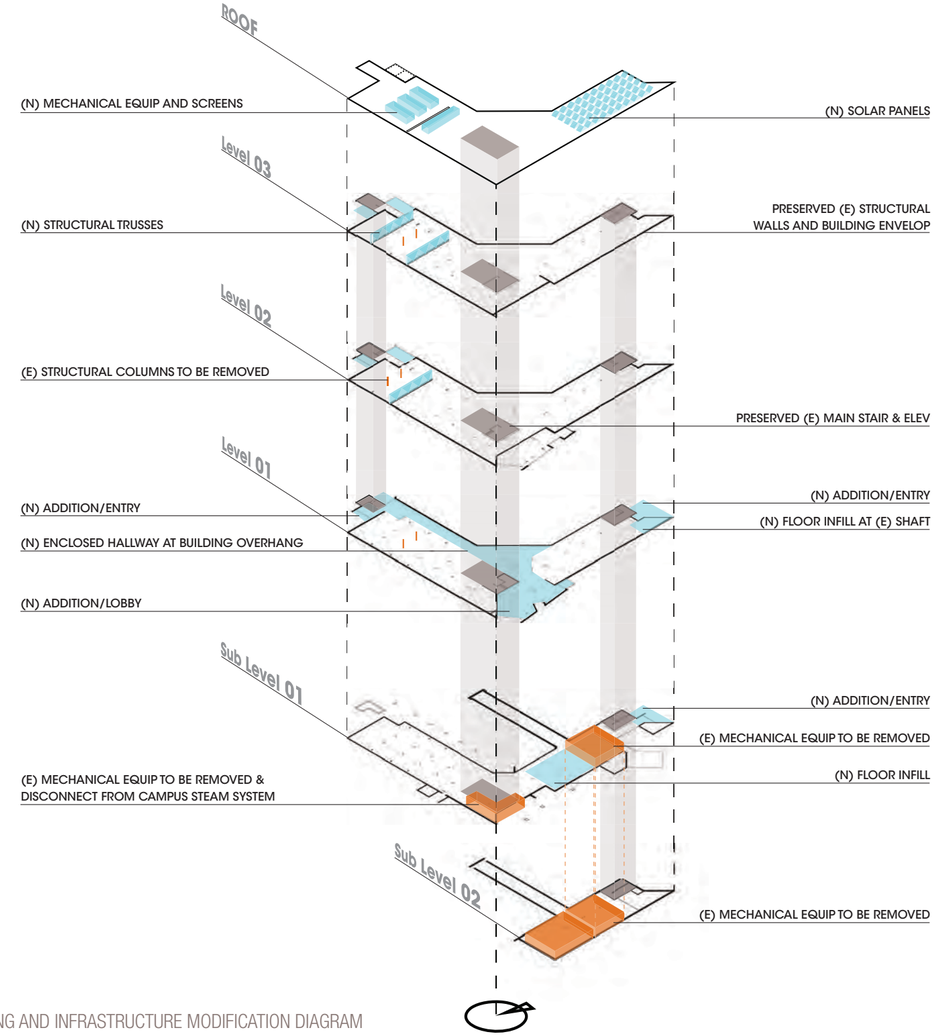
Embodied Carbon - 'Just three materials—concrete, steel, and aluminum—account for nearly one-quarter of the global carbon footprint, and most of this is used in the built environment.' The seminar I renovation will address this directly by saving and restoring 95%+ of the existing cast-in-place concrete structure and building envelop. Where possible required new structure will use mass timber in-lieu of steel or concrete.

Stormwater Quality - The project will work to meet the requirements to further the Colleges improved shellfish and pacific salmon initiative and program.

Health and Wellness - The majority of the new materials required for the project will pertain to interior materials. Focus will be placed on specifying the use of low-toxicity, renewable, and recycled materials for 100% of interior materials, furnishings, and furniture. Zero red-list products will be specified.

Adaptable/Flexible Design - Priority will be places on adaptable and flexible space layouts and furnishings that provide adaptable and flexible space to limit the need for significant renovations in the future to support changing technology and shifts in curriculum and pedagogy.

Environment as a critical part of teaching and learning at Evergreen - A renovated landscape terrace using native species directly adjacent to new seminar classrooms will enhance the connection between the environment and the teaching and learning in Seminar I.



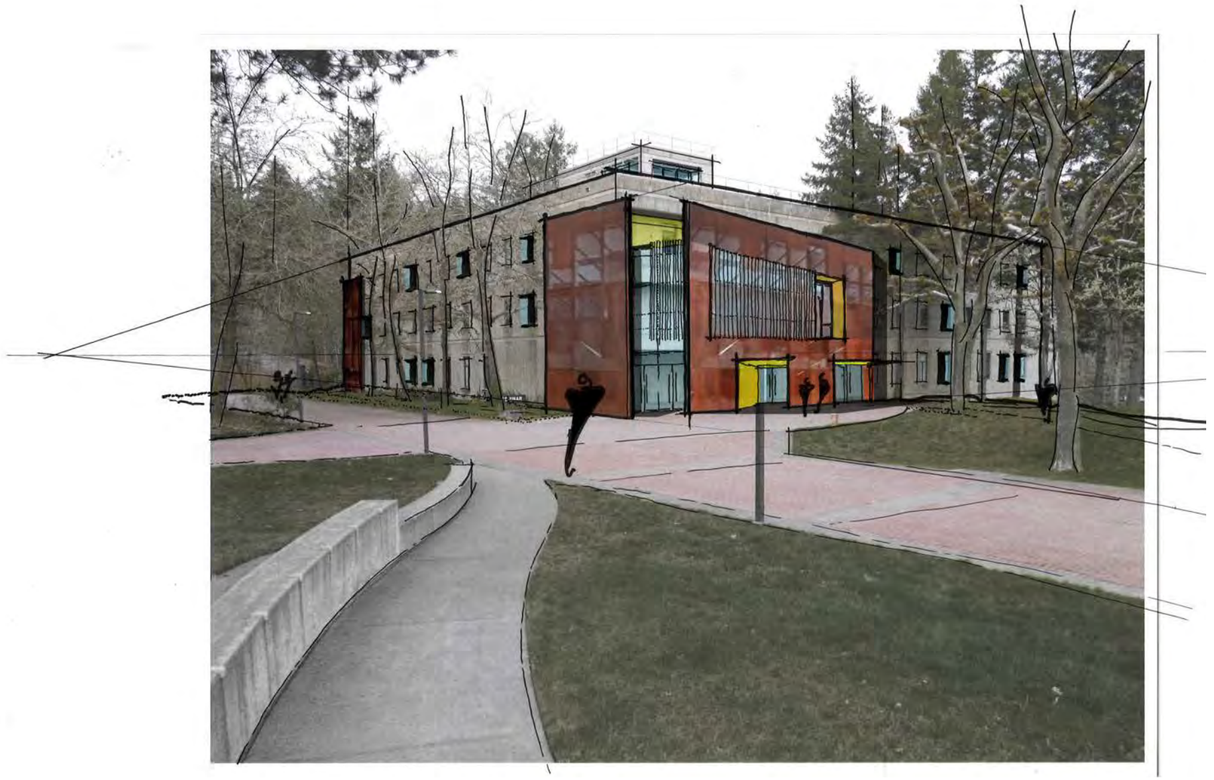
BUILDING AND INFRASTRUCTURE MODIFICATION DIAGRAM

design drawings 04

DIRECT EXPRESSION

Human Experience

The renovation of Seminar I works to respond directly and meaningfully to the aspirations, activities, and relationships that are inherent in this vital collection of programs and peoples. By adding a series of meaningful layers to the existing building the design is intented to foster an environment that supports students as they make their paths both individually and collectively. Create experiences where people can be present, can see themselves in the spaces, and fully express themselves and their culture. To revitalize Seminar I and bring the building back into the daily life of Evergreen students a direct architectural expression establishes a refreshed and contemporary presence. The new entries engages campus life by becoming inviting, safe, and a healthy environment for students to reach for and obtain their highest aspirations.

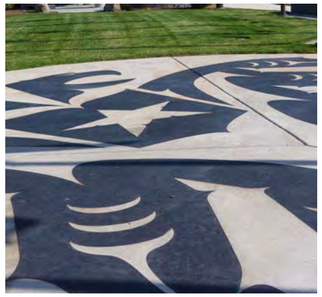


LANDSCAPE DESIGN

PATH INTEGRATED INTO HILLSIDE

STAIRS INTEGRATED INTO HILLSIDE

DEPTH + PATTERN FROM ABOVE



INDIGENOUS ART INSPIRED PATTERNS

PATTERN BY EXPRESSING MATERIALS

REFINED + SIMPLE DETAILS

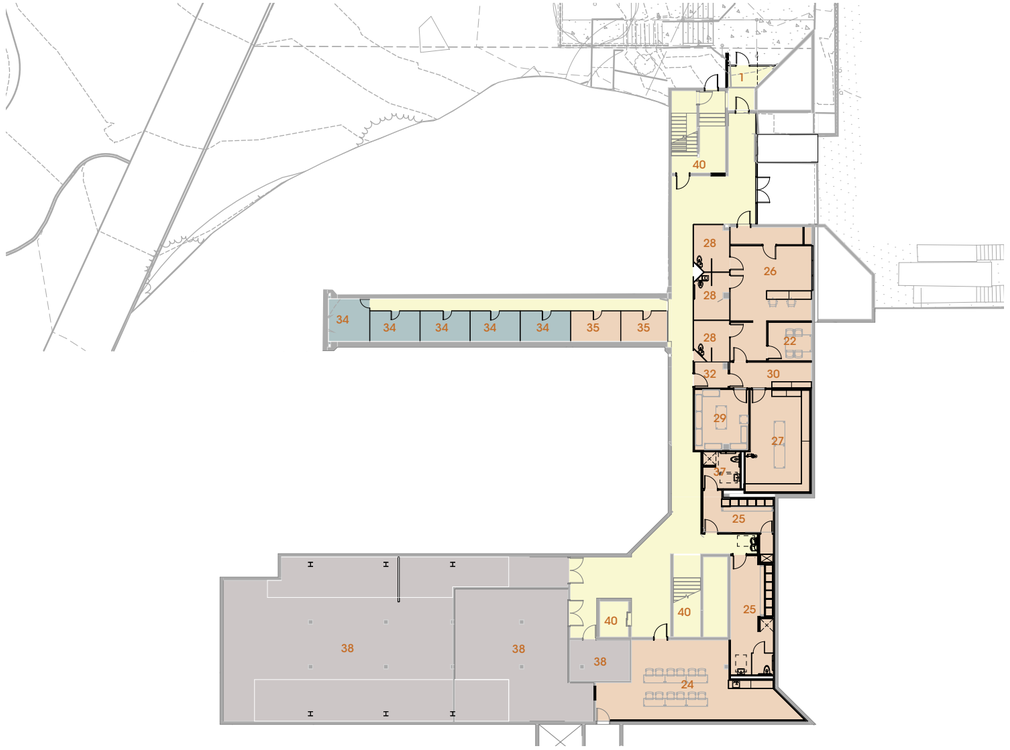
Seminar I is situated at a threshold within the Evergreen Campus between the more formal landscape of central campus and the more meandering paths of the Indigenous Arts Campus. The design responds to this pattern with formal landscape features adjacent to the central campus path and more fluid paths fit into the existing terrace slope and extending to the west.

The landscape design aims to preserve the existing large trees, primarily Douglas Firs and London Planes. Provide a lush inviting environment to restore a healthier under-story by selecting plant materials that draw from the native palette of the Puget Sound lowlands. In addition to the existing trees smaller ornamental trees will help screen new parking and enhance the pedestrian experience. Plantings will also be selected for biodiversity and to create habitat for pollinators. In addition, if possible, the incorporation of plants that can be used as materials in the fiber arts studio will be included.

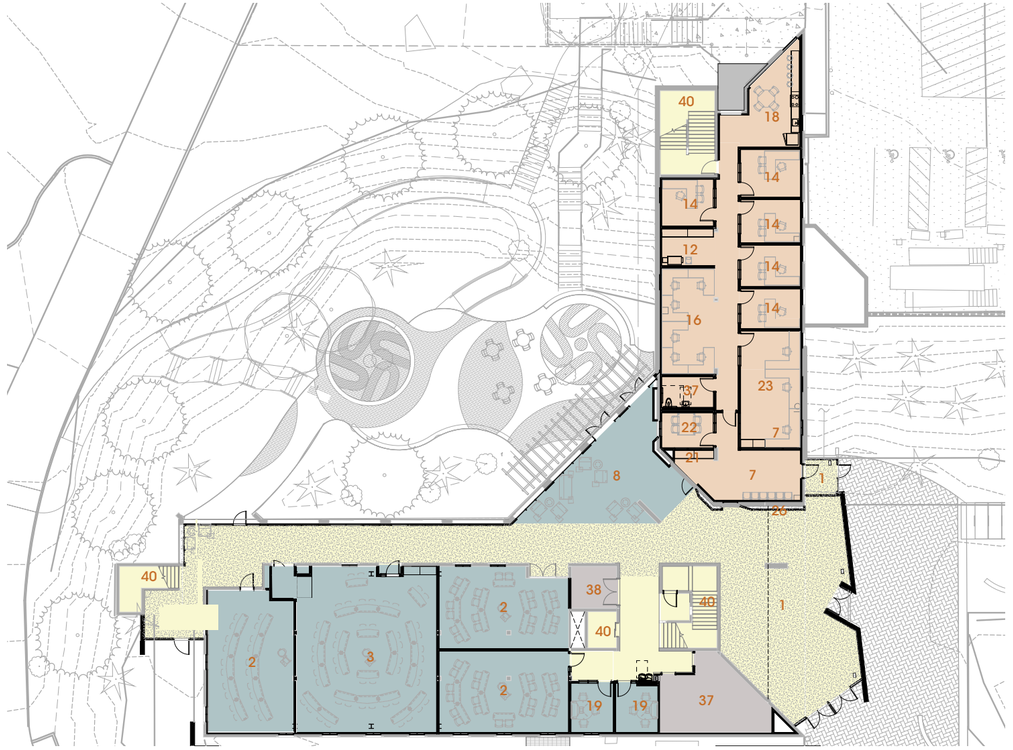
The project will create open spaces that foster positive social interactions and strengthen campus community. Support physical and perceived connections with the Indigenous Arts Campus. Create a new presence for the Seminar I building along the main campus path. Establish accessible routes of travel through the project site. Implement sustainable site development strategies that reduce use of energy, potable water, and manages storm-water on-site.

Included to the left are precedent project images representative of initial design ideas.

FLOOR PLANS



Sub Level 01



Level 01

PROGRAM

1. LOBBY/ENTRY
2. SMALL GROUP
3. LARGE GROUP
4. FOCUS GROUP
5. STUDENT STUDY
6. STUDENT WORK AREA
7. RECEPTION / WELCOME AREA
8. OPEN COLLAB / GATHER
9. COLLAB / TRAINING
10. CULTURE CAVE
11. RESOURCE
12. ADMIN SUPPORT
13. ADMIN ASSISTANT
14. OFFICE
15. STAFF WORKSTATIONS
16. PATROL WORKSTATIONS
17. BREAKROOM / CONF
18. BREAKROOM / KITCHEN
19. FACULTY PREP / HYBRID TEACHING
20. WORSHIP
21. FOODBANK
22. INTERVIEW
23. DISPATCH
24. TRAINING / CONF
25. PATROL LOCKERROOM
26. CUSTODY PROCESSING
27. EVIDENCE
28. HOLDING
29. ARMORY
30. SERVICE VESTIBULE
31. SERVICE
32. TRAP
33. SALLYPORT
34. STORAGE
35. FOUND / BIKE STORAGE
36. STORAGE LOCKERS
37. RESTROOMS
38. MECH / ELEC / DATA
39. BUILDING SUPPORT
40. STAIR / ELEV

LEGEND

- ENGLISH FIRST
- PROJECT SEARCH
- NATIVE PATHWAYS PROGRAM
- PARKING SERVICES
- POLICE SERVICES
- COLLEGE ACADEMIC PROGRAMS
- BUILDING INFRASTRUCTURE & SERVICES

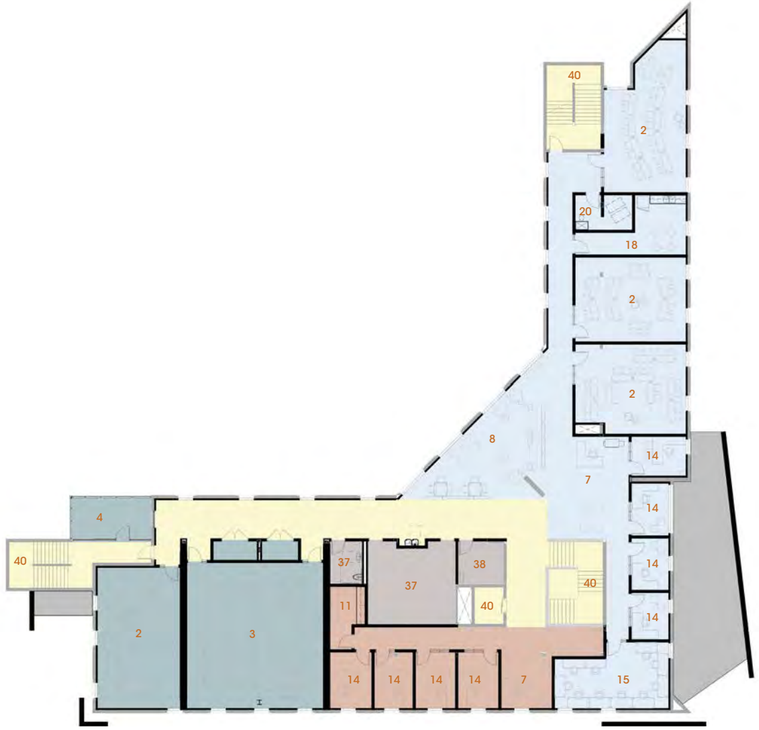
0′ 25′ 50′ 100′

FLOOR PLANS

Level 02

PROGRAM

1. LOBBY/ENTRY
2. SMALL GROUP
3. LARGE GROUP
4. FOCUS GROUP
5. STUDENT STUDY
6. STUDENT WORK AREA
7. RECEPTION / WELCOME AREA
8. OPEN COLLAB / GATHER
9. COLLAB / TRAINING
10. CULTURE CAVE
11. RESOURCE
12. ADMIN SUPPORT
13. ADMIN ASSISTANT
14. OFFICE
15. STAFF WORKSTATIONS
16. PATROL WORKSTATIONS
17. BREAKROOM / CONF
18. BREAKROOM / KITCHEN
19. FACULTY PREP / HYBRID TEACHING
20. WORSHIP
21. FOODBANK
22. INTERVIEW
23. DISPATCH
24. TRAINING / CONF
25. PATROL LOCKERROOM
26. CUSTODY PROCESSING
27. EVIDENCE
28. HOLDING
29. ARMORY
30. SERVICE VESTIBULE
31. SERVICE
32. TRAP
33. SALLYPORT
34. STORAGE
35. FOUND / BIKE STORAGE
36. STORAGE LOCKERS
37. RESTROOMS
38. MECH / ELEC / DATA
39. BUILDING SUPPORT
40. STAIR / ELEV



Level 03

LEGEND

- ENGLISH FIRST
- PROJECT SEARCH
- NATIVE PATHWAYS PROGRAM
- PARKING SERVICES
- POLICE SERVICES
- COLLEGE ACADEMIC PROGRAMS
- BUILDING INFRASTRUCTURE & SERVICES

0′ 25′ 50′ 100′


Adaptable seminar rooms are located on all three floors to support the collaborative teaching and learning model that defines Evergreen.

VIEW OF SECOND FLOOR COLLABORATION SPACE

Arriving from the historic daylit concrete main stair each program has a clear identity and place within the building. This view represents early thinking for the NPP collaborative area and Culture Cave beyond.

The newly enclosed space on the 1st floor creates a safe and welcoming collaboration space which connects both to the seminar rooms and the outdoor learning terrace beyond.

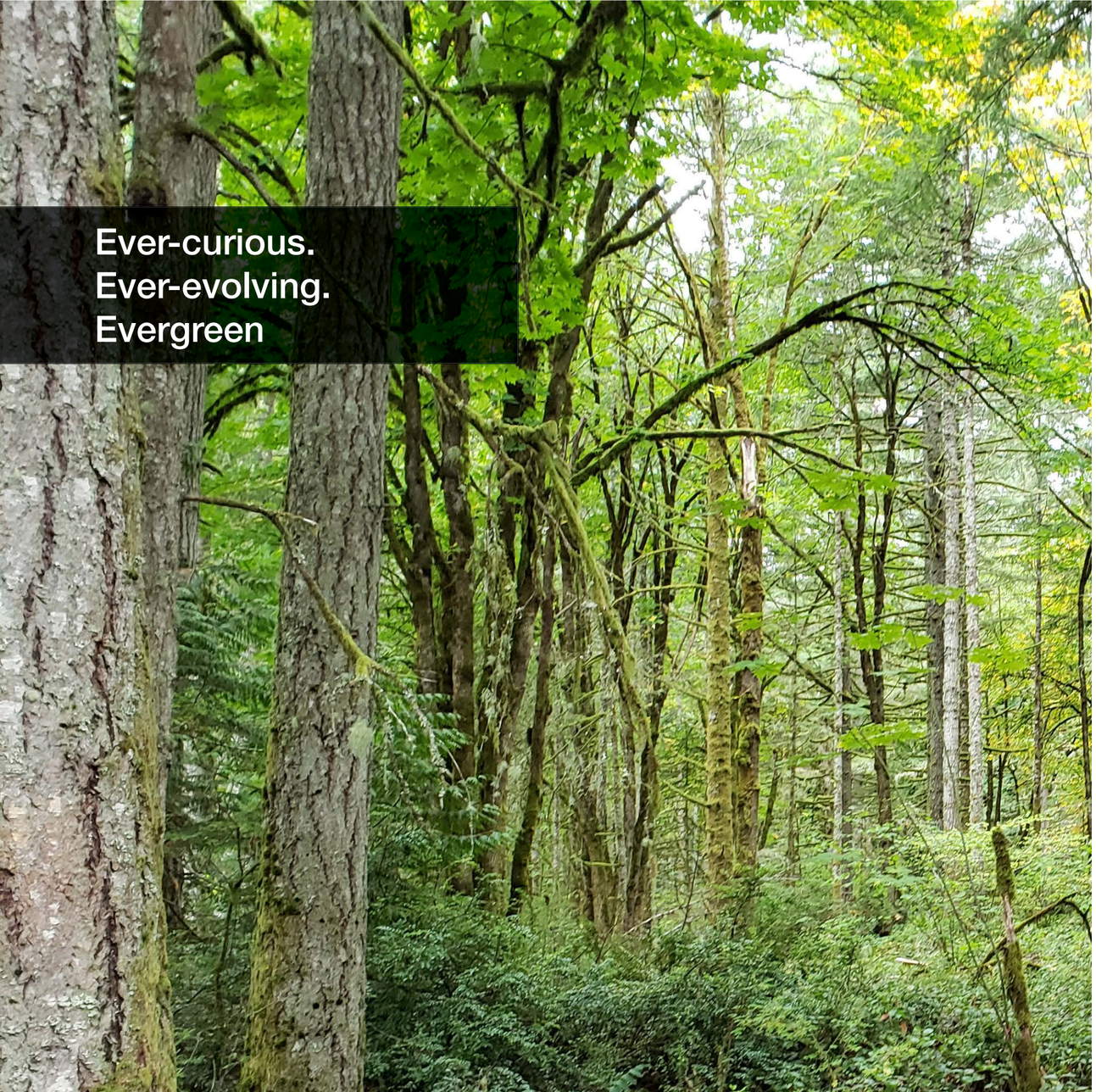
VIEW OF FIRST FLOOR HALLWAY AND TERRACE BEYOND

The lobby is designed to respect the existing stepped facade as a key aspect of experiencing entry into the building. The new enclosed vibrant daylit lobby allows the historic and new building fabric to be seen in relationship to each other on approach and entry.

VIEW OF LOBBY THROUGH TO TERRACE BEYOND

VIEW LOOKING WEST FROM CENTRAL CAMPUS PATH

Cedar clad walls define the new building entries and provide inviting views to the activities within. Framed with vibrant colors the entires create a refreshed and engaging presence along the central campus path.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Schematic Design Technical Book

The Evergreen State College
Seminar 1 Renovation

Integrus Project No. 22201.00
TESC Project No. 22-300

July 12, 2022

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Seattle, WA 98104
206.628.3137 | Phone
206.628.3138 | Fax
www.integrusarch.com

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Table of Contents

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Executive Summary

The Seminar I Renovation project represents an opportunity by The Evergreen State College to re-vitalize this original campus building so it can effectively support contemporary approaches to teaching and learning and again become a hub of student activity at the western end of the main campus path.

The renovation includes the preservation of the existing building facades and key interior features, new welcoming enclosed and secure building entrances, complete remodel of interior spaces, and new building systems. This will set the stage for Seminar I to continue to support Evergreen students for another 50 years.

Critically, the project will directly support the academic success, growth and welfare of Evergreen students. The building will be renovated to include needed seminar spaces for students across campus and academic programs at Evergreen. Provide much needed expansion space and resources to support the growing Native Pathways Program. Provide updated and expanded space for parking and police services.

This book includes the schematic design information on project specifications and design consultant narratives which were developed by the design team in collaboration with the Evergreen Design Leadership Team and Program Stakeholders. The follow document is to be used in conjunction with the Conceptual Schematic Design Book and the Technical Drawing Set.

Project Team

Owner
The Evergreen State College
2700 Evergreen PKWY NW
Olympia, WA 98505
360.867.6000
Contact
Dave Shellman
Construction Project Manager
shellmad@evergreen.edu

Architectural
Integrus Architecture
117 S. Main St, STE 100
Seattle, WA 98104
206.628.3137
Contact
Sam Schafer
sschafer@integrusarch.com

Structural
Integrus Architecture
117 S. Main St, STE 100
Seattle, WA 98104
206.628.3137
Contact
Heather Kline
hkline@integrusarch.com

Civil
AHBL
2215 North 30th Street
Tacoma, WA 98403
253.383.2422
Contact
Tom Dargan
tdargan@ahbl.com

Mechanical/ Plumbing
FSi Engineers
1001 Alaskan Way, Ste 200
Seattle, WA 98104
206.622.3321
Contact
La Jarvengren
ola@fsi-engineers.com

Electrical/ Telecom
PAE Engineers
1501 East Madison St, STE 300
Seattle, WA 98122
206.596.8606
Contact
Tim Abbot
tim.abbott@pae-engineers.com

Lighting
Luma Lighting Design
1501 East Madison St, STE 300
Seattle, WA 98122
206.596.8606
Contact
Brock Soderberg
brocksoderberg@lumald.com

Acoustics
Yantis Acoustics
206.919.9045
Contact
Michael Yantis
michael@yanitis.com

Landscape
Nakano Associates
3902 S Ferdindand St #201
Seattle, WA 98118
206.292.9392
Contact
Ida Ottoesen
io@nakanoassociates.com

Historic Preservation
Richaven Architecture & Preservations
9000 23RD Ave NW
Seattle, WA 98117
206.909.9866
Contact
Brian Rich
brian@richaven.com

Hazmat
PBS Environmental
214 E Galer Street
Seattle, WA 98102
206.766.7613
Contact
Gregg Middaugh
gregg.middaugh@pbsusa.com

Project Facilitator
Emily Washines
509.949.5856
P.O. Box 1188
Toppenish, WA 98948
Contact
Emily Washines
emily.washines@gmail.com

Stakeholders

The following stakeholder groups continued to participate in and provided feedback during the schematic design phase.

Design Leadership Team

William Ward
Dave Shellman
Kara Briggs
Dawn Barron
Trevor Speller
Harmony Gehlert
Abraham Guz
Linda Horn
Susan Keefe
Corey Larson
Michael Partlow
Tony Perez
George Phinn
Toby Sawyer
Taylor Slaughter
Tammy Van Natta
Bryce Winkelman
Beth Mason
Lyn Dennis
Scott Morgan
Vauhn Foster-Grahler
Carri LeRoy

Program Working Groups

Native Pathways Program | Indigenous Arts Campus | Tribal Relations
Dawn Barron, Toby Sawyer, Corey Larson, Lyn Dennis, Kara Briggs, Laura Vermeulen, Liza Harrell-Edge

College Academics
Trevor Speller

College Facilities
Dave Shellman, William Ward, Tammy Van Natta, Scott Morgan, George Phinn, Taylor Slaughter, Harmony Gehlert, Susan Keefe

Police Services | Parking Services | Building Tenants | Comp & Comm
Tony Perez, Linda Horn, Bryce Winkelman, Michael Partlow, Abraham Guz, Beth Mason

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Program Summary

The following program reflects work with The Evergreen State College leadership, staff, and faculty to review and verify the program scope from the Seminar I Pre Design (2016) and the Program Verification Document (2022). Since the completion of the Pre Design various factors and dynamics have occurred that are reflected in the verification process. These include but are not limited to: the growth and success of the Native Pathways Program, shifted academic space priorities across campus which now prioritize flexible shared teaching and learning spaces rather then designated spaces for the Arts, and further requirements and goals pertaining to energy and sustainability being considered across campus.

The schematic design and program verification effort focused on overall college goals and vision, individual department (sub-program) goals and vision, and individual department organizational approach, space needs, and priorities. The design team held working sessions with representatives of each sub-program/department associated with the building, held working sessions with the Design Leadership Team to establish goals and review what the team heard from the various groups. The team also extensively toured the existing building, relevant and referenced campus spaces, as well as met with campus facilities and operations. This engagement will continue through subsequent design phases.

Schematic Design incorporates 22,840sf of dedicated program space to College Academics, Native Pathways Program, Police Services, Parking Services, and Long Term Tenant Programs; English First and Project Search. Unassignable square footage for building support, structure, mechanical, electrical, data infrastructure, and circulation spaces total 21,043sf. The gross square footage of Seminar 1 is 43,883sf.

Program Descriptions

Native Pathways Program (NPP)

The focus for this program area of the project is to provide an identifiable, culturally relevant, and established home for NPP. This home needs to have a clear relationship to the Indigenous Arts Campus both visibly and culturally. NPP on a base level functions as a College within a College and thus support the teaching learning needs of students as well as holistic and inclusive student activities, social and emotional growth, and resources. Program staff are present throughout the day with a majority of courses and program activities occurring afternoon, evenings, and weekends.

General College Academics

The focus area for this program is to expand core/ seminar teaching and learning spaces on campus. These spaces are to support the 'seminaring' teaching and learning approach that is engaged across the Evergreen curriculum. The seminar spaces are intended to be shared with other programs (NPP, EF, PS). The model for these spaces is to further the college culture and approach of adaptable, flexible, shared resources for various programs and curriculum and limited focus on 'owned' or dedicated spaces. Support spaces are to be provided that accommodate the needs of part-time faculty and or faculty across campus that will need temporary resources before or between classes. Investigate the concept of remote learning 'hoteling' stations.

Police Services

The function of this program is to provide comprehensive police services for the campus. As a core service to Evergreen students, faculty, and staff it should be easily identifiable, open and accessible. The police areas of the building will utilize the standards and design guides as provided by the IACP - International Association of Chiefs of Police as well as comply with International Property and Evidence Standards and American Correctional Standards where applicable.

Parking Services

This group functions to serve the campus at large with regards to parking access, permits, and enforcement. As a core service to Evergreen students, faculty, and staff it should be easily identifiable, open and accessible.

Academic Program Tenants (long term)

English First

The focus area for this tenant is to provide dedicated and identified space that meets the needs of their student body and teaching and learning approaches. A curriculum and pedagogy of collaborative instruction with language at the core. Given that EF is a long-term tenant adjacencies, layouts, and internal organization are to be planned to meet their long-term needs.

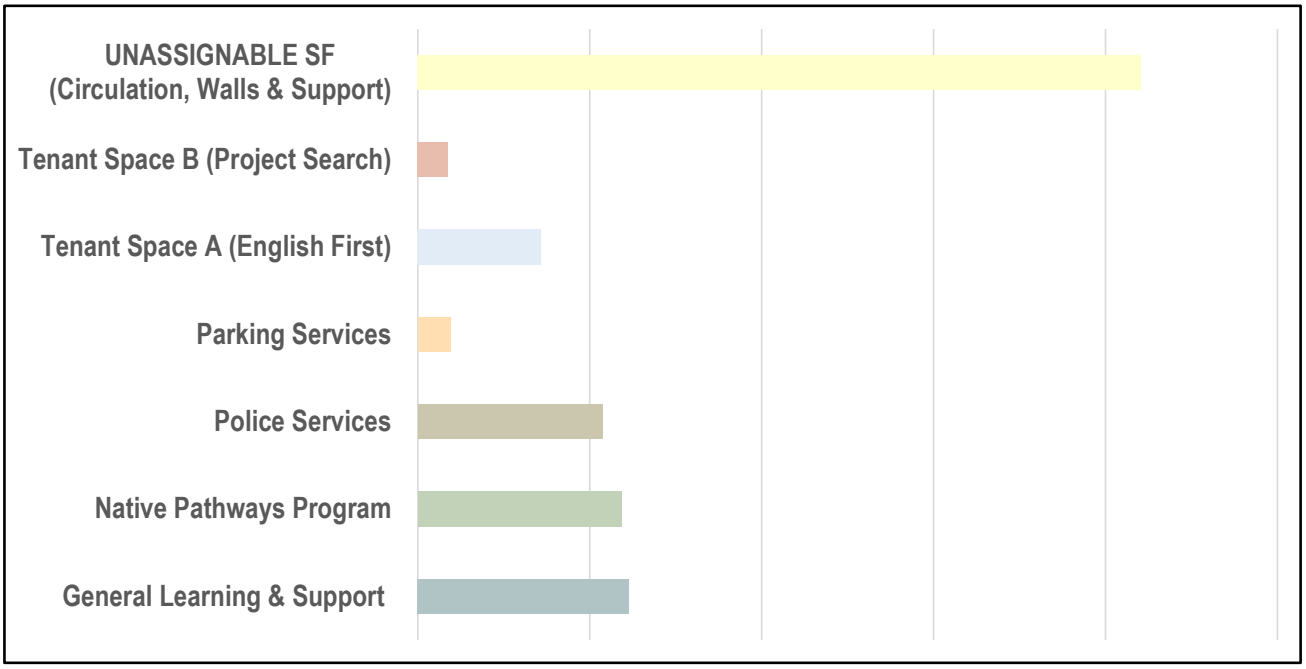
Project Search

The focus for this tenant is tutoring, mentoring and collaboration between their staff and students. The program does not require large or extensive spaces. The spaces while limited should be meaningful place and provide thoughtful spaces and ways to make strong connections between staff and students. As a long-term tenant adjacencies, layouts, and internal organization are to be planned to meet their long-term needs.

Building Infrastructure

Building Support, Structure, Mechanical, Electrical, and Data Infrastructure, and circulation spaces are accounted for within the Unassignable SF

Seminar 1 - Schematic Design Program	AREA (SF)
General Learning & Support	6,153
Native Pathways Program	5,919
Police Services	5,360
Parking Services	940
Tenant Space A (English First)	3,587
Tenant Space B (Project Search)	881
ASSIGNABLE SF SUBTOTAL (NET)	22,840
UNASSIGNABLE SF(Circulation, Walls & Support)	21,043
TOTAL RENOVATION SF (GROSS)	43,883



Program Space List

Seminar 1 - Schematic Design Program			
General Learning & Support	**QTY**	**ASF**	**TOTAL ASF**
Seminar Room (Large Group 50 Person)	2	1136	2,272
Seminar Room (Small Group 20 Person)	4	582	2,328
Semniar Room (Focus Group 4-5 Person)	2	179	358
Collaboration Spaces (Open)	1	599	599
Faculty Prep Areas	2	90	180
Hybrid Teaching Hoteling Space	2	108	216
Storage (Classroom)	5	40	200
Subtotal			**6,153**
Circulation, Walls & Support		40%	2,461
General Learning & Support Subtotal			**8,614**

Native Pathways Program	**QTY**	**ASF**	**TOTAL ASF**
Reception, waiting and administration	1	207	207
Faculty Office	7	118	826
Student Work Area (4 workstations)	1	192	192
Multi-use Room (Culture Cave) + Kitchenette	1	767	767
Student Lounge/ Study	1	341	341
Collaboration Spaces (Open)	1	825	825
Faculty Breakroom	1	137	137
Seminar Room (Large Group 50 Person)	1	1234	1,234
Seminar Room (Small Group 20 Person)	1	834	834
Semniar Room (Focus Group 4-5 Person)	2	278	556
Subtotal			**5,919**
Circulation, Walls & Support		40%	2,368
Native Pathways Program Subtotal			**8,287**

Police Services	QTY	SF/RM	TOTAL SF
Lobby	1	333	333
Reception	1	150	150
Food Bank	1	64	64
Adminstration Support	1	105	105
Conference / Training Room	1	613	613
Chief Office	1	149	149
Lieutenant Office	1	135	135
Sargeant Office	2	127	254
Supervisor Office	1	120	120
Administrative Assistant	1	127	127
Dispatch	1	247	247
Staff Toilet	1	83	83
Visitor Toilet	1	72	72
Patrol Locker Room	2	196	392
Patrol Officer Workstations	1	296	296
Service Vestibule	1	114	114
Custody Processing	1	415	415
Evidence Room	1	343	343
Armory	1	175	175
Lost & Found Property Storage	1	77	77
Uniform and Supplies Storage	1	100	100
Break Room / Kitchen	1	277	277
Holding	3	84	252
Uncuffing	1	72	72
Interview Room	2	92	184
Trap	1	45	45
Small Kennel/Crate	1	83	83
Secure Bicycle Storage (Site)	1	83	83
Secure Vehicle Yard (Site)	9		
Subtotal			**5,360**
Circulation, Walls & Support		40%	2,144
Police Services Subtotal			**7,504**

Parking Services	RM	SF/RM	TOTAL SF
Lobby & Waiting	1	144	144
Service Counter	1	117	117
Shared Office Area (Director & Admin Assistant)	1	156	156
Enforcement Officer Offices	1	85	85
Conference/Break Room	1	194	194
Storage	1	72	72
Secure Storage	1	72	72
Commuter Lockers	1	100	100
Vehicle Storage (site)	2		
Subtotal			**940**
Circulation, Walls & Support		40%	376
Parking Services Subtotal			**1,316**

Tenant Space A (English First)	RM	SF/RM	TOTAL SF
Seminar Room (Small Group 20 Person)	3	521	1,563
Collaboration Spaces (open)	1	575	575
Faculty Office	4	103	412
Faculty Work Stations (10)	1	353	353
Staff Resource/Breakroom	1	231	231
Worship Room	1	102	102
Welcome/Reception Area	1	351	351
Subtotal			**3,587**
Circulation, Walls & Support		40%	1,435
Tenant Space A Subtotal			**5,022**

Tenant Space B (Project Search)	RM	SF/RM	TOTAL SF
Staff Office	4	120	480
Resource Space (Student)	1	100	100
Reception/Welcome/Drop In Area	1	301	301
Subtotal			**881**
Circulation, Walls & Support		40%	352
Tenant Space B Subtotal			**1,233**

ASSIGNABLE SF SUBTOTAL (NET)	**22,840**
UNASSIGNABLE SF (Circulation, Walls & Support)	**21,043**
TOTAL RENOVATION SF (GROSS)	**43,883**

Sustainability Summary

The Evergreen State College (TESC) is renovating the Seminar 1 Building. The project will be designed to meet LEED v4.1 NC Silver certification with LEED Gold and identified goal identified by Evergreen leadership, facilities, and design team. Additional project goal of eliminating or significantly reduce operational carbon and fossil fuel used for heating, cooling, and building services have been identified.

The design team facilitated a LEED charette with Evergreen to update and identify additional opportunities that we identified in the Pre Design study completed in 2016. An updated LEED scorecard has been provided and points will be tracked through subsequent design phases to ensure project sustainability goals are achieved.

Preliminary results of ELCCA can be found in below. Energy model reports, cost estimates, and the ELCCA tool are still in progress. They will be distributed at a later date, accompanied by a report which will provide full details on assumptions, inputs, conditions for each alternate. The report will also have a more detailed discussion on pros and cons of each system that is being analyzed, energy model results for envelope optimization, lighting, and renewable analysis.

Preliminary ELCCA Results:

HVAC Option	Life Cycle Cost	First Cost	Annual Energy Cost	Lifetime Carbon Cost
Baseline- Campus Plans	$2,750,000	$1,080,000	$33,000	8,600 tons C)2
Alt 1- AWHP, Fan Coil Units	$2,700,000	$1,730,000	$25,600	6,700 tons CO2
Alt 2- AWHP, Chilled Beam	$2,900,000	$1,930,000	$25,600	6,700 tons CO2

LEED v4 for BD+C: New Construction and Major Renovation

Project Name: TESC Seminar I Renovation

Date 7/12/2022

Y	?	N			
1			v4.1	Integrative Process	1

6	2	22	Location and Transportation		16
		16	Credit	LEED for Neighborhood Development Location	16
	1		Credit	Sensitive Land Protection	1
		2	Credit	High Priority Site	2
2		4	Credit	Surrounding Density and Diverse Uses	5
2			v4.1	Access to Quality Transit	5
1			v4.1	Bicycle Facilities	1
	1		v4.1	Reduced Parking Footprint	1
1			v4.1	Green Vehicles	1

7	3	0	Sustainable Sites		10
Y			Prereq	Construction Activity Pollution Prevention	Required
1			Credit	Site Assessment	1
2			v4.1	Site Development - Protect or Restore Habitat	2
1			v4.1	Open Space	1
2	1		v4.1	Rainwater Management	3
	2		Credit	Heat Island Reduction	2
1			Credit	Light Pollution Reduction	1

5	4	2	Water Efficiency		11
Y			Prereq	Outdoor Water Use Reduction	Required
Y			v4.1	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
2			Credit	Outdoor Water Use Reduction	2
2	2	2	v4.1	Indoor Water Use Reduction	6
	2		Credit	Cooling Tower Water Use	2
1			Credit	Water Metering	1

18	10	4	Energy and Atmosphere		33
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
6			Credit	Enhanced Commissioning	6
8	6	4	Credit	Optimize Energy Performance	18
1			Credit	Advanced Energy Metering	1
1			Credit	Demand Response	2
	3		v4.1	Renewable Energy Production	3
	1		Credit	Enhanced Refrigerant Management	1
2			Credit	Green Power and Carbon Offsets	2

7	6	0	Materials and Resources		13
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
2	3		v4.1	Building Life-Cycle Impact Reduction	5
1	1		v4.1	Building Product Disclosure and Optimization - Environmental Product Declarations	2
1	1		v4.1	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
1	1		v4.1	Building Product Disclosure and Optimization - Material Ingredients	2
2			v4.1	Construction and Demolition Waste Management	2

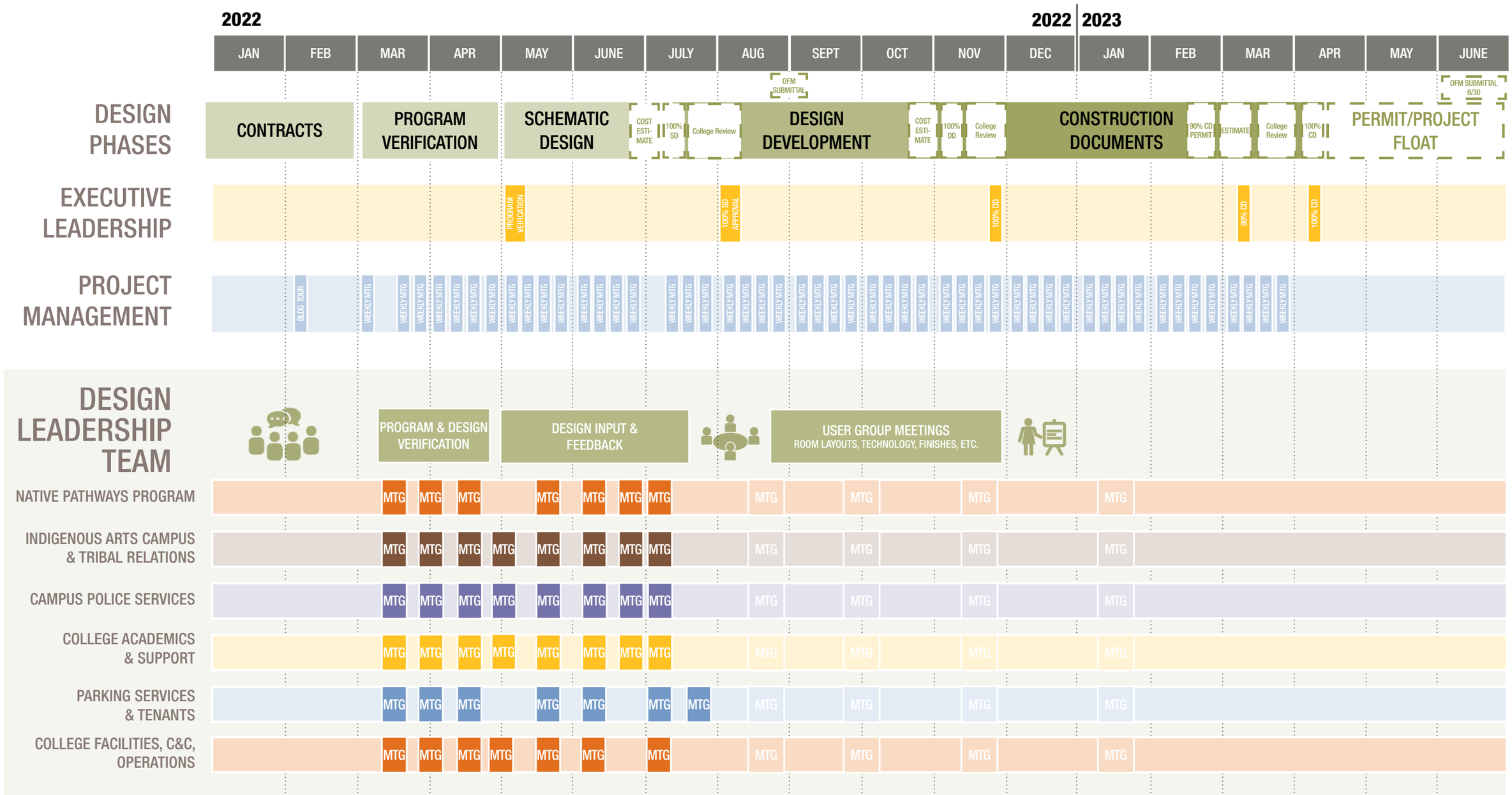
Y	?	N			
12	4	0	Indoor Environmental Quality		16
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			v4.1	Environmental Tobacco Smoke Control	Required
2			Credit	Enhanced Indoor Air Quality Strategies	2
3			v4.1	Low-Emitting Materials	3
1			Credit	Construction Indoor Air Quality Management Plan	1
2			Credit	Indoor Air Quality Assessment	2
1			Credit	Thermal Comfort	1
1	1		Credit	Interior Lighting	2
1	2		v4.1	Daylight	3
	1		Credit	Quality Views	1
1			v4.1	Acoustic Performance	1

2	4	0	Innovation		6
1	4		Credit	Innovation	1
1			Credit	LEED Accredited Professional	1

4	0	0	Regional Priority		4
1			Credit	Enviornmental Prouduct Declarations	1
1			Credit	Demand Response	1
1			v4.1	Renewable energy	1
1			v4.1	Sourcing of Raw Materials	1

62	33	28	TOTALS	Possible Points:	110

Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80 to 110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CONTRACTS
PROGRAM VERIFICATION
SCHEMATIC DESIGN
COST ESTI-MATE
100% SD
College Review
DESIGN DEVELOPMENT
COST ESTI-MATE
100% DD
College Review
CONSTRUCTION DOCUMENTS
90% CD PERMIT
ESTIMATE
College Review
100% CD
PERMIT/PROJECT FLOAT
EXECUTIVE LEADERSHIP
PROGRAM VERIFICATION
100% SD APPROVAL
100% DD
90% CD
100% CD
PROJECT MANAGEMENT
BLDG TOUR
WEEKLY MTG
DESIGN LEADERSHIP TEAM
PROGRAM & DESIGN VERIFICATION
DESIGN INPUT & FEEDBACK
USER GROUP MEETINGS
ROOM LAYOUTS, TECHNOLOGY, FINISHES, ETC.
NATIVE PATHWAYS PROGRAM
INDIGENOUS ARTS CAMPUS & TRIBAL RELATIONS
CAMPUS POLICE SERVICES
COLLEGE ACADEMICS & SUPPORT
PARKING SERVICES & TENANTS
COLLEGE FACILITIES, C&C, OPERATIONS
MTG

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Architectural

Exterior Materials and Systems

New Entries and Building Facade

Exterior Grade Cedar Siding with protective sealant has been proposed in coordination and at the recommendation of our historic preservationist consultant to maintain and relate to the historical nature of the board formed concrete. We will be investigating the use of exterior wood for cladding with the College to ensure maintenance and durability. The project will incorporate pre-finished painted aluminum Storefront Window and Door Systems along with pre-finished painted aluminum fixed vertebral solar control fins. Building Entry Signage will be incorporated for the Main Entry and Police Services Entry

Existing Building

Low impact clean and seal of all concrete surfaces to meet accepted concrete preservation standards. All existing windows to be replaced with new bronze anodized storefront window systems. Profile and configuration to be reviewed and match existing windows.

Interior Material and Systems

Stair A / Elevator Lobby

The design will protect and preserve all exposed concrete walls and wood guardrails to maintain the historical character of the building interiors. New stainless-steel handrails will be installed. The existing wood ceiling will be refurbished or replaced in kind to maintain historical character. New stainless steel finishes at the elevator will be installed.

Stair B and C

The design will protect and preserve all exposed concrete walls, floors and ceilings to comply with historic preservation recommendations. New stainless-steel handrails will be installed as required along with new wood fire doors.

New Entry / Enclosed Walkway

These were once exterior spaces that will be captured as interior to create a welcoming presence and provide an enclosed circulation / collaboration space. Finishes will be existing brick paving floors, suspended wood ceiling and some 60% of new wall areas to be wood paneling. Protect and preserve all exposed concrete walls to remain. Fixed wood bench/seating/wall panels will be integrated into the exterior lobby wall. Movable furniture will provide comfortable places to sit for collaboration or singular use. There will be new signage and wayfinding elements within this space. The main entry lobby will have representations of art within the space, of either wall applied materials or items suspended in space. There will be a component of exterior glazing film of potential colors that create a layer effect to the space. Provide feature lighting within the double height lobby space as there will be exposed glulams and wood columns against the exterior wall.

New Corridors L2 / L3 / Collaboration Spaces

Art will be displayed in these areas along the walls. Flooring will be carpet tile where existing brick paving does not occur. Ceilings will be suspended wood ceilings with integrated lighting / diffusers. Walls will be painted and have wood wall panels.

Hybrid Teaching / Faculty Prep

These spaces will have architectural glazed windows / doors, ACT ceiling, carpet tile and painted walls. There will be tack and back painted glass marker boards mounted to the walls with digital projection capabilities (Logitech Scribe). These rooms will be equipped with audio visual equipment and furnishings for virtual meetings. A Mediascape table with a screen and digital connectivity is required.

Seminar Rooms
These spaces will have architectural glazed windows / doors, ACT ceiling, carpet tile and painted walls. There will be tack and back painted glass marker boards mounted to the walls with digital projection capabilities (Logitech Scribe). These rooms will be equipped with audio visual equipment and furnishings for virtual meetings. The furniture will be tables and chairs.

Restrooms
Restrooms will have tiled walls and floor. Full height stalls to provide individual privacy.

Focus Rooms
These spaces will have architectural glazed windows / doors, suspended wood ceiling, carpet tile and painted walls. There will be tack and back painted glass marker boards mounted to the walls with digital projection capabilities (Logitech Scribe). These rooms will be equipped with Audio visual equipment and furnishings for virtual meetings.

Student Study
This space will have SWC ceiling, carpet tile and painted walls with architectural glazing doors and windows. Furniture will consist of tables and chairs, comfortable for groups and single study use. This room will be equipped with Audio visual equipment and furnishings for virtual meetings. There will be casework to store office supply type items and will house a copy machine.

Culture Cave
This space will have SWC ceiling, ½ rubber flooring and ½ carpet and painted walls with architectural glazing doors and windows (maybe a glazed sliding partition). Furniture will consist of tables and chairs, comfortable for groups. PLAM casework with solid surface countertops will have a work sink and OFCI refrigerators for project use. Work tables and chairs for large and small scale cultural projects such has carving, weaving and beading. Storage for project materials will also be provided in casework type storage along walls.

Offices / Student Work Room
These spaces will have ACT ceiling, carpet tile and painted walls with HM doors and side lights. Workstations, tables and chairs will be used in these spaces.

Breakroom
These spaces will have ACT ceiling, carpet tile and painted walls. Casework will be PLAM with solid surface countertop. Appliances to be OFCI.

Worship Room
Provide paint above wainscot height wall tile and floor tile. Footwash floor sink with paper towel and soap toilet accessories.

Police Services

Public Lobby/Reception
Lobby Amenities:
The design will provide a professional and friendly public lobby.

- After-hours “house” phone in the police entry vestibule for visitors to use that arrive after hours or if the lobby, inner vestibule doors are closed
- Durable finishes and comfortable, vandal-resistant (yet not penal grade) seating
- Adequate, pleasant lighting
- Public restroom (ADA accessible)
- Capability for video monitoring
- Electronic remote door locks to the main entry vestibule doors (inner for afterhours access)

Public Transaction Windows at Reception/Lobby

Design the counter to be securable. Plan for locking ability after hours and equip with bullet-resistant walls, doors, glazing, transaction pass tray, voice enhancement, etc. between Lobby and Reception desk.

Interview Rooms

Interview rooms are provided at the reception and holding areas. Design these rooms with out swinging doors (to prevent barricade situations). Furnish these rooms with acoustical finishes to allow for proper recording of interviews. Provide each room with a motion detector to illuminate a small "pilot" light on the exterior of the room to discretely indicate to staff that the room is "in-use". Walls and ceilings must be constructed of damage resistant materials. Equip every interview room to allow for discrete, audio and video recording. "Home-run" all recording devices to an audio / visual monitoring room, location to be determined.

Processing/Holding

Consistent with the national accreditation standards of the Commission on Accreditation for Law Enforcement Agencies, Inc. (CALEA), this facility is planned to contain a secured, short-term holding / interview area only. These spaces will safely allow officers to escort adult and juvenile suspects into the building for short-term detainment and interviews. Spaces to accomplish this include an exterior sally port, handcuffing area, intake processing area, holding rooms, and direct observation of secure holding rooms for adults and separate juvenile area.

Holding room doors and frames will be 12 ga. Detention hollow metal, with the frames grouted solid. They will be equipped with detention grade manually key operated locks. Vision panels and relites in these rooms with glass clad laminated polycarbonate glass if larger than 5" wide or ½" tempered glass if 5" wide or less. Do not include electrical outlets in these rooms and construct them with security metal walls panels and ceilings. Walls to be grouted solid. Metal wall panels are suggested due to lighter weight bearing on the existing structure compared to grouted CMU walls, eliminating the need to upgrade the bearing capacity of the floor system. If fire suppression systems are provided in the building, equip these rooms with suicide resistant sprinkler heads (UL735A or equivalent). Suicide resistant HVAC grilles and ceiling light fixtures are also recommended.

Staff Locker rooms

Provide suitably sized (24" wide x 24" deep x full height), properly ventilated lockers for every police officer. Design each locker with a 3'-6" deep, integral, bench-type, lower storage space large enough for field (gear) bags. Equip each locker with interior, duplex power outlets for the recharging of flashlights, radios, and laptop computers. Furnish adjustable shelves within the locker. Include a hook with sufficient strength to support an officer's belt in each locker.

Property and Evidence Areas

Plan the property and evidence storage area to be a high security space. Design for 100% air exhaust. The International Association of Property and Evidence (IAPE) and DEA standards require isolation of firearms and drug evidence from other evidence.

Provide security-type, "one-way", pass-through evidence lockers from the evidence processing area to property / evidence room. Lockers of varying sizes will allow officers to place evidence items in them for safekeeping until the evidence staff can remove them and place them into the evidence storage.

Structural

STRUCTURAL OVERVIEW

Existing Structure

The existing structure consists of concrete flat slabs supported by concrete columns and concrete shear walls sitting on conventional spread and continuous footings. Sub Level 1 and Sub Level 2 are both primarily underground, with the existing building foundations located approximately 20-37 feet below existing grade.

Structural Risk Category Increase

Due to the presence of the Police Services, this project will be updating the existing structural risk category from a risk category lll to an essential facility, risk category IV. To achieve this, many of the lower-level walls will need to be reinforced with unidirectional FRP reinforcing on the interior face of the existing concrete shear walls.

Removal of Existing Columns

A total of eight column segments will be removed from within the building. The sequencing and detailing of the new supports for the columns will allow for the columns to remain in place until the new supports are installed. Then the existing columns can be removed. This removes the requirement for shoring. See the SD structural drawings for the (3) trusses and roof beam details, locations, and sequencing requirements.

This new supports for the removed columns will require new foundations below Sub Level 1 foundations. This will include removal of a portion of the existing slab on grade and installing new foundations at that level. During the foundation work in this area, the exterior walls will need to be shored. Access into the Sub Level 1 for this work, will be through the elevator, stair shafts, or from the North Loading dock and through a set of double doors and a single mechanical duct opening in a lightwell along grid 1.

Existing columns to be remove:

- Level 1 to 2 - Grid M2 & M3
- Level 2 to 3 - Grid K2, K3, P2, & P3
- Level 3 to 4 - Grid M2 & M3

Elevated Slab Infills

Throughout the building at various locations, existing open floor areas are to be infilled. These will be infilled with concrete over metal deck and supported by the existing structure and steel framing as required. These occur at Sub Level 1, Level 1, and Level 2.

New Entryways and Excavation

Three new entry structures are being added to the building. The new curtain walls will be sitting on oversized conventional foundations with concrete stem walls to reduce settlement concerns. The north and east entry new entry roofs will be supported from framing supported by steel framing connected to the existing walls.

The new west entry will require significant excavation. The roof will be CLT structure, with glulam beams, and glulam columns. The gulam columns will sit on tall concrete columns that will extend down to ensure the existing retaining walls and foundations are not overloaded.

STRUCTURAL DESIGN CRITERIA

Materials and Stresses

1. Concrete

All concrete will be designed in accordance with ACI-318, Building Code Requirements for Structural Concrete, using the Strength

Design Method. The Design 28-day compressive strength for structural elements will not be less than 3,000 psi for footings and miscellaneous structures supported on soil, and 4,000 psi for primary building framing and all elements which resist seismic or gravity induced loading.

2. Wood

All wood members will be designed in accordance with American Wood Council National Design Specification for Wood Construction.

3. Reinforcing Bars

ASTM A615 deformed bars. Fy = 60,000 psi.

4. Structural Steel

All structural steel will be designed in accordance with AISC 360, Specification for Structural Steel Buildings. Design strength shall be Fy = 50,000 psi for wide flange members and 36,000 psi for bars, plates and shapes.

Inspection and Testing

1. Special Inspection

Special inspection as required by 2018 IBC, Section 1704 will be required for the following work:

- Concrete
- Reinforcing Steel
- Welding
- High strength bolting
- Soil compaction for structural fill

REFERENCES

American Concrete Institute (ACI)
Building Code Requirements for Reinforced Concrete (ACI 318-14)

American Institute of Steel Construction (AISC)
Manual of Steel Construction - 15th Edition
Specification for Structural Steel Buildings (AISC 360-16)
Seismic Provisions for Structural Steel Buildings (AISC 341-16)

American Society of Civil Engineers (ASCE)
Minimum Design Loads and Associated Criteria for Buildings and Other Structures (ASCE 7-16)
Seismic Evaluation and Retrofit of Existing Buildings (ASCE 41-17)

American Society for Testing Materials (ASTM)
ASTM Standards in Building Codes

American Welding Society (AWS)
Structural Welding Code (AWS D1.4 - 2011)

American Wood Council (AWC)
National Design Specification (NDS) for Wood Construction (AWC NDS - 2018) with 2018 NDS Supplement

International Code Council (ICC)
International Building Code (IBC) - 2018 Edition

Civil

Site Development

The project site is located in the northwest corner of the campus. The site is bordered by Geoduck Lane NW on the west, the existing police parking and loading area to the north, the library to the east, and a paved access to the south. The Indigenous Arts Campus is located to the west across Geoduck Lane NW.

Proposed project improvements include constructing a new secured parking area for police services and parking services, stormwater improvements, exterior and interior building renovations, new plaza and landscaping, pedestrian access improvements, ADA access, and water and sanitary sewer utility services.

Grading

The existing site elevations range from approximately 194 feet at the southeast entrance to the building to 173 feet at the existing parking lot to the north. The site generally slopes down from southeast to northwest. There is an existing berm between Geoduck Lane NW and the existing parking lot and loading area. The new secured parking area will be sited to the east of this berm and will require a retaining wall approximately 3 feet in height. The berm will be regraded slightly to allow for the parking expansion.

Existing site grades will be slightly modified as a result of the project improvements, but slope patterns will generally be preserved. The preliminary estimated earthwork quantities are approximately 500 CY of cut and fill. Some of the existing on-site soils can be re-used as structural fill, if approved by the geotechnical engineer during construction. Rockeries or retaining walls less than 4 feet in height will be required for the new ADA path west of the courtyard. A retaining wall will also be required at the new parking addition to retain the existing berm.

The proposed project will exceed one acre of disturbed area and will require a Department of Ecology Construction Stormwater General Permit. The contractor must adhere to the requirements of the project-specific Construction Stormwater Pollution Prevention Plan (CSWPPP) and must install and maintain temporary erosion and sediment control best management practices (BMPs).

Stormwater

The proposed project improvements involve more than 5,000 square feet of new and replaced impervious surfacing and is therefore subjected to all the Thurston County minimum requirements for stormwater design and permitting. The project will be required to provide flow control and water quality treatment and will be designed to meet the 2022 Thurston County Drainage Design and Erosion Control Manual, which will become effective on June 30, 2022. Given space constraints, open areas for bioretention (rain gardens) facilities are not available.

Proposed stormwater improvements will include an infiltration trench to address flow control requirements. The site soils are listed as Alderwood Gravelly Sandy Loam, which is conducive to infiltration. To address water quality treatment requirements, the project proposes utilizing a StormFilter Catch Basin with ZPG media. This treatment device is approved by the Washington State Department of Ecology as a General Use Level Designation. Stormwater runoff from the loading area, police parking, and ADA parking will be routed through the water quality treatment device. Stormwater runoff from the new courtyard and new building additions does not require treatment and will be collected and conveyed to the proposed infiltration trench. The new storm improvements will connect to the existing 12-inch storm line to the north of the building. This storm line heads north from the property site to an existing wetland approximately ¼ mile downstream.

The stormwater conveyance system will consist of an enclosed network or pipes, catch basins, and yard drains. It will also consist of a roof drainage lines that will convey runoff from the new building additions.

Paving and Surfacing

Paving for the proposed improvements will include architectural concrete for the plazas/entrances/courtyards, asphalt paving for the new parking area, and standard concrete for the ADA route improvements at the north entrance of the building to police services. The new secured parking lot is anticipated to have approximately 11 stalls for campus police vehicles. A pavement section of 2.5 inches of Hot Mix Asphalt (HMA) underlain by 4 inches of crushed surfacing base course is the minimum recommended paving section for areas of passenger car driving and parking.

The existing ADA stalls will be restriped at 90 degrees to allow for thirteen (13) stalls.

Security fencing will be provided around the police vehicle parking and will consist of 8-ft high fencing, one (1) automated gate, and one (1) pedestrian gate.

Pedestrian improvements will include a new courtyard and an ADA-compliant pathway connecting to Geoduck Lane NW. Stairs and other pathways will connect the southwest building entrance and new courtyards to other areas of the site. New doors on the east side of the building will be added and new concrete will be provided to the door thresholds. Finally, the ADA-accessible route will be maintained/improved from the existing loading area to the new north entrance to police services.

Landscaped or vegetated areas disturbed by grading and utilities installation will be restored and replanting per the Landscape Architect design.

Pavement patches and other surfacing restoration will be required in for connections to existing utilities

Water and Fire Suppression Services

The project site is located within the City of Olympia service area. There is an existing water line along the west side of street name serving a fire hydrant near the entrance to the Indigenous Arts building.

The existing building is served by a utility corridor coming from the west. The water services enter the Seminar 1 building on the south side.

It is not anticipated that water services will need to be upsized, nor will any exterior water main/service or fire hydrant improvements be required.

Sanitary Sewer Service

The project site is located within the City of Olympia service area. The existing building's plumbing exits along the west and northwest portions of the building and is conveyed to the north.

Sanitary sewer improvements will include replacing new side sewers along the west of the building and reconnecting to the existing manhole to the north. The existing manhole adjacent to the courtyard will be replaced.

Landscape

Goals for Site Planning and Landscape Design:

- Create open spaces that foster positive social interactions and strengthen campus community.
- Support physical and perceived connections with the Indigenous Arts Campus.
- Create a new presence for the Seminar 1 building along the campus spine.
- Establish accessible routes of travel through the project site.
- Employ CPTED principals for safe circulation.
- Implement sustainable site development strategies that reduce use of energy and potable water and manages stormwater onsite.

Site Improvements Overview

Pedestrian circulation

The plan establishes a new accessible connection between Seminar 1 and the Indigenous Arts Campus via a gently undulating walkway and ramp. The walkway and ramp is graded into the hillside with weathered steel retaining walls and larger landings that include cast in place concrete seat/ retaining walls. Where the walkway crosses Geoduck Lane there will be colored asphalt pavement markings indicating pedestrian passage. A set of stairs and curving walkway provides a shortcut north to Geoduck Lane.

Gathering Terrace (West side of Seminar 1 building)

The Gathering Terrace provides flexible outdoor space that accommodates formal and informal gatherings for student life and instruction. Freestanding curving metal benches provide seating and define space. The paving will be decorative with a higher level of detail and will consist either of cast in place concrete with color inlays or concrete unit pavers. A metal arbor/ canopy provides weather protection at the new entrance to the building

Campus Spine (East side of Seminar 1 building)

The new Seminar 1 entrance facing campus spine will be enhanced by replacing existing colored stamped concrete paving with concrete unit pavers that tie in with existing brick paving in the pedestrian spine. Freestanding curving benches provide seating and directionality for the new entrance.

New Parking

Proposed trees and landscaping help buffer the new ADA and secured parking and the Sally Port from the Seminar 1 Terrace.

Plantings and Soil Preparation

Existing large trees, primarily Douglas Firs and London Planes, provide a lush inviting environment. However, the understory consists mostly of English Ivy, St: Johns Worth and other invasive or weedy plants. English Ivy especially, has a very detrimental effect on trees health and lifespan. This project will aim to restore a healthier understory by selecting plant materials that draw from the native palette of the Puget Sound lowlands. In addition to the existing trees smaller ornamental trees will help screen new parking and enhance the pedestrian experience. Plantings will also be selected for biodiversity and to create habitat for pollinators. In addition, if possible, the incorporation of plants that can be used as materials in the fiber arts studio will be included. Trees and landscaping will be installed following campus standards.

Healthy well-draining soils are critical to successful plant growth. The project will utilize best practices for soil preparation while minimizing disturbance to existing tree's root systems. Existing site soils will be reused and amended to the extent possible. Proposed soil amendments aim to optimize plant success and reduce maintenance needs over the long term. Great care will need to be taken to not compact areas during construction that later will be planted. Imported planting soil will be needed for any new landscape areas installed where the existing conditions are paved.

Integrated Stormwater Management:

Stormwater will be managed with green infrastructure strategies including bioretention and vegetated swales that brings multiple benefits such as increased biodiversity and landscape amenities for the students.

Irrigation

The irrigation system will be fully automatic and compatible Evergreen State College irrigation standards. Irrigation systems design is based on careful plant selection, plant placement, microclimates and soil specifications that emphasize resource efficiency by minimizing maintenance and efficiently distributing water. Irrigation will be turned on from May – October, with peak watering during the summer months. The irrigation system will include current water saving technologies including evapo-transpiration monitoring and rain sensor overrides. It will use 50% less water than a baseline irrigation system, meeting LEED requirement for Water Efficiency (WE): Outdoor Water Use Reduction.

Mechanical/ Plumbing

Mechanical Design Narrative

Project Goals

The Evergreen State College (TESC) is renovating the Seminar 1 Building. The project will be designed to meet LEED v4.1 NC Silver certification and eliminate or significantly reduce operational carbon and fossil fuel used for heating, cooling, and building services. This basis of design narrative outlines the schematic level mechanical, plumbing, and fire protection design of systems meeting these goals.

Executive Summary

The mechanical systems for the Seminar 1 Building will consist of fire protection, plumbing, process piping, and HVAC systems. Fire sprinklers will meet NFPA 13 and local requirements and will include modification of the existing wet system for Light Hazard based on the latest space programming.

Plumbing systems will provide drainage modification for storm water and sanitary sewer connections. The potable water system will serve plumbing fixtures shown on architectural plans. Plumbing fixtures will be provided for the restrooms, kitchen, and will be low-flow and ADA-compliant.

HVAC systems will maintain temperatures appropriate for each space in the building. The project will replace most of the remaining HVAC equipment with new HVAC systems. The main area of the building will be conditioned by air to water heat pumps and the police area will be conditioned by a standalone DX air handler unit.

These systems are described in detail below.

Applicable Codes

The following codes apply to the mechanical, plumbing, and fire protection design:

- 2018 International Building Code with Washington State Amendments
- 2018 International Mechanical Code with Washington State Amendments
- 2018 International Fire Code with Washington State Amendments
- 2018 International Fuel Gas Code with Washington State Amendments
- 2018 Uniform Plumbing Code with Washington State Amendments
- 2018 Washington State Energy Code
- 2018 Washington State Boiler and Unfired Pressure Vessel Laws (RCW §70.79 and WAC §296-104)
- 2019 NFPA 13 “Standard for the Installation of Sprinkler Systems”

Additionally, the project will comply with The Evergreen State College’s Division 22 and Division 23 design standards.

Fire Protection

Automatic Sprinklers

Automatic sprinkler systems will be provided throughout the structure in accordance with NFPA 13 and the local authority having jurisdiction. The existing 6-inch fire main serving the basement is sufficient to provide fire protection for the whole building. A new riser that complies with the current code will be replacing the existing riser and new piping will be provided to provide fire protection coverage for the entire building.

All rooms in the building will have a wet pipe sprinkler system. The wet system will be sized for Light Hazard Occupancy. Sprinkler heads will be semi-recessed pendant type with polished chrome finish in all areas with suspended ceilings and upright type with rough bronze finish in all areas without ceilings.

Interior piping will be black steel with screwed or grooved, coupled fittings. All exposed piping will be galvanized black steel with screwed or grooved, coupled fittings.

Plumbing

Storm Water

The existing rainwater leaders will be modified as needed based on the HVAC rooftop equipment layout. Roof drains will be cast iron, as made by Josam, Wade, Zurn or equal. Rainwater leaders and downspouts will be Schedule 40 PVC pipe.

Roof drain bodies will be insulated with 1.5-inch fiberglass blanket with vapor barrier. The vertical portion of the rainwater leaders immediately below the roof drains, and the first fifteen feet of horizontal piping adjacent thereto will have a 0.05-inch insulation with a vapor barrier.

Underground storm drain piping will be service weight cast iron no-hub piping.

Sanitary Waste

The sanitary waste and vent piping system will consist of drainage from all plumbing fixtures located inside the building and connection to existing building sanitary sewer. There is an existing sump pump in the basement of the building that collects building wastewater and sends the pumped wastewater to 6" main piping leaving the building from the northwest side. Slab removal will be required to connect new basement fixtures to existing sanitary piping below the slab. The existing vent through the roof will be modified based on the HVAC rooftop equipment layout.

The sanitary system will be designed in accordance with local codes and accepted engineering practice.

Sanitary waste and vent piping will be service weight cast iron soil pipe with no-hub fittings.

Potable Water

There is an existing 6" domestic water piping entering the building from the south tunnel. All new fixtures are expected to be connected to existing piping within the building.

Above-ground piping will be Type L copper tube and fittings with soldered joints.

Buried piping will be Type K copper tube and fittings with soldered joints. All underground copper piping will be wrapped with a 100% lap, 5 mil, polyvinyl-chloride self-adhesive tape.

All domestic cold-water piping in the building will be insulated per 2018 WSEC with a vapor barrier jacket. Piping routed in unheated areas will be heat traced.

Domestic Hot Water

An existing hot water heater will be relocated to mechanical room and hot water piping will be provided to distribute domestic hot water in the building.

The water heater will heat and store hot water at 140°F for the domestic hot water supply. A mixing valve will temper the hot water down to 120°F before delivery to the fixtures. Hot water at lavatories will be tempered with mixing valves that comply with ASSE 1170.

Hot water piping in the building will be Type L copper water tube and fittings with soldered joints.

Hot water piping in the building will be insulated with 1-inch-thick fiberglass with Kraft foil-scrim jacket.

Fixtures

Fixtures and fittings will be provided for toilet rooms and other areas as indicated on the floor plans.

Plumbing fixtures will be first line quality as manufactured by American Standard, Zurn, Kohler, Acorn or equal. We will be using TESC Division 22 campus standard for plumbing fixture selections.

Fixtures will be energy efficient and ADA compliant and include the following:

- Dual flush or low-flush water closets
- Low flow urinals
- Lavatories and sinks with aerator faucets.
- Floor drains for restroom and mechanical room.
- Mop sink (floor-mounted) for janitor closet.
- Interior and exterior hose bibs, freeze-proof where necessary.
- Hose stations in processing areas.

Fixtures and fittings will be furnished with supports, stops on water supply, flush valves, and other items necessary for installation.

Heating, Ventilating, and Air Conditioning (HVAC)

Design Criteria

The heating, ventilating, and air conditioning (HVAC) system will be designed for local climate conditions and to operate through the normal change of the seasons. The HVAC system will be designed to the following design criteria.

Table 1: HVAC & Duct Design Parameters

Ductwork	
Static Pressure Drop	0.08 inch w.c. per 100 linear feet
Duct Construction Standard	SMACNA
HVAC Design	
Outdoor Design Temperatures	Summer: 82.9°F DB, 64.8°F WB
	Winter: 23.2°F DB

Table 2: Room Type Criteria

Office Space, Lobby, Classes	
Heating Setpoint	68 °F
Cooling Setpoint:	75 °F
Humidity	None
Ventilation	ASHRAE 62.1
Pressurization	Neutral for all areas except restroom
Building Support/ Data Rooms	
Heating Setpoint	N/A
Cooling Setpoint:	85 °F
Humidity	None
Ventilation	ASHRAE 62.1
Pressurization	neutral

Heating, Ventilation, and Air Conditioning (HVAC)
The project will replace all existing HVAC equipment and ductwork.

The HVAC system for the police area will be based on variable refrigerant flow (VRF) system with a dedicated outdoor air system (DOAS) for ventilation. This stand-alone system will consist of a combination of ductless and ducted indoor units and a condenser mounted on the roof. The VRF system and DOAS unit will be connected to a generator for 100% redundancy.

The HVAC for rest of the building will be based on a four-pipe fan coil system coupled with air to water heat pumps and ventilation will be served by a dedicated outdoor air system (DOAS). Hydronic pumps in lead/lag arrangement will distribute heating and chilled water from heat pumps mounted on the roof to four-pipe fan coil units installed in the zones. Each pump will be sized for 100% redundancy.

The DOAS unit consists of a plate core heat exchanger to recover rejected heat, and heating and chilled water coils to condition the air to neutral temperature (68°F-75°F).

Rooms with high density of people will have dedicated variable air volume (VAV) units and individual offices will be sharing VAV units that are controlled by carbon dioxide (CO2) sensors. The CO2 controls will shut off the ventilation air when the room is not occupied and modulate air as needed to maintain the CO2 setpoint, which is 1000 ppm.

Lobby and vestibules will be heated with hydronic radiators installed along the window perimeter.

The mechanical room will have hydronic unit heaters to maintain room temperature above freezing.

Building support and data rooms will be conditioned with ductless heat pumps and the outdoor units will be mounted on the roof.

Ductwork
Ductwork will be galvanized sheet metal.

Ductwork that conveys conditioned air will be insulated as follows: concealed above ceilings, with fiberglass blanket, 1-inch-thick, 1.5 lbs./sq. ft. density and vapor jacket. All other ducts will meet the minimum requirements of the 20bo18 WSEC. The first twenty feet downstream of HVAC units will be acoustically lined.

Hydronic Piping
Aboveground hydronic piping sized larger than 2-inches will be Schedule 40 steel pipe using welded joints for the chilled water system, and grooved mechanical joints for the heating water system. The chilled and heating water systems for piping 2-inches and smaller will be Type L copper with solder joints size. Piping installed in unheated space and on the roof shall be heat traced. All piping shall be insulated per 2018 WSEC.

Automatic Controls
Automatic controls will be direct digital controls (DDC) with a central workstation. The DDC system will be fully integrated into the existing TESC building automation system (BAS) servers.

Electrical/ Low Voltage

1.1 Building Description

The project is a remodel of the existing Seminar 1 building located on The Evergreen State College campus in Olympia, WA. There will be an extensive remodel of the building to house a program consisting of classrooms, offices, and police services.

2.1 Design Criteria

The following load allowances will be provided for the project:

Table 1: Lighting and Power Load Densities

Area	Lighting Systems (VA/SF)	Power Systems (VA/SF)	System Totals (VA)
Offices	1.0 – 1.1	7 – 10	10
Core	0.5 – 0.6	1.0	7
Classrooms	1.2	3.5	55
Police Station	0.6	4.5	32
Stairs	0.5 – 0.6	0.5	1.2
Restrooms	0.4	.1	1
IDF Room	0.6	15	10
Mechanical/Electrical Areas	0.6	0.5	2

2.2 Service and Distribution

Building Main Power Service

The existing building is served with a 1500kVA Unit Substation with integrated 480Y/277V switchboard located in the lower level of Seminar 1. The existing switchboard secondary distribution components will be removed to convert the switchboard into a pullbox, maintaining the transformer and loop switches. New conductors will be provided from the secondary side of the unit substation and land on a new switchboard MDP located in the same electrical room.

Unit Substation Alternate

The original medium-voltage loop-fed unit substation was originally installed in 1974 and the base bid plan is to reuse the transformer portion of this equipment. Provide alternate pricing to replace the entirety of the unit substation including the primary loop switches and 1500kVA transformer.

Building Distribution

The main service will be 2000 amps and the main service voltage of 480Y/277V will be used to feed lighting and large mechanical loads. A secondary voltage of 208Y/120V will be derived using energy efficient dry type transformers providing a level of isolation from other loads and deriving new a grounded neutral point.

Distribution through the building from the lower level main electrical room will consist of three vertical risers in the north, central “elbow”, and west portions of the building. North and West risers will consist of stacked closets with 120/208V branch panelboards for receptacle and small equipment loads. The central riser will consist of stacked closets with 277/480V panelboards for lighting and mechanical loads. Large HVAC loads and the elevator will be fed direct from the main switchboard.

The electrical power system will incorporate metering and system performance tracking at the main distribution and sub-distribution panels. The metering will provide information on system panelboards for lighting and mechanical loads. Large HVAC loads and the elevator will be fed direct from the main switchboard.

The electrical power system will incorporate metering and system performance tracking at the main distribution and sub-distribution panels. The metering will provide information on system loading and power quality.

Refer to enclosed power one-line diagram on sheet E-1.

Power Quality

Quality of power supply is affected by noise sources within a facility as well as outside (utility transferred). The power distribution system will include measures to help safeguard equipment from utility surges and transient conditions. Surge Protective Devices (SPD) will be provided at the service entrance electrical equipment for a first level of protection and at emergency and optional standby branch panelboards for a second level of protection. A third level of SPD's could be utilized by the owner using portable plug strips with surge protection at equipment. Load types will be separated on panels to prevent large mechanical loads from affecting general-purpose branch circuitry.

Branch Circuit Wiring

Copper conductors routed in EMT raceway will be used throughout the building for branch distribution. Dedicated neutral conductors will be provided for each circuit, multiwire branch circuit configurations will not be employed. Flexible metal clad (MC) cabling may be used in for local distribution of branch circuits from a local junction box above the ceiling, the homeruns back to the panel will be EMT/copper conductors. Wiring devices will be heavy duty grade. Ground fault circuit interrupter receptacles will be provided in toilet rooms at sinks, roof, outdoor and wet areas.

Equipment Connections

Electrical power connections will be made to all mechanical equipment, to include providing all electrically associated devices such as disconnect switches, contactors, magnetic or manual starters, lock-out switches, etc., not furnished under Division 23. VFDs furnished under Division 23 and installed under Division 26.

Electrical power connections will be made to support miscellaneous equipment. Connections include disconnect safety switches and wiring to support interlocks to remote devices.

Grounding System

A grounded power system will be provided in compliance with the NEC. This ground system consists of the building service ground consisting of multiple ground rods, concrete encased electrode, and bonding to the water service and structure steel. The grounding system will be extended thru out all electrical systems in facility. Grounding busses will be provided in the electrical and telecom network rooms. All metallic systems will be grounded to the building grid. A dedicated equipment grounding conductor will be provided in all feeder and branch wiring runs.

2.3 On-Site Power Systems

Emergency Generator

Emergency and Optional Standby power will be provided by a 200 KW diesel fired generator. The generator will be exterior mounted with a weather proof, sound attenuated housing and built in base fuel tank. As the generator is providing NEC-702 power to the police station, the generator should be enclosed in a secured fence area. Onsite fuel storage will provide for 24-hours power source operation at full load. A dual-purpose generator docking station will be provided to allow for temporary generator or load bank connection, Trystar GDS-6 or similar.

A single feeder from the generator will be brought into the building to a generator main power distribution panel located in a new emergency electrical room on the lower level. Separate 4-pole automatic transfer switches (ATS) are provided for emergency loads and standby loads.

Emergency loads will be those designated as life safety meeting the criteria of NEC 700 and will include egress lighting, alarm systems, and smoke control systems

Optional Standby loads will include the network room loads, UPS system, selected cooling, designated police station loads, security systems and will meet the criteria of NEC 702.

2.4 Fire Alarm

System Description

The Fire Alarm system will consist of a supervised addressable supervised, Class B hard wired system and include an automatically actuated alarm as shown in table below.

The activation of any sprinkler flow switch, smoke detection device or manual pull station will operate the alarm system and initiate the smoke control sequence where appropriate. The fire alarm annunciator will provide indication of the floor of an alarm and the type of alarm, i.e., manual, sprinkler flow, or smoke. The fire alarm system will be connected to an approved central monitoring service.

The activation of any elevator lobby, hoistway or machine room smoke or heat detector will cause the elevator to initiate a recall sequence. The activation of any standpipe or sprinkler valve tamper switch activates the fire alarm system supervisory audible signal and illuminates the indicator at the control panel.

The activation of any sprinkler pre-action system pressure or low air switch activates the fire alarm system supervisory audible signal and illuminates the indicator at the control panel.

The activation of any duct detector or area detection device will initiate a HVAC unit shutdown and fire alarm system to close the combination fire/smoke dampers for the zone.

Two-way communication system will be provided within areas of refuge, elevator landing on each accessible floor that is one or more stores above or below the story of exist discharge to comply with NFPA 72.

An emergency responder radio system is provided for firefighter's and other first responder's radio communications as required by the fire department.

SYSTEM EQUIPMENT

Fire alarm equipment will be housed with electrical or telecom equipment rooms or as required by the AHJ. Equipment located within the space will include:

- Fire Alarm System Control Panel
- Annunciator Panel
- NAC Panels
- Telephone for Outside Communication

Fire alarm system equipment located remotely will include:

- Remote annunciator panel at the building entry point
- NAC panels
- Voice evac amplifiers
- Remote fire alarm panels, to be networked to the master fire alarm control panel
- Provide smoke detectors at the top of the hoistway to be accessed from the exterior of the shaft.

Table 2: Fire Alarm Device Coverage

Device	Coverage
Manual pull stations	Located at each exit and each exit leaving an elevated floor.
Smoke Detectors	Corridors, Air handlers (>2,000CFM), Elevators lobbies, Elevator machine rooms, Elevator hoistways, FACP location.
Fire Sprinkler	Tamper and Flow
Annunciation	Remote Annunciation at entry
Building Annunciation	Horn and Strobe annunciation thru out the facility.
System output	Relay interface for mechanical system shut down and elevator recall.
Monitoring	Central Station Monitoring

2.5 Temporary/Portable Structures

Relocation of Police Services to Temporary Structure

During demolition and construction of Seminar 1 building, police services on campus and select communications equipment in Seminar 1 will need to remain operational. Conduit and conductors will be provided from a NEC-702 panelboard in the adjacent Library building main electrical room and trenched to both the temporary trailers and a new panel on the lower level of Seminar 1. Once construction is completed and police services are brought back into Seminar 1, conductors will be removed and the conduit will be capped and remain in place.

3.0 Technology

3.1 Design Criteria

Technology systems provide flexible flow of information, dynamic content exchange, efficient end user communications, and maximizes building managers' oversight and support of building usage.

3.2 Structured Cabling

TELECOMMUNICATIONS SPACES

Because the new building will require communications services throughout, several telecom rooms will be programmed for construction throughout the project. As outlined by communications industry best practices, one telecom room will be provided for every 10,000 SF of usable floor area.

Spaces will be established in the following locations:

- One Main Telecom Room on Level 1, which will also act as the building's Telecommunications Entrance Facility for Service Providers.
- Additional Telecom Rooms: a minimum of one on each level
- Total quantity of Telecom Rooms will be provided to ensure all areas of the building are within 295 cabling feet or less from a Telecom Room due to distance limitations of Category cabling.
- Wherever practical, Telecom Rooms on different levels will stack/align vertically.

Exact size and location of Telecom Rooms will be coordinate with the Architect, meeting industry and/or owner standards.

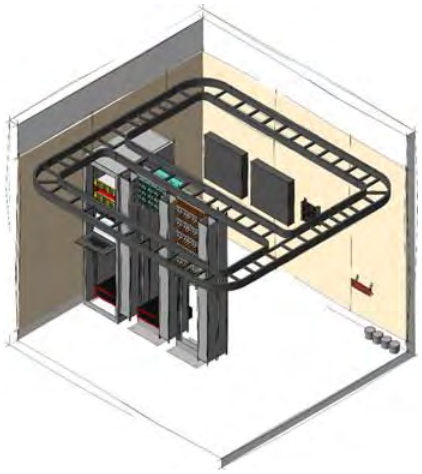


Figure 1: Example Main Telecom Room

EQUIPMENT

- Telecom Rooms will be fitted with fire-rated plywood backboards on three walls.
- Third party (wireless carriers, access providers, etc.) equipment will also be installed in the Main Telecom Room.
- Wire management rings will be utilized to route cabling from different pieces of wall mount equipment.
- 110-style wall-mounted wiring blocks will be provided for cross-connecting copper cabling.
- 2-post racks, floor enclosures, and wall-mount telecom enclosures will be provided where required for the installation of copper patch panels and fiber optic distribution units. Racks/enclosures will have standard 19 inch compliant mounting rails, with vertical and horizontal cable management systems.
- Where telecom racks and enclosures are provided, cable runways will be provided above and around the walls of the Telecom Room to route cabling to/from racks.

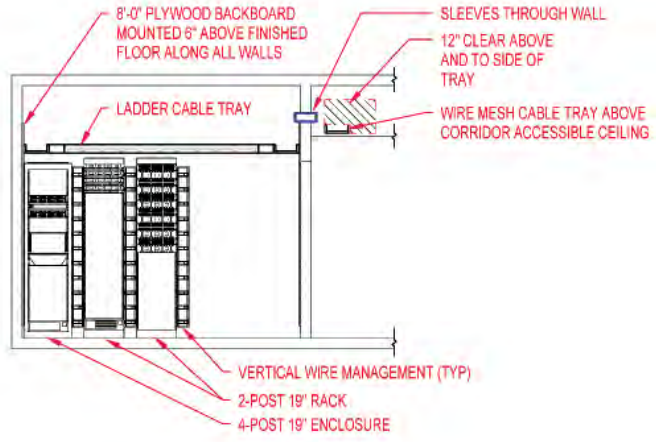


Figure 2: Example Section with Equipment

CLEARANCES

To maintain proper working clearances to the front and back of equipment, gross square footage alone as a guideline is insufficient for the proper space allocation of telecom rooms. Telecom Rooms will be designed such that angled walls and other configurations that limit usable floor area are avoided.

Typical dimensions and equipment types are shown below for reference, with final equipment layouts and room sizes to be detailed later in the contract documents, independent of this narrative.

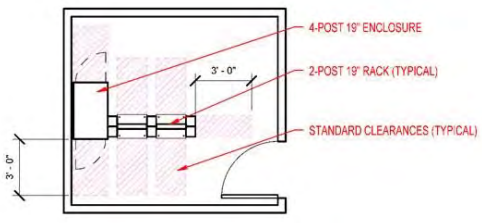


Figure 3: Typical Equipment Clearance

OUTSIDE PLANT

Service to the building will be provided via existing underground pathways from existing infrastructure located on campus. Owner provided systems will be brought to the building using this underground pathway.

Existing conduits will be reused. A site survey will be conducted to confirm conditions. It is assumed the following conduits are installed as a minimum requirement:

- One 4 inch for Campus Fiber
- One 4 inch for Campus Copper/PBX
- One 4 inch for Other/Future

A 4 feet wide by 8 feet tall area of plywood backboard will be provided for demarcation for each service provider.

PATHWAYS

To provide a flexible and scalable communications system, the design of the pathways which transport, protect and support the cables must be designed with easy access and growth in mind. Telecom pathways will be designed and constructed in accordance with the most current ANSI/TIA standard, including minimum bend radii on telecom conduits.

Dedicated conduit for structured cabling backbone cabling and distributed antenna system (DAS) cabling will be provided from the Main Telecom Room to each Telecom Room.

- One 4 inch for Structured Cabling Backbone cabling
- One 4 inch to support future cabling needs
- One 2 inch for Emergency Responder DAS backbone cabling

For stacked Telecom Rooms, fire-rated sleeves will be provided in the slab between rooms in lieu of conduits.

A 2 inch conduit will be provided from a Telecom Room on the top level to a weather head on the roof for a DAS antenna and to support future services (SMATV, P-to-P Microwave, etc.).

In areas with no accessible ceiling and when cabling is routed below-grade, conduits and duct banks will be used for cable distribution.

Conduits will be sized for 40 percent fill, with cable trays sized for 25 percent fill. In areas with greater accessibility and those which may need frequent cable changes the preferred method of cabling support will be wire-mesh cable tray.

Where accessible ceilings are available, J-hooks will be provided for supporting and routing smaller amounts of cables (under 50 total quantity) from the cable tray or Telecom Room to the work area outlets.

Fire-rated sleeves will be provided through any fire-rated walls where cabling needs to be routed.

BACKBONE CABLING – MAIN TELECOM ROOM TO TELECOM ROOMS

Fiber optic and balanced twisted pair backbone cabling will be provided between the main telecom rooms to telecom rooms/ enclosures. Fiber optic distribution units and 110 punch down blocks will be provided for cross connecting services between rooms. The cabling will consist of the following types:

- Backbone Optical – Single Mode (OS2), 24 strands
- Backbone Copper – 25 pair

HORIZONTAL CABLING

Horizontal cabling will be provided from patch panels in Telecom Rooms, to work are outlets and other devices throughout the building. Cabling will be installed, terminated, labeled, tested and administered by the contractor. The cabling plant will consist of the following cable types:

- Horizontal Data/Voice – Category 6
- Horizontal Data (for WAPs) – Category 6A
- A minimum number of two cables will be extended to each telecom outlet location.

Wireless access points (WAPs) and other active equipment will be owner furnished, owner installed. Approximate spacing between adjacent WAPs will be in a grid pattern approximately 25-35 feet, unless alternate locations are dictated by the owner. Where PoE (Power over Ethernet) endpoint devices require power exceeding 60W, CAT6A cabling will be provided at a minimum, with LP rated cables being used where design conditions require large bundles of cables servicing high powered PoE devices.

GROUNDING AND BONDING

A telecom grounding and bonding system will be provided for all telecom rooms and spaces throughout the building.

Dedicated Telecom Bonding Backbone

This system is separate from the electrical grounding system in that an electrical grounding system is required for safety, but telecom grounding and bonding systems are required to protect active equipment in the system from disruptions due to either outside interference or unbalanced voltage potentials to ground. They are integral in that telecom system must be bonded to the electrical system so that they may function as a single cabling system.

A Primary Bonding Busbar (PBB, formerly TMGB) will be provided in the Main Telecom Room. The PBB will be connected (bonded) to the electrical system's main panel board's (sometimes referred to as the main switch board, or main distribution board) ground via the Telecommunications Bonding Conductor (TBC).

Secondary Bonding Busbars (SBB) will be provided in every Telecom Room to provide a bonding point for all equipment in that room. Rack Bonding Busbars (RBB) will be provided in every telecom enclosure. Racks, cable trays, conduits, and other telecom system equipment will be bonded to the PBB/SBB.

3.3 Temporary/Portable Structures

RELOCATION OF POLICE SERVICES TO TEMPORARY STRUCTURE

During demolition and construction of Seminar I building, police services on campus will need to remain operational. In order to provide temporary network service to these structures, new pathway from existing IDF 1112 will be trenched out of the building and routed to a new vault located near the temporary trailers.

It is pivotal and IDF 1112 remain intact as it will serve as a patch point, servicing networks hosted and managed by the campus and police services. PAE has been directed that IDF 1112 will not be demolished.

3.4 Code Required Two-Way Communications Systems

EMERGENCY RESPONDER RADIO COVERAGE (ERRC) DISTRIBUTED ANTENNA SYSTEM (DAS)

A code-compliant Emergency Responder Radio Coverage Distributed Antenna System will be provided.

A dedicated system will include a donor antenna mounted on the roof to receive/transmit these signals to a Master Control Unit (MCS) in the Main Telecom Room. The MCS will then provide fiber-optic cabling to remote units in an IDF on each level. Remote units are transceivers that convert the signal to coaxial cabling. The coaxial cabling is attached to amplifiers to extend signal out to small passive antennas distributed throughout the building.

The system will support the current radio frequencies of all Emergency Responder entities that may respond to the building.

Predictive modeling of RF propagation will be provided by the system installer (contractor) to verify the following code-requirements are met:

- Signal strength of end-point devices (emergency responder radios) is adequate and meets the performance requirements outlined by the AHJ.
- 90 percent coverage for general floor area.
- 97 percent coverage for critical areas including but not limited to: fire command center, security operations, fire pump room, egress stairs, egress passageways, elevator lobbies, standpipe cabinets, sprinkler section valve locations and all mechanical and communication spaces.

After installation the system installer (contractor) will be responsible to test the building per NFPA 72 to ensure the above coverage requirements have been met.

At the conclusion of the project, software will be provided to the owner for managing the ERRC DAS. The system will meet the following code requirements, as coordinated with the AHJ:

- Pathway Survivability for DAS cabling and power circuits supporting DAS equipment.
- Integral battery-backup power.
- Integration and monitoring of the system through the Fire Alarm Control Panel. With relay notification panel located in fire command center in high-rise classified buildings.

AREA OF REFUGE/ELEVATOR LOBBY TWO-WAY COMMUNICATIONS SYSTEMS

For code-required Areas of Refuge, a Two-Way Communication System will be provided as a means of communicating with emergency responders in the event of an alarm condition and/or fire. The system will consist of a call station in each Area of Refuge (and associated signage) and a Control Station near the main entry/vestibule. This system will be equipped with an analog phone line that will call owner's security office.

Where the architect has not indicated dedicated area of refuge locations in the building, these devices will be provided in each elevator lobby above or below the level of discharge/egress.

The system will meet the following code requirements, as coordinated with the AHJ:

- Pathway Survivability for cabling and power circuits supporting the equipment.
- Integral battery-backup power.
- Location of the Control Station coordinated with responding Fire Department, or as directed by the AHJ. This control station can be located in the fire command center for high-rise classified buildings with this room. Otherwise it is typically located in the main entry vestibule adjacent to the fire alarm remote annunciator

3.5 Audio-Video Systems

GENERAL

Audio-video (AV) systems are operationally driven systems which require individual consideration and specialized design attention. Unlike other building systems which for all intents and purposes are “invisible” to the building occupants – care must be taken when coordinating AV systems.

DIGITAL SIGNAGE

Digital signage displays will be provided at each floor in common areas such as entry vestibules and lobbies. The digital signage system will provide a platform for communicating daily events, upcoming events in the form of a schedule as well as any custom video content playback. A web-based software system will be provided for the authoring of digital signage content to provide maximum flexibility of managing the system.

ASSISTIVE LISTENING SYSTEMS

Included with all multimedia presentation systems where instruction will take place a code-compliant assistive listening system will be provided. Assistive listening systems are required by the ADA Standard (2010) and are included in current revision of the IBC. These systems allow people with difficulty hearing to be able to hear the program content of the system in the form of wireless transmitters and wireless receivers worn on the individual.

MULTIMEDIA PRESENTATION

Multimedia presentation systems enhance communication by amplifying sound and allowing the use of multiple sources of visual data, be it video playback, spreadsheets – the goal of a multimedia presentation system is to enhance learning. The audio-visual system should not get in the way of the user or instructor, so care must be taken to design a system that is as easy to use as functionally possible with technology available.

Figure 4: Typical Multimedia Presentation System Diagram

Spaces

Classrooms and Conference Rooms will be outfitted with multi-media presentation systems. The spaces will feature a form of video display, audio program and voice reinforcement, source input and system control. Exact quantity and size of displays in other spaces to be determined based on final room size and specific function/use. For larger rooms, projection systems are to be considered to accommodate legibility/image size requirements.

Typical classrooms will include a dedicated podium/lectern for instruction with integrated AV cable input/outputs and system control panel. The podium/lectern will be mobile and powered. Data infrastructure will be designed to accommodate maximum flexibility.

Mobile AV system equipment will also be provided for large labs in the form of a rolling enclosure with dedicated rack rails for mounting AV equipment.

Meetings with end users to determine owner's classroom AV standards will be required.

Room Type 1 –Conference (Huddle) Room System

Where designated, small conference rooms will be outfitted for media-rich presentations and soft-codec videoconferencing. The Huddle Room AV systems will be designed to limit required interaction from users, sensing and switching inputs automatically.

Huddle rooms will be equipped with large format displays (sizes will be customized for room conditions) with built-in loudspeakers, video teleconferencing cameras, and interfaces for portable user devices. Audio conferencing will be accomplished with tabletop conferencing phones or portable user devices.

Portable user devices will interface with the system via HDMI and USB. Connection of a source will cause the display to power up and switch to the appropriate input. Volume controls will be provided in the space. After a set amount of idle time the system will power down.

Room Type 2 – Classroom/Lab Room System (Requires Verification)

Classroom and Lab audio-visual systems will be compromised of a wall mounted control button panel. The controller will have the ability to send commands and receive feedback from endpoints including, but not limited to; projectors and/or LCD displays, audio amplifiers, and media switchers. A custom podium/lectern with a built-in equipment rack will be used to house AV components of the system. Atop the lectern will be a local monitor receiving a duplicated signal of the program source displayed on the chosen display endpoint (projector and/or LCD display). Classrooms or lab spaces with projectors will have a manual projection screen, sized appropriately based on the room dimensions. Dependent on size each classroom and/or lab will receive no less than 2 ceiling speakers for audio playback. All audio-visual devices will be owner-provided, owner-installed. Cabling and rough-in for audio-visual devices is to be installed by the low-voltage contractor per design drawings provided by PAE.

Control Systems

Integrated control systems will be part of all audiovisual spaces and will control AV systems. Room lighting and shade scene and preset controls are to be integrated at select areas. All control systems user interfaces will be network-based, and either by wall mounted, or integrated into countertop presentation workstations and other presentation devices. Interfaces with identical functions to other existing presentation spaces are to mimic existing control interfaces.

AUDIO-VIDEO SYSTEMS EQUIPMENT

LCD/LED Televisions

All flat panel displays will be commercial/professional grade. Flat panel display mounts will feature wall extension as required to accommodate any rear of display mounted AV equipment. Mounts will feature pan and tilt capability where required to direct displays toward intended viewers. The combined depth of the mount and display will be no greater than 4 inches to meet ADA requirements

Large capacity multi-service electrical boxes will be provided behind displays for integrating power, data, and audio-visual extender cabling in a single enclosure. Screen brightness and longevity will be considered based on the application. For areas exposed to high levels of ambient light, screens will be provided with a minimum brightness of 350 nits.

Projectors

Projectors will be designed to provide a minimum of 2500 lumens for small projection surfaces and areas with low ambient light. Larger screens and areas with higher ambient light will have a minimum of 8000 lumens. Projectors will use network for auditing bulb life and integrate into the control system for on/off and video source control. Smaller spaces will use lower lumen output projectors and can either be the ultra-short throw type or standard middle of room installation depending on owner requirements. Larger spaces will require projectors capable of higher lumen output and flexible lens options.

Projection Surfaces

A combination of projection surfaces will be used based on the application. For small spaces, and ultra-short throw applications, a whiteboard with a low-gloss finish (to reduce glare) will be utilized as the projection surface. For medium and larger spaces requiring increased screen size for readability, motorized projection screens will be used. All projection surfaces will be designed to provide a minimum of 45 footlamberts in screen brightness, with higher screen brightness in spaces with high ambient lighting.

Loudspeakers

Loudspeaker performance characteristics vary widely based on application and must be selected based on the intended use of the space. To provide reinforcement of vocal content, a distributed speaker design will be provided which evenly spaces loudspeakers in the ceiling of the assembly area to provide the most even distribution of this kind of content. For spaces with open ceilings or high ceilings requiring higher output loudspeakers pendant mounted speakers may be utilized.

3.6 Electronic Security Systems

Electronic Security systems provided in this project will be an integrated system of video surveillance, intrusion detection and electronic access control system and will be an expansion of the owner's existing systems.

VIDEO SURVEILLANCE

The system is IP-based and utilizes the Owner's Power-over-Ethernet switches and Local Area Network to route signals to an existing video management system and network video recorder/server located in main telecom room. Archival requirements are 1080p-resolution, 8 frames-per-second, 24-hour recording, and 30 day retention.

Cameras

All cameras will be IP-based and ONVIF compliant, allowing them to be used with a variety of Video Management System (VMS) software platforms and accessible through the local network and remotely. Cameras will include Wide Dynamic Range (WDR) capabilities to allow more detailed capture of images in areas where natural or artificial lighting presents scenes with high contrast. The cameras will also include automatic day-night functionality, allowing full color capture during daylight hours, and blank-and white capture during the night. The resolution will be 2 Megapixels at a minimum, allowing greater detail image capture. Higher resolution and specialty 360-degree and multi-sensor cameras will be provided where appropriate.

Coverage

Surveillance Cameras will be placed where necessary to provide the best safety coverage for the building occupants.
Typical locations include:

- Entry vestibules
- Service entrances
- Stairwells

Integration

Camera, cabling, licenses, network video recorders (with additional storage servers), graphical mapping of camera locations, integration with access control system, and integration with the existing system will be included in the project under the General Contractor's scope.

INTRUSION DETECTION

An Intrusion Detection system will be deployed to provide the ability to monitor the building. The system will be capable of connecting with real-time monitoring companies. Real-time monitoring companies will be owner-provided.

Devices and Coverage

Detection devices will be placed throughout the facility. These device locations and types include, but are not limited to:

- Motion or Glass break sensors in all rooms with exterior wall glazing/windows
- Motion sensors in primary corridors
- Motion sensors in areas with roof-hatch access
- Duress Alarm/Panic Buttons
- Door contacts on all exterior doors, exterior roll-up doors, and exterior access hatches.

In addition, communications modules such as dialers and/or Ethernet cards will be provided for connecting to 3rd party monitoring agencies or local command centers. Control devices (such as keypads) will be located at primary entry points to provide for arming and disarming the system.

ACCESS CONTROL

Electronic Access Control system will be provided based on owner's existing system to control access to the building during off-hours, or between back-of-house and secured spaces where the public or non-credentialed personnel are not allowed.

Devices

A variety of devices are required for an effective electronic access control system. These include, but are not limited to:

- Credential readers
- Door position switches
- Request to exit sensors
- Request to exit manual push buttons
- Electronic locks (specified by Division 08, Doors and Windows)
- Electronic strikes (specified by Division 08, Doors and Windows)
- Electromagnetic locks (specified by Division 08, Doors and Windows)
- Panic hardware (specified by Division 08, Doors and Windows)
- Power transfer hinges (specified by Division 08, Doors and Windows)
- Automatic door operators and buttons (specified by Division 08, Doors and Windows)

Credential readers will be provided at appropriate and coordinated locations and will be multi-technology readers capable of 125kHz and 13.56MHz frequencies.

Some credential readers will also have integral keypads as an additional level of security.

Each access-controlled door will include a door contact, which reports the position (propped open, forced, closed etc.) of the door back to the Access Control management system. Unauthorized openings will report an alarm through the integrated Intrusion Detection System.

Request-to-exit sensors and buttons (or integral to panic hardware) will report an approved opening of the controlled door. These devices are typically located on the secure side of the door to allow free egress to the non-secure side of the door.

Automatic door operators will integrate with the system so that the door motor will not activate without an approved opening credential.

Other components of designated doors work in conjunction with the access control systems and are included as part of the Division 08 Door Hardware groups.

Integration

Cabling, devices, panels, integration (including graphical mapping of device locations), and new credentials (cards/fobs) will be included in the project as part of the Contractor's scope.

Lighting

2.0 Equipment

2.1 Design Criteria

This is a 100% Schematic Design level lighting and lighting control systems narrative. The design of the lighting system is in development. This narrative is as complete as possible for this level of design.

The BOD narrative has been provided for review and to demonstrate the current designs expectations for this project. All are subject to change as design evolves.

Fixture images included in this narrative are for concept and quality reference, and do not represent final fixture selection.

Spaces not directly identified in this narrative should be assumed to be of like character and quality as reasonably similar space types for their basis of design.

For budgeting purposes, spaces that have not been shown with a specific layout should be assumed to be equipped with lighting similar to spaces of similar function.

The proposed lighting system will comply with, or exceed, all applicable local standards, codes, and ordinances.

2.2 Luminaires

Architectural Lighting

All luminaires used on this project shall be specification grade and of a quality appropriate to the application. The luminaire specification shall be produced in a manner as to provide the project with the best possible long-term value. Multiple manufacturers are specified for each luminaire type, excepting those types required to match existing standards, or for which no functional performance or aesthetic equivalent exists. All luminaires shall be installed in a manner to simplify maintenance and allowing electrical components to be easily accessible. Samples and/or simple mock-ups may be requested by the owner or design team to confirm design concepts or equipment suitability.

Light Sources

The electric lighting systems will be standardized to use LED-based light sources in all project areas, including back of house spaces. Incandescent and fluorescent sources will not be used on this project.

All light sources used will feature a minimum color rendering index of 80 CRI. Color temperature (CCT) of most light sources will be standardized to meet client standards. Other options will be considered as appropriate for special use areas, e.g. food service areas or site lighting that may be equipped with warmer sources.

Where possible, lamp types will be standardized to ensure that a minimal number of individual types shall be required for the project. Lamps shall be as manufactured by Philips, Osram Sylvania, General Electric, Xicato, Bridgelux, Nichia, Cree, or approved equal. Specific type designations shall be noted within the Luminaire Schedule.

General use LED lamps will have a minimum 80 CRI and will maintain color consistency within 3 MacAdam Ellipses over the rated life of the lamp. LED lamps and luminaires shall conform to IES LM-80-08 and LM-79-08 test procedures for chromaticity, lumen output, and lamp life. All LED luminaires shall carry a minimum 5-year, full replacement warranty.

Manufacturers who have not previously provided LM-79 and LM-80 testing data of specified products for review and approval on the client's projects will be required to do so prior to submittal approval. Contractor will solicit and maintain testing data submission.

Medium screw base A lamps or similar shall be coordinated with Facilities. Any other light source will be evaluated and justified for its specific application.

LED Drivers and Control Gear

All LED drivers used on this project shall conform to all applicable codes and standards, including energy codes and performance standards.

LED luminaires will be provided with integral drivers where possible. In cases in which integral drivers may not be possible, remote drivers will be located in the nearest appropriate accessible location. Contractor will select and review remote driver locations with design team prior to rough in and size wire accordingly to minimize voltage drop as recommended by driver and luminaire manufacturer.

In all cases, LED drivers will be rated for use with the LED array specified and will be warranted as an array and drive assembly for 5-year full replacement, non-pro-rated warranty on all electronic components.

LED dimming drivers will generally be assumed to be dimmable to at least 5% light output in a smooth flicker free operation. LED dimming drivers requiring higher performance, such as in theatre or conference room applications, will be noted on the luminaire schedule with required dimming levels.

Luminaire Schedule

A luminaire schedule and cut sheet package will be provided during the Design Development phase.

This schedule, and associated luminaire cut sheets, will demonstrate design concepts and quality level of luminaires to be assumed for the project. Specific luminaire types may evolve during the Design Development and Construction Documents phases of the project. It is understood that the final bid documents luminaire schedule will provide multiple equivalent manufacturer options, wherever possible, to promote competitive bidding.

3.0 Architectural Lighting Design

3.1 Architectural Lighting General

The Evergreen State College Seminar 1 Building will be used as a place of learning, collaboration and safety for the coming years of Evergreen State College staff and students. The lighting for this landmark will reflect sustainable efforts by integrating leading sustainable technologies into each aspect of the design.

The building will strive to use the sun as the primary luminaire. The electrical ambient lighting system is in place for times of the day when daylight is diminished or not accessible.

Lighting equipment will integrate into architectural components. Small profile and clean lined luminaires will reinforce the style and historic context of the building.

Users will have control and adjustability of the light levels in their space.*

The static state (LED) luminaires available today are able to address many challenges. LED fixtures that are cooler to the touch and less energy consumptive than their incandescent/fluorescent counterparts will help reduce mechanical cooling loads. They are generally easy to dim and often able to emit specific spectral distribution (colored) light, or be provided with color changing (RGBW) properties. The luminous efficacy (lumens per watt) of most LED products is far superior to older technology sources, helping to lower the project's carbon footprint and enabling us to improve facility operating costs.
*See Table 1 for space-by-space illuminance criteria.

Illuminance Criteria: Typical Area Lighting

Area	Horizontal Task Illuminance (average fc)	Vertical Task Illuminance at Writable Surfaces (average fc)
Labs	50 (18-20 ambient)	18-30
Classroom	40-60	18-30
Office	30	18-30
Shared Learning	40-60	18-30
Corridor	5-15	5-15
Stairwell	5-15	5-15
Lobby/Assembly	15-25	5-15
Storage	10-20	n/a
Restrooms	20-30	20-30

Table 1: Illuminance Criteria

3.2 Architectural Lighting: Exterior

Exterior Entrances and Exits

Canopies, entrances, and exits will have recessed or surface mounted light sources that can also be integrated into architectural features. Luminaire locations are intended to highlight key destination points and materials and provide adequate light levels for safety and security without creating excessive glare or light trespass. The exterior lighting will dim or turn off after a designated time except at building entries, egresses, and areas where safety and security are a concern.

Exterior Pathways and Parking

Lighting along pathways and in parking lots shall be located to allow for uniform light distribution and create a safe and secure environment. Lighting shall be shielded and located appropriately so as to minimize disturbance of the nocturnal environment.

3.3 Architectural Lighting: Interior

Research/Archive & Culture Cave

The research lab spaces will have several surfaces that need to be illuminated, as shown in the Figure below. However, not all of these surfaces need the same amount of light. These can be grouped into ambient surfaces which require lower light levels, or task surfaces which require higher light levels.

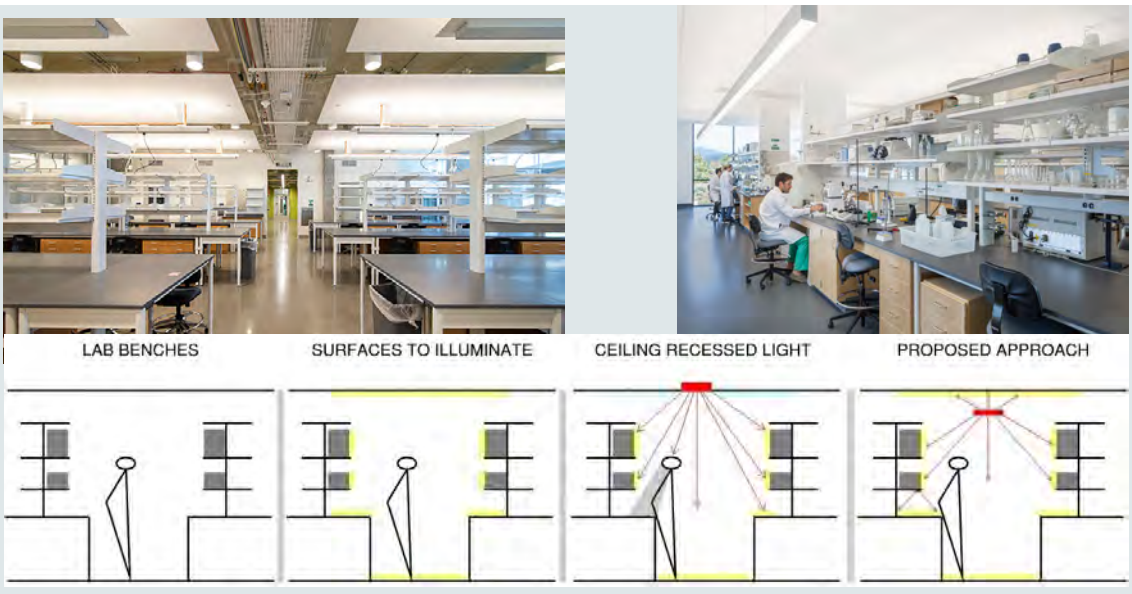
Approaching the lab with this separation of task and ambient lighting will allow the majority of the space to be illuminated with lower energy-use fixtures, and supplement the higher task lighting with locally focused lights that provide higher light levels at a closer distance.

Task surfaces include the counter which is the main workplane, and vertical objects stored on shelves in which occupants need to read and store properly. Ambient surfaces include the floor for circulating and wayfinding, and the ceiling to balance the contrast of uplight provided by daylight from the window walls.

The goal is to provide higher light levels only where it is needed and conserve energy throughout the rest of the space. Additionally, an integral occupancy sensor shall be provided for the task lights to turn off the higher level of light when the bench is unoccupied, while maintaining ambient/circulation lighting throughout the space.

Pendant linear direct/indirect luminaires will provide general ambient illumination, with linear undercabinet lighting integrated within casework will provide focused task illumination.

Anticipated Luminaire Costs: $15/SF



Example Fixture Types

Finelite - Series 18

Finelite - HP2 Wall Wash

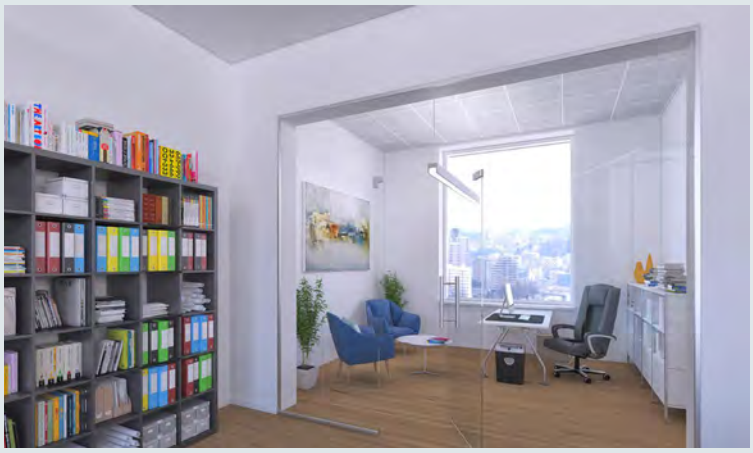
Figure 1: Lab Lighting Strategies

Offices & Staff Workstations

Offices are expected to have computer equipment and work surfaces for paper-based tasks as well as video-conferencing capabilities. Daylight will be the primary light source when available during daylight hours. For electric lighting where daylight is not adequate, or after daylight hours, offices will have high efficiency luminaires that match the style and quality of each space. Light output and distribution will address the visual requirements of an effective office environment and will meet or exceed the recommendations of the most current version of IES RP-1. Luminaires will be suspended in an arrangement that will provide adequate light levels on the work surfaces.

Indirect lighting will be the primary source of illumination in Office areas to promote visual comfort and illumination balance during video-conferencing experiences.

Anticipated Luminaire Costs: $6/SF



Example Fixture Types

Finelite - HO4 ID Series

Figure 2: Office Lighting Strategies

Classrooms (Small Group/Large Group/Focus Group) & Student Work Area

Classrooms are assumed to have a high level of flexibility, the potential for AV presentations, and distance learning capabilities. Suspended linear LED fixtures will be used in combination with recent accent lights and linear wall washers for vertical lumination.

Direct and Indirect lighting sources will be employed in Classroom spaces to provide multiple layers of lighting for varying room functions.

Anticipated Luminaire Costs: $9/SF

Example Fixture Types

Finelite - Series 18

Finelite - HP2 Wall Wash

Figure 3: Classroom Lighting Strategies

Restrooms

Luminaires in restrooms may be a combination of recessed downlights for general lighting and linear cove fixtures to provide light along wet walls and mirrors. Light distribution should provide good color rendering and minimize shadows on faces when viewed in a mirror. Luminaires shall be easy to maintain and be accessible. At mirrors, integrated LED systems may be used to backlight mirrors, or provide dedicated facial accent illumination.

Anticipated Luminaire Costs: $18/SF

Lobby, Collab/Gathering & Reception

The front of house commons areas are assumed to have soft and flexible furnishings. Where possible, daylight will be used as the primary means of illumination throughout the day. A combination of large-scale decorative pendants, recessed downlights and linear wall washers will be used to promote a relaxing environment.

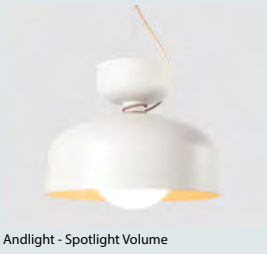
Anticipated Luminaire Cost: $16/SF

Example Fixture Types

Alphabet - NU4RD

Vode - WingRail

Resolute - Mosquito Superlight



Andlight - Spotlight Volume

Figure 4: Lobby/Collab/Gather & Reception Lighting Strategies

Elevator Lobbies

Elevator lobbies are transition spaces which connect the floors throughout the building. Luminaires in these areas will provide adequate light levels to easily identify each floor upon arrival, provide the required 10 fc at the elevator threshold and accent the vertical surfaces to allow easy identification of this element as a destination when viewed from a distance. Linear lighting integrated into architectural coves combined with adjustable accent downlights will be utilized in these areas.

Anticipated Luminaire Costs: $10/SF

Stairs and Corridors

Stairs and corridors guide the transition between spaces throughout the building where high efficiency luminaires will be used for general lighting. Flush mount downlights or surface mounted cylinder downlights will be integrated within the stair landings to provide egress illumination. For secondary stairs, wall mounted linear direct/indirect lighting will be employed to achieve target illumination levels.

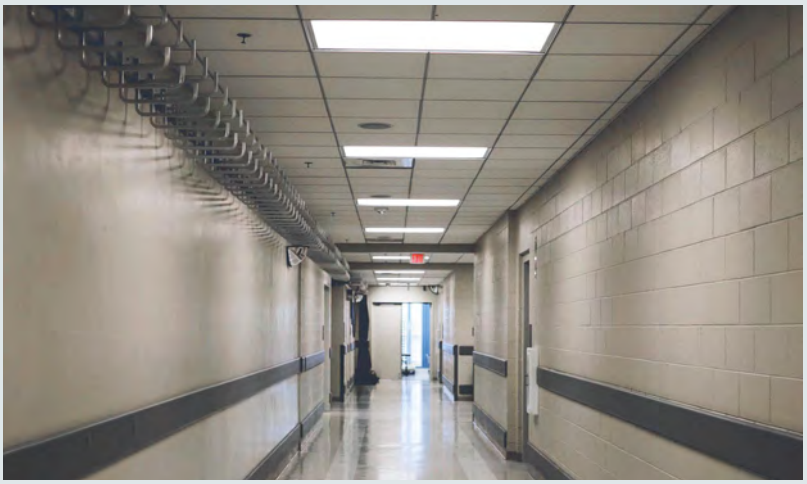
Anticipated Luminaire Costs: $7/SF

Figure 5: General Circulation Lighting Strategies

Police Services - Holding

Several areas within the Police Services locations will have unique requirements. Holding Cells, Custody Processing and Interview Rooms will require tamper-resistant and shatter-proof characteristics.

Anticipated Luminaire Costs: $14/SF



Example Fixture Types

Kenall - RMCA

Figure 6: Police Services - Holding Areas Lighting Strategies

Police Services - Support Spaces

Support Spaces for the Police Services areas will employ standard lighting strategies similar to like-functioned spaces within the building. Recessed linear lensed lighting combined with recessed downlights will provide general illumination.

Anticipated Luminaire Costs: $6/SF

Example Fixture Types

Finelite - Series 18

Finelite - HP2 Wall Wash

Figure 7: Police Services - Support Spaces

3.4 Lighting Controls

Modern digital high performance lighting controls will be required to meet project sustainability goals. They offer significant potential energy savings as well as increasing the flexibility of the lighted environment for users. They may also offer significant operational benefits through scheduling and user tenability.

All lighting controls will meet or exceed Washington Energy Code requirements and controllability of systems per LEED v4. All enclosed areas, except mechanical/electrical/IDF/MDF areas and those spaces with safety concerns, will be equipped with vacancy or occupancy sensors and manual override stations/dimmers as appropriate. Daylight harvesting will be employed where required by code and wherever applicable.

Lighting control will be provided by a scalable microprocessor-based control system capable of controlling all lighting loads. Control system capable of providing real time data to third party energy use dashboards and data visualization tools that may be employed.

Lighting controls will be provided to maximize flexibility in all spaces while meeting local energy codes and best practices. All dimmable luminaires on this project should be assumed to be dimmed according to detailed zoning to be determined during Construction Documents phase.

Simplicity of functionality will be a primary controls goal of the project. Where possible, simple slider or raise/lower style control devices will be employed.

When possible, wireless sensors or switches may be employed to simplify installation and reconfiguration and reduce installation costs and requisite materials including pipe and wire.

All dimming should be assumed to 1 percent unless designated otherwise. Less than 1 percent dimming may be required in the auditorium, and meeting spaces.

Full commissioning of the lighting control system will be required prior to handover to the owner. Additionally, the owner will be trained on the lighting control system until they are comfortable taking on the management of the system. If possible, a third-party control integrator will be utilized to coordinate the integration of lighting with HVAC, security, IT, and other smart building systems.

Typical Lighting Control Strategies and Assumptions

- Astronomic Timeclock Scheduling
- Daylight Sensor Dimming (open and closed loop)
- Vacancy/Occupancy Sensing
- Task Tuning
- Preset Scene Controls
- Assume modular digital controls like Wattstopper DLM for circulation, assembly and exterior spaces

Controls Costs

Luma is anticipating a luminaire controls cost of approximately $1.75/SF. This approximation, as well as the approximation for luminaire costs at interior locations, are based upon recent similar project final costs and does not constitute a quotation. Final pricing to be obtained by the Electrical Contractor/ Cost Estimator as required.

Acoustical

Architectural acoustics consists of control of sound between spaces, and creation of desired acoustical environments within rooms. On the TESC Seminar 1 project, there are adjacencies that deserve special attention to provide proper acoustical separation, and rooms that will need the proper interior acoustic environment.

ACOUSTICAL SEPARATION

Recommended Wall Types

Table 1 presents suggested STC's for wall separation between various adjacencies. STC stands for Sound Transmission Class and is a single number rating that represents the reduction of speech sounds between rooms.

Adjacency	Source Description	Recommended STC	Description of Assembly
Police Services			
Holding/ Holding	Voices	--	No special construction
Conference-Training/ Locker Room	Voices	55	Type 3: Two layers 5/8" GWB on each side of 25 Ga. metal studs. Insulation in cavity.
Office/ Office	Voices	50	Type 2: Two layers 5/8" GWB on one side of 25 Ga. metal studs and one layer on the other. Insulation in cavity. If studs heavier than 25 gauge are used, add one layer of GWB.
Office/ Corridor	Voices	Note 1	No special construction
Dispatch/ Srgt Office	Amplified voices	55	Type 3
Interview/ Corridor	Voices	50	Type 2. Add acoustic seals to door
College Academic Programs			
Small Group/ Large Group	Voice, amplified sound	55	Type 3
Small Group/ Small Group	Voice, amplified sound	55	Type 3
Small Group/ Faculty Prep-Hybrid Teaching	Voice, amplified sound	55	Type 3

Adjacency	Source Description	Recommended STC	Description of Assembly
Large or Small Group/ Corridor	Voices	50	Type 2. Add acoustic seals to doors.
Faculty Prep-Hybrid Teaching/ Same	Voices	50	Type 2
Native Pathways			
Large Group/ Small Group	Voice, amplified sound	55	Type 3
Large or Small Group/ Corridor	Voices	50	Type 2. Add acoustic seals to doors.
Small Group/ Restrooms	Voices, flushing noise	55	Type 3
Small Group/ Research-Archive	Voices, amplified sound	50	Type 2
Culture Cave/ Reception & Collab – Gathering	Voices	--	No special construction
Culture Cave/ Faculty Breakroom	Voices	45	Type 1: Single layer of 5/8" GWB on each side of 25 Ga. metal studs. Insulation in cavity. If studs heavier than 25 gauge are used, add one layer of GWB.
Office/ Office	Voices	50	Type 2
Office/ Corridor	Voices	--	No special construction
Office/ Faculty Breakroom	Voices	55	Type 3
Office/ Student Work Area	Voices	50	Type 2
Focus Group/ Corridor (solid wall)	Voices	--	Existing exterior wall
Parking Services			
Break Room/ Student Study	Voices	55	Type 3
Break Room/ Storage – Service		--	No special construction

Adjacency	Source Description	Recommended STC	Description of Assembly
Reception/ Break Room	Voices	--	No special construction
Reception/ Shared Office Dir/Asst.	Voices	STC 45	Type 1
Shared Office – Dir/Asst/ Corridor	Voices	--	No special construction
Enforcement Office/ Research – Archive	Voices	45	Type 1
<u>English First</u>			
Small Group/ Faculty Breakroom	Voices	55	Type 3
Small Group/ Corridor	Voices	--	No special construction
Small Group/ Small Group	Voices, amplified sound	55	Type 3
Small Group/ Office	Voices, amplified sound	55	Type 3
Office/ Corridor	Voices	--	No special construction
Office/ Staff Workstations	Voices	50	Type 2
<u>Project Search</u>			
Office/ Office	Voices	50	Type 2
Office/ Welcome Area (Solid Wall)	Voices	45	Type 1
Office/ Corridor	Voices	--	No special construction
Office/ Resource		--	No special construction

Table 1 – Recommended acoustic separation

Table 1 Notes:

1. Doors are the weak links. Unsealed doors are an STC 20, so a partition with GWB on each side without insulation (STC 40) is far better than the door. No special acoustic treatment for these walls.

Top of Wall Conditions

The type of ceiling affects top of wall conditions. Continuous mineral board ceilings significantly reduce sound traveling over the top of partitions. Fiberglass or perforated ceilings, or ceilings that are not continuous, do not provide the same attenuation between adjacent rooms. Table 2 documents recommended top of wall conditions for each wall type.

Wall Type	STC	Top of Wall Condition with Mineral Board Ceiling on each Side of Wall
1	45	Stop wall 6" above ceiling.
2	50	Run one layer of GWB up to structure above. Stop insulation 6" above ceiling
3	55	Run one layer of GWB on both sides of stud to structure. Insulation can stop 6" above ceiling.

Table 2 – Top of wall conditions

For the conditions in Table 2, when the GWB runs to structure, it does not need to be sealed airtight. An inch gap can be left between the GWB and the structure.

For ceilings other than mineral board or sheetrock, run the wall type layers of GWB up to structure and seal airtight.

INTERIOR ACOUSTICS

Large and Small Group Rooms

Design Goals

Create clear, intelligible speech within the rooms. Provide an appropriate environment for reinforced sound from an amplification system. Reverberation times of 0.6 seconds for the Small Group rooms and 0.7 seconds for the Large Group Rooms will provide the desired room response.

Surface Treatments

Low reverberation in classrooms is desired to promote speech intelligibility. Acoustic tile ceilings will provide sufficient acoustic absorption if ceiling heights do not exceed 11'. Taller spaces may need absorptive wall panels.

Faculty and Administration Offices

Surface Treatments

Standard acoustical tiles in a hung ceiling grid will provide adequate absorption within these rooms.

Conference Rooms

Surface Treatments

Standard acoustical tiles in a hung ceiling grid will provide adequate absorption within these rooms for natural voices. Conference rooms used for online meetings benefit from wall absorption. As a rule of thumb, plan for a 4' band of wall absorption on two adjacent walls. Budget $20 psf for a 2" thick wall panel, installed.

MECHANICAL SYSTEM NOISE & VIBRATION CONTROL

CRITERIA

The acoustical design goal for HVAC systems is the achievement of a level of background noise that is unobtrusive in quality (frequency content) and low enough in level (amplitude) that it does not interfere with the function of the space being served. To be unobtrusive the background noise should exhibit the following characteristics:

· A balanced distribution of sound energy over a broad frequency range to create a sound that is bland in character.
· No audible tonal characteristics such as a whine, hum, or rumble.
· No noticeable time-varying levels from system induced aerodynamic instability or air turbulence.

To achieve this goal, the NC (Noise Criteria) family of curves is used. The HVAC noise criteria shown in Table 3 are intended to provide the necessary sense of quiet quality, while still providing the needed masking noise in rooms with adjacent noise sources

Room	Recommended Noise Criteria
Large and Small Group Rooms	25
Offices	40
Student Study	40
Conference Rooms	35
Breakrooms	40
Culture Cave	40
Collab/Gathering	40
Restrooms	45
Corridors	40

Table 3 – Recommended HVAC noise criteria

HVAC SYSTEM NOISE GUIDELINES

HVAC system noise received in occupied spaces is a combination of equipment-generated noise and airflow generated noise. The primary paths of noise conduction are as follows:

- Ductborne noise, which is created by air handling equipment and travels down attached ductwork, radiating out of the ductwork walls or grilles.
- Airborne noise, which is created by equipment and travels through the air surrounding the equipment, through surrounding walls or floors, into occupied areas.
- Structureborne noise, which is created by the contacts between the equipment and the structure and travels through the structure into the walls and floors surrounding occupied areas.

HVAC systems can be too quiet. Noise produced by the HVAC systems is required to help mask intruding noise from adjacent rooms. Unusually quiet rooms void the assumptions upon which the architectural STC goals have been set.

The minimum room background noise level is most easily regulated by the supply diffusers serving each room. Diffusers should be selected at 8 points less than the established NC room criteria. The 8 points account for the difference between laboratory and field conditions for diffuser testing. This guideline may require higher neck velocities than standard practice.

Types of Ducts

- Round ductwork is desirable for medium or high-pressure ductwork. Round sheet metal ducts resist low frequency breakout noise that can be a problem near mechanical equipment rooms.
- Flat oval ductwork with aspect ratios of not more than 2.5:1 is a compromise between rectangular and round ductwork.
- Rectangular ductwork should be avoided on high and medium pressure ducts, particularly near fans, to reduce the likelihood of excess duct breakout noise.

Supply and Return Air Grilles Selection

The acoustical rating of the selected diffusers and grilles should be equal to 8 points less than NC rating of the room that they serve. Select the grilles as close as possible to this goal, rather than just "less than" the goal, to help provide needed masking noise from the HVAC systems.

Minimizing Turbulence in Ductwork

Reaching a goal of NC 25 within the Large and Small Group rooms will require attention to potential turbulence within the ductwork. To help achieve this, the following guidelines are suggested for rooms with an NC 25 criterion.

- Maintain not less than two duct diameters between duct elements. For example, if a branch duct splits from a main trunk, two duct diameters is desired between the point of the split and the next duct element (i.e., elbow, branch, transition, damper, etc.). The purpose of this is to minimize the chance for turbulence building on turbulence. Turbulence noise increases dramatically when duct elements are placed close to one another. This spacing is often difficult in the final portion of the ductwork when volume dampers are desired near diffusers. Unfortunately, that portion of the ductwork is also the most significant from an acoustic standpoint.
- Allow three equivalent duct diameters of acoustically lined ductwork between each supply diffuser and the closest volume damper or elbow, branch, or other duct element.
- We will likely recommend lining ductwork from the final branch nearest each diffuser, to the diffuser.

Recommended Duct Velocities

The velocity guidelines shown in Table 4 below apply for supply duct (SD) and return duct (RD) based on the noise criteria or the room served by the duct. The second and third row of the velocity guidelines can be relaxed if the duct in the previous row is long.

Duct	NC-25	
	SD	RD
Outlet device to first branch	350	425
First branch to second branch	600	650
Second branch to third branch	1200	1200

Table 4 – Velocity guidelines for Large and Small Group rooms

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Division #1 – General Requirements

- Additional requirements to be included in later phase.
- Owner obligation to construct the facility to meet LEED silver criteria.
- The project requirements for Commissioning the building are established. This process is administered by an independent Commissioning Authority consultant to the Owner and requires participation by the Contractor.
- Summary of Hazardous Materials Work is provided at the end of this document.

Division #2 – Existing Conditions

- **Section 024100 - Demolition**
  Demolition of building elements for alteration purposes. Demolish designated building equipment, fixtures and construction. Cutting and alternations for completion of work. No blasting or burning on-site. Clean site on a daily basis. Removal of demolished materials.
- **Section 028200 – Asbestos Abatement**
  Removal and disposal of asbestos-containing materials (ACMs). Full specification is provided at end of this document.
- **Section 028300 – Lead Related Activities**
  Manual demolition, cutting, sawing, sanding, welding, torch burning, and mechanical demolition of building components containing lead as defined in related section provided at end of this document and drawing sheets.
- **Section 028400 – PCB Related Activities**
  Labor, materials, equipment, services, permits, notifications and insurance required to complete the removal, transport and proper disposal of polychlorinated biphenyl (PCB)-containing light fixture ballasts and caulking/sealants. Includes the removal of PCB containing light fixture ballasts and caulking/sealants. Refer to complete specification at end of this document.
- **Section 028500 – Mercury Related Activities**
  Handling, removal and disposal of lamps, tubes, HID bulbs and mercury thermostat switches. Refer to complete specification at end of this document.

Division #3 - Concrete

- **Section 030100 – Concrete Repair**
  Repair of concrete and patching and repair of damaged or deteriorated concrete using cementitious and epoxy repair materials. Basic repair of concrete reinforcement. Work performed in accordance with ACI 301. Epoxy materials by Master Builders Solutions, Euclid, Sika, L & M, Simpson Strong Tie or Hilti. Cementitious Mortar Materials by Euclid, L & M, Sika, GCP Applied Technologies or RAECO.
- **Section 031000 – Concrete Forming and Accessories**
  Form materials, water stops and accessories, required for cast in place concrete and to maintain structural integrity until stripping. Provide ICC reports for each product where ICC approval is required. Work performed in accordance with ACI 301.

- **Section 032000 - Concrete Reinforcing**
  Reinforcing steel and required supports for cast in place concrete. Deformed billet steel bars - ASTM A615, 60 ksi yield strength.

- **Section 033000 - Cast-In-Place Concrete**
  Pre-mixed concrete for walls, footings, slabs-on-grade, sidewalks and curbs. Mix designs, appropriate for condition of installation. Work performed in accordance with ACI 301.
  Concrete strength f'c = 4000 psi for slabs-on-grade.
  Standard Interior Slab-on-Grade (See Foundation Plan for extent): 4 inch thick reinforced concrete slab-on-grade, with #3 bars at 16 inches on center, each way. 15 mil vapor retarder over 4 inch layer of capillary break over compacted subgrade.
  Concrete topping over metal deck reinforcement #3 bars at 16 inches on center, each way.

- **Section 033500 - Concrete Curing and Finishing**
  Surface finishing of concrete floor slabs. Initial and final curing of concrete surfaces. Work performed in accordance with ACI 301. Concrete finish requirements and locations. Typical gray concrete for substrate and exposed finish in custodial area, storage rooms, M & E rooms, hardener sealer. F_F and F_L tolerances identified per finish and location in accordance with ASTM E1155.

- **Section 034500 – Precast Architectural Concrete**
  Plant cast units and accessories. Precast fabricator accredited by IAS according to IAS AC157.

- **Section 036000 - Grouting**
  Pre-manufactured grout, non-shrink for structural bearing and guardrail post sleeves. Field mixed grout for non-structural penetrations. Grouting of hollow steel frames in masonry construction.

Division #4 - Masonry

- **Section 040100 – Maintenance of Masonry**
  Restoration of masonry surfaces. Water cleaning, repointing as needed.

Division #5 - Metals

- **Section 051200 - Structural Steel**
  ASTM A572 or A992, Grade 50 W Shapes and WT Shapes, ASTM A36 Angles and Channels, or ASTM A500, Grade B Round, wide flange beams and tubular columns, anchors and erection. Welding products and qualifications. Installation of Type N Grout specified in Section 036000 – Grouting.

- **Section 052100 - Steel Joist Framing**
  Open-web steel joists, bridging, seats and anchors. Acceptable manufacturers: Nucor, Vulcraft; CANAM Steel; or SMI Steel Products, SMI Joist Division.

- **Section 053113 - Steel Floor Decking**
  ASTM A653, SS Grade 33 structural quality, minimum yield 38 ksi, with G60 galvanized coating. Fluted or cellular. Composite where indicated or detailed. Products by Verco or ASC Steel Deck.

- **Section 053123 - Steel Roof Decking**
  ASTM A653, SS Grade 33 structural quality, minimum yield 38 ksi, with G60 galvanized coating. Products by Verco.

- **Section 054000 - Cold-Formed Metal Framing**
  Structural steel studs, joists and tracks for load-bearing construction. ASTM A653, Grade D for 68 and 54 mils (14 and 16 gage metal) Grade A for 43 and 33 mils (18 and 20 gage) metal sheet steel, formed to channel shape, G60 coating. Fasteners and accessories. Manufacturer current member of Steel Stud Manufacturers Association or Steel Framing Industry Association.

- **Section 055000 - Metal Fabrications**
  Shop fabricated assemblies. Galvanized for exterior exposures and prime-painted for interior locations and installation in concrete. Anchors, fasteners and welding.

Division #6 – Wood, Plastics and Composites

- **Section 061000 - Rough Carpentry**
  Fire-retardant treated wood wall blocking for wall-hung construction. Preservative treated wood for roof nailers and curbs. Miscellaneous framing. MDF and electrical panel back boards. All interior composite wood products must contain no added urea formaldehyde. Formaldehyde content must be disclosed in a third-party certification or the manufacturer's product documents.

- **Section 061643 - Exterior Sheathing**
  ASTM C1177 or C1278, fire-resistant (Type "X"), water-resistant exterior gypsum sheathing board composed of a proprietary, water-resistant core with glass mat facings or a composite gypsum/cellulose fiber core with gypsum and water-resistant additives and no facings; 5/8 inch thick x 48 inch wide sheets; Georgia-Pacific DensGlass Gold® Fireguard®, CertainTeed GlasRoc Type X®, USG "Fiberock" Brand sheathing with "Aqua-Tough", or approved equal.

- **Section 061719 – Cross Laminated Timber**
  Labor, materials, transportation and services to complete the cross laminated timber system at the entryway roof. Architectural grade at exposed surfaces. Douglas fir. Fabricate in accordance with ANSI/APA PRG 320. FSC Certified.

- **Section 061800 – Glued Laminated Construction**
  Glue laminated wood beams and columns. Softwood lumber complying with WWPA G-5 grading rules with 12 percent maximum moisture content before fabrication. Fabricate in accordance with AITC 117. Architectural grade at exposed to view surface. Industrial Appearance grade at non-exposed to view surfaces. Factory sealed. FSC Certified.

- **Section 062000 - Finish Carpentry**
  Interior woodwork items.
  Window Sills: Plastic laminate.
  Wood veneer paneling.
  NAUF interior composite wood products. Fabricate to AWI Custom Grade. Conversion varnish finish.

- **Section 064100 - Architectural Wood Casework**
  Casework specified to North American Architectural Woodwork Standards (NAAWS) Casework Design (CDS) system. Custom designed plastic laminate –faced casework and display cases conforming to AWI Custom grade standards; NAUF MDF board construction with average 45-48 pounds per cubic ft. density; NEMA LD 3 plastic laminates, HPDL at exposed surfaces, ANSI/BHMA A156-9 cabinet hardware. Type A, Flush Overlay at office locations; Type A, Reveal Overlay at student locations. PLAM countertops, typ and solid surfacing at countertops with sinks. PLAM products by Formica, Wilsonart or Abet Laminati. Solid surface products by Formica.

- **Section 068316 – Pre-Finished Wall Panels (FRP)**
  Pre-finished fiberglass wall panels and aluminum trim, ASTM E84 Class C fire rated at mop sinks. Fiber reinforced laminate panels and aluminum trim. Products by Marlite Standard FRP or Crane Composites.

Division #7 – Thermal and Moisture Protection

- **Section 071100 - Dampproofing**
  On below grade walls not enclosing occupied space. Cold-applied emulsified asphalt. Products by Master Builder Solutions, Deco Products or Henry.

- **Section 071910 - Water Repellants Anti-Graffiti Coatings**
  Aqueous silane system applied to exterior and interior concrete and masonry. Full height application. Allow vapor transmission; UV resistant; prevent water penetration; non - abrasive chemical or detergent cleaning methods using low pressure rinsing that will not harm substrate; coating system must maintain an acceptable final appearance after each graffiti removal procedure; leave no visible residue, surface film, color change, darkening, or sheen on treated surfaces and meet Federal VOC standards. Products by Evonik, Prosoco, Fabrikem or PPK.

- **Section 072113 - Board Insulation**
  Extruded polystyrene at perimeter foundation walls and continuous insulation and polyisocyanurate boards at roof insulation; R-value to meet requirements of Washington State Energy Code.

- **Section 072116 - Blanket Insulation**
  For exterior stud wall and soffit construction; fiberglass; unfaced; R-value to meet requirements of Washington State Energy Code. For interior partitions, fiberglass sound attenuation batts or for fire-rated walls, mineral wool batts or blankets, 3 inches thick, unfaced, friction-fit. Tested and determined compliant for emissions of VOCs in accordance with California Department of Public Health Standard Method v1.1-2010 or v1.2-2017, using the applicable exposure scenario school classroom).

- **Section 072600 - Vapor Retarders**
  2 mil thick film of polyamide (nylon). Permeability changes with ambient humidity conditions. Section includes adhesives and tapes required for installation. Product by Certainteed.

- **Section 072700 - Air Barriers**
  Self adhering vapor permeable air barrier membrane system as required for a continuous barrier to resist air, vapor and moisture infiltration building wall enclosure at sheathing, fenestrations, penetrations and other openings. Fluid applied flashing and other accessories as needed to complete assembly and to meet requirements of Washington State Energy Code. 10 year product warranty. Products by VaproShield, WrapShield SA.

- **Section 075323 – EPDM Membrane Roofing**
  Fully adhered 60 mil EPDM membrane roofing system with hot air welded seams. Black finish. Cover board, board insulation, flat and tapered board insulation, vapor retarder, and roof substrate. Membrane flashing, clad metal flashing, pedestrian traffic membrane, roof pavers, fastenings, and adhesives. 15 year standard warranty. Products by Carlisle, Versico, Firestone or approved equivalent.

- **Section 076200 - Sheet Metal Flashing and Trim**
  Fabricated sheet metal items. Copings: 22 gage galvanized with Kynar finish. Flashings and counterflashings, 24 gauge minimum galvanized with Kynar finish. Follow SMACNA standards.

- **Section 078400 - Firestopping**
  Fire-resistive sealants and barrier products for use to close off penetrations of fire-rated floor and wall assemblies. Products keyed to UL, IBC or Gypsum Association tested assemblies. Test rated system provided by one manufacturer. Installer trained and certified by manufacturer as an approved installer. Products by Hilti, 3M or STI.

- **Section 079200 - Joint Sealants**
  Interior and exterior joint sealants and backing for various applications; acrylic latex for interior work, including mildew-resistant and acoustical types; silicones, polyurethanes and butyl formulations for exterior uses. Single component silyl-terminated-poly-ether weather barrier sealant at windows, louvers and doors. Meet South Coast Air Quality Management District Rule 1168.

- **Section 079201 – Security Joint Sealers**
  Two component epoxy adhesive supplied in two part biaxial cartridge. Master Builders Solutions, MasterBrace ADH 1420. One component moisture curing, gun grade aliphatic polyurethane sealant. Master Builders Solutions, MasterSeal CR 195 or Pecora Dynaflex SC. Provide sealants appropriate for condition of use in accordance with ASTM C920 for type, grade and use categories.

- **Section 079500 – Expansion Joint Cover Assemblies**
  Concealed aluminum support plate, aluminum frame construction, retainers with resilient neoprene filler strip, designed to permit plus or minus 25 percent joint movement with full recovery. Products by Construction Specialties (C/S Group) or MM Systems.

Division #8 - Openings

- **Section 081214 - Standard Steel Frames**
  Exterior: SDI-100 Level 4, 0.067 inch thickness (14 ga.) steel galvanized to ASTM A525 G60 coating. Interior: SDI-100 Level 3, 0.053 inch thickness (16 ga.) steel, prime painted. Door sidelights, relites, and transoms. Fully welded construction. Interior fiberglass batt insulation fill for sound deadening. Products by Assa Abloy, Curries, Steelcraft or Republic.

- **Section 081314 - Standard Steel Doors**
  Exterior: SDI-100, Level 3, Model 1, 0.053 inch thickness (16 ga.) door faces; galvanized G60 coating. Insulated with polyurethane foam to meet Washington State Energy Code requirements.
  Interior: SDI-100, Level 2, Model 1, 18 ga. door faces; prime painted.
  Fire-rated and non-rated. Products by Assa Abloy, Curries, Steelcraft or Republic.

- **Section 081416 - Flush Wood Doors**
  Comply with AWS standards, Custom grade. Solid core construction; composite wood panel at non-rated and mineral fiber board at rated door construction. Performance Duty Level: Extra Heavy Duty. Rift cut Oak for clear UV curable epoxy, polyester, urethane finish. Products by Vancouver Architectural Doors or VT Industries.

- **Section 083113 - Access Doors and Frames**
  Flush panel, rated and non-rated standard drywall frame, field painted. Keyed camlock at public places. Milcor, J.L. Industries, Karp Associates, Nystrom or approved equivalent.

- **Section 083323 - Overhead Coiling Doors and Counter Doors**
  Electrically-operated, overhead coiling rated and non rated galvanized steel doors. Models by Cookson, Cornell, McKeon, or Overhead Door.

- **Section 083326 – Overhead Coiling Grilles**
  Powder coated aluminum overhead coiling grilles. Manual operation. Models by Cookson.

- **Section 083473 – Sound Control Door Assemblies**
  Acoustical door assemblies to include doors, frames, gasketing systems, retainers and retainer covers, automatic or fixed door bottoms, cam-lift hinges, thresholds, door hardware and sills, required to achieve specified performance requirements.

- **Section 083516 – Sliding Glass Doors**
  Interior and exterior sliding glass and aluminum doors, track and operating hardware. Basis of Design: Kawneer.

- **Section 084126 – All Glass Interior Storefronts**
  Interior frameless all-glass aluminum storefront system. Products by CR Laurence, Lama Systems or Stylmark. Butt glazed seals.

- **Section 084113 - Aluminum-Framed Entrances and Storefronts**
  Standard commercial 2 x 4 ½ inch storefront section. Thermally-isolated extruded aluminum storefront with entrance doors; anodized finish; glazed with low-E insulating glazing specified in Section 088000. Conform to Washington State Energy Code for shading coefficients and U factors. Products by Kawneer or approved equivalent.

- **Section 084413 - Glazed Aluminum Curtain Walls**
  Thermally-isolated, aluminum tube and pressure plate framing glazed curtain wall system with steel reinforcement where required; anodized finish. Front set, exterior glazed. Glazed with low-E insulating glazing specified in Section 088000. Conform to Washington State Energy Code for shading coefficients and U factors. Products by Kawneer or approved equivalent.

- **Section 085659 – Security Teller Window Unit**
  Security transaction window with pass-through device. Protection Level: UL Level BR Level 3. Frames shall be of a protection level equal to or greater than glazing. Products by Armortex, Diebold Nixdorf, Harden Architectural Security Products or Norshield Security Products.

- **Section 087100 - Door Hardware**
  Commercial and/or institutional grade builder's hardware to meet Owner's standard; BHMA standard, fire-rated and non-rated, with modifications where required to meet ADA and Washington State design for the disabled; mortised locksets with lever handles; reduced pressure closers; automatic door operators at entries; heavy-duty or continuous hinges; integration with building security system and access control system.

- **Section 088000 - Glazing**
  Exterior - 1" insulating panels, clear tempered exterior and interior panes, low E (emissivity) film coated, where safety glass is required and up to a height of 8'-0" throughout first floor. Heat strengthened panes with low E (emissivity) film coated elsewhere. Shading coefficients and U-factors to meet requirements of Washington State Energy Code.
  Interior – ¼ inch float glass, tempered where safety glazing is required.

- **Section 088853 – Security Glazing**
  Glass clad laminated polycarbonate glazing manufactured in accordance with ASTM C1349. Clear. Forced Entry: ASTM F1915 Grade 2; WMFL Level 2 (30 minute); H.P. White Level III-TP-0500.03. Nominal Thickness ¾ inch.
  Clear Tempered Glass. Meet quality and strength requirements of ASTM C1048 and the safety criteria of ANSI Z97.1. Thickness ½ inch.
  Products by Global Security or equivalent.

Division #9 - Finishes

- **Section 092116 - Gypsum Board Assemblies**
  5/8" Type "X" gypsum wallboard and cementitious backer units; trim and joints, fasteners and accessories; finishing to a Level 4 for most areas, Level 5 for areas with high levels of sunlight or areas with a gloss finish per Gypsum Association GA-216, typical Moisture Resistant Gypsum wall board at ceilings in showers and toilet rooms. Cementitious backer units at toilet room walls. Abuse resistant at high traffic areas. Products by USG, Georgia Pacific or Certainteed. Greenguard Gold Certified.

- **Section 092216 - Non-Structural Metal Framing**
  Steel stud and track framing for fire-rated and non-rated interior partitions and furring, and drywall ceilings; ASTM A653 steel studs and tracks, "C" shaped, pre-punched webs for mechanical and electrical, minimum 30 mils (20 gage), G60 galvanized finish; ASTM C754 cold-rolled channels, 16 gage, G90 galvanized finish; ASTM C645 furring channels, 18 mils (25 gage), G60 galvanized finish.

- **Section 093000 - Tiling**
  Toilet Room Floors: Unglazed porcelain ceramic tile over waterproofing membrane, thinset.
  Toilet Room Walls: Full height, glazed ceramic tile, thinset on water resistant cement backer board. Colored grout. Stainless steel Schluter Dilex-HKU base at all walls.
  Products should be environmentally sensitive, low VOC. Adhesives and sealants to meet South Coast Air Quality Management District, SCAQMD, Rule 1168. Products by United Tile, DalTile or approved equivalent.

- **Section 095123 - Acoustical Tile Ceilings**
  15/16 inch wide grid system. Basis of Design: Armstrong Ultima. Class A, white in color, tegular edge at office and classroom areas, washable and square edge at kitchen and maintenance. Suspension grids and seismic bracing. Products by Armstrong, USG or Certainteed.

- **Section 095143– Acoustical Wood Ceilings**
  Perforated wood panel ceiling systems. Basis of Design: Armstrong Woodworks Grille. Black sound absorption insulation. FSC Certified.

- **Section 096500 - Resilient Flooring**
  Slip resistant commercial grade rubber tile flooring. Products by Mannington, Johnsonite, Forbo, Armstrong or approved equivalent. Rubber Base: 4" Type TS vulcanized extruded rubber base. Adhesives to meet South Coast Air Quality Management District, SCAQMD, Rule 1168. Installer responsible for proper preparation and finishing, consistent with manufacturer's requirements including acceptable slab moisture and alkalinity readings.

- **Section 096813 – Tile Carpeting**
  Carpet tile (CPT) with cushion and accessories intended for over 10 year life of carpet, Type 6 or 6,6 nylon, minimum 90% solution dyed. Yarn to pass GSA stain test. Intended for severe end use, $\geq$3.5 TARR. Walk off mat at entries intended for severe end use. Section includes adhesive, accessories and transition strips. Installer responsible for proper preparation and finishing, consistent with manufacturer's requirements including acceptable slab moisture and alkalinity readings. Adhesives to meet South Coast Air Quality Management District, SCAQMD, Rule 1168. Carpet to meet Carpet and Rug Institute Green Label Plus requirements. Products by Shaw, Interface or Mohawk.

- **Section 097200 – Wall Coverings**
  Tackable wall panels, including outer facing, backing board, trim where noted, adhesives and anchorages. Products by Forbo or equivalent. Custom digital wall coverings. PVC free wall covering with protective coating. Custom image to be provided by Architect. Products by Designtex or equivalent.

- **Section 098400 - Acoustical Panels**
  Tackable felt sound absorbing panels: NRC .80. Basis of Design: Fitzfelt.
  Extruded, recycled content polyester acoustic panel. Basis of Design: F-sorb.
  Stretched fabric wall system: PVC free alternative track with tackable acoustic infill and fabric covering. Products by Snaptex, Fabritak or equivalent.

- **Section 099000 - Painting and Coating**
  Includes preparing, priming and painting to interior and exterior surfaces as scheduled in Construction Documents. Primer and finish coats, latex base, gloss, semi-gloss and flat enamel finish. Water-based epoxy paints in toilet rooms, and similar areas where frequent cleaning and an impervious surface are required. Paints to be as environmentally sensitive as possible; low emitting VOC meeting South Coast Air Quality Management District Rule 1113 or CARB 2007 Suggested Control Measure for Architectural Coatings. Products by Sherwin Williams, Benjamin Moore or equivalent.

Division #10 - Specialties

- **Section 101100 - Visual Display Surfaces**
  Greenguard Certified porcelain enamel on steel surfaces in aluminum frames, fixed assemblies; wall mounted white boards and particleboard core with accessories. Tackboards and tack strips. Metal trim, map hooks and flag holder. Shop assembled units. Products by Claridge Products and Equipment or PolyVision.
  Wall mounted glass writing boards. Polished edges. Basis of Design: Clarus Float + Depth.

- **Section 101410 - Signage**
  Interior Signage: ADA compliant identification signage for all permanent use rooms such as offices, classrooms, meeting rooms, restrooms, storage and service rooms. ¼ inch thick three ply melamine plastic laminate with a phenolic resin core. Sandblast background to a uniform depth of 1/32 inch leaving raised text and Braille. Insert space for removable names. Tamperproof fasteners.
  Exterior signage: Wall-mounted with stand-offs, individual brushed aluminum letters and building plaque.

- **Section 102116 - Toilet Compartments**
  Solid phenolic, vandal-resistant, ceiling mounted with accessible hardware, privacy guard and integrated accessories. Basis of Design: Bobrick, Sierra Series.

- **Section 102813 – Detention Toilet Accessories**
  Security grab bar. Provide anchors and fasteners capable of developing a retaining force commensurate with the strength of the accessory to be mounted, and well suited for use with the supporting construction. Products by Acorn Engineering Company.

- **Section 102600 - Wall Protection**
  High-impact stainless steel corner guards, with retainer clips; to 4 feet high at exposed, vulnerable wall corners in high-traffic areas. Products by Balco, MM Systems, Construction Specialties, Inpro or approved equal.

- **Section 102800 - Toilet, Bath and Custodial Accessories**
  Stainless steel and plated metal dispensers, receptacles, grab bars, mirrors and holders. Products by Bobrick, Bradley, McKinney Parker, ASI or approved equal. Electric hand dryers. Products by Xlerator or Dyson. Baby changing station. Products by Koala.

- **Section 104200 - Fall Protection System**
  Final system design of permanent fall restraint protection system attached to roof. Full body harness system. Attachment of anchors that transfer the loads into building structural framing are not accepted. Products by Guardian Metal Products, 3M DBI Sala or approved equivalent.

- **Section 104400 - Fire Protection Specialties**
  Fire extinguishers: Dry chemical (A,B) type; 5 lb. and 10 lb capacity. Stainless steel with full glazing, fire-rated cabinets, fully and semi-recessed. Products by J.L. Industries or Larsen's Mfg. Co.

- **Section 105113 - Metal Lockers**
  Knock down corridor lockers in hallways and staff lockers. Manufactured in the United States using recycled steel. 10 year manufacturer warranty. Products by DeBourgh or List Industries.

- **Section 105613 – Metal Storage Shelving**
  Storage Room Shelving: Metal storage shelving system, steel uprights and shelf supports, braces; particle board shelves, 12″, 18” and 24″ deep x 7′ high x 3′ wide units.

Division #11 - Equipment

- **Section 111313 – Loading Dock Bumpers**
  Laminated loading dock bumpers with attachment frame.

- **Section 115213 - Projection Screens**
  Standard and video formats as necessary, recessed mounting, washable matte finish screen surface; electric models. Motorized tab tensioned screens with low voltage controls. Products by Draper or Da-lite.

- **Section 119814 – Detention Door Hardware**
  Detention equipment hardware to meet Owner's standard; fire-rated and non-rated, with modifications where required to meet ADA and Washington State design for the disabled. Proprietary products as required, including locks, locking devices, hinges, lock mounts, closers, pulls, door position indicator switches, lock mount covers, bolt keepers, wall bumpers, weatherstripping, thresholds, escutcheons. Approved Detention Hardware Supplier: Southern Folger Company.

- **Section 119816 – Detention Equipment Fasteners**
  Detention fastener head style and plating shall be selected as appropriate for installation requirements, strength and finish of adjacent materials. Products by Mutual Screw and Supply, Tamper Pruf Screws, Inc; Safety Socket Screw Corporation or Bryce Security Fastener Company.

Division #12 - Furnishings

- **Section 122413 – Roller Shades**
  Motorized and manual solar control window coverings. Shadecloth: Dense vertical weave, 5% openness factor. Products by Mechoshade, Draper or approved equivalent.

Division #13 – Special Construction

- **Section 134263 – Steel Detention Cell Modules**
  Furnish and install base cells, comprised of 2 inch thick wall panels filled with concrete. Includes furnishing, erecting, installing and finish painting of cells. Products by Trussbilt.

Division #14 – Conveying Equipment

Not used

Division #21 – Fire Suppression

- **Section 211300 – Fire-Suppression Sprinkler Systems**
  Wet-pipe sprinkler system, system design, installation, and certification, providing coverage for entire building. Occupancy: Light hazard; comply with NFPA 13. Water Supply: Determine volume and pressure from water flow test data. Storage Cabinet for Spare Sprinklers and Tools: Steel, located adjacent to alarm valve. Sprinklers: suspended ceiling type, sidewall type, and/or dry sidewall type. Fusible Link: Glass bulb type temperature rated for specific area hazard.

Division #22 – Plumbing

- **Section 220519 – Meters and Gauges for Plumbing Piping**
  Pressure Gauges: ASME B40.100, drawn steel case, phosphor bronze bourdon tube, rotary brass movement, brass socket, with front recalibration adjustment, black scale on white background.
  Pressure Gauge Tappings: Gauge Cock: Tee or lever handle, brass for maximum 150 psi.
  Stem Type Thermometers – Adjustable Angle: Red- or blue-appearing non-toxic liquid in glass; ASTM E1; lens front tube, cast aluminum case with enamel finish, cast aluminum adjustable joint with positive locking device; adjustable 360 degrees in horizontal plane, 180 degrees in vertical plane. Light-Activated Thermometers: Direct-Mounted, Light-Activated, Digital-Type Thermometers, scale(s): Deg F and deg C., F/C switch, Range: -50° F to 300°F.
  Thermometer Supports: Socket: Brass separable sockets for thermometer stems with or without extensions as required, and with cap and chain.
  Test Plugs: ¼-inch or ½-inch brass fitting and cap for receiving ⅛-inch outside diameter pressure or temperature probe with neoprene core for temperatures up to 200°F.

- **Section 220800 – Commissioning of Plumbing**
  This section covers the Contractor's responsibilities for commissioning; each subcontractor or installer responsible for the installation of a particular system or equipment item to be commissioned is responsible for the commissioning activities relating to that system or equipment item.
  Test Equipment: Provide all standard testing equipment required to perform startup and initial checkout and required functional performance testing.

- **Section 221005 – Plumbing Piping**
  Section includes sanitary waste, domestic water, and storm drainage piping; pipe flanges, unions, and couplings; and pipe hangers and supports.

- **Section 223000 – Plumbing Equipment**
  Section includes water heaters, domestic hot water storage tanks, diaphragm-type compression tanks; and inline
  Water heaters: existing water heater.
  Diaphragm-type compression tanks: Welded steel tank, tested and stamped in accordance with ASME BPVC-VIII-1; supplied with National Board Form U-1, rated for working pressure of 125 psig, with flexible EPDM diaphragm sealed into tank, and steel legs or saddles.
  Inline circulator wet rotor pumps: Factory-assembled and -tested, in-line, close-coupled, canned-motor, no seals, overhung-impeller centrifugal pumps. Pump Construction: Pump and Motor Assembly: Hermetically sealed, replaceable-cartridge type with motor and impeller on common shaft and designed for installation with pump and motor shaft horizontal. Casing: Bronze, with threaded or companion-flange connections. Impeller: Plastic. Motor: Single speed, unless otherwise indicated.

- **Section 224005 – Plumbing Fixtures**
  Section includes water closets, urinals, lavatories, wall-hung, solid surface, multi-station lavatory units, sinks, accessible shower enclosures, shower receptors, shower valves, bottle filling stations, bi-level, electric water coolers.
  Provide plumbing fittings and faucets that comply with NSF 61 and NSF 372 for maximum lead content and label pipe and fittings.

Division #23 – Heating, Ventilating, and Air-Conditioning (HVAC)

- **Section 230593 – Testing, Adjusting, and Balancing for HVAC**
  Testing, adjustment and balancing of air and hydronic systems.

- **Section 230713 - Duct Insulation**
  Glass fiber, flexible: Insulation: ASTM C553; flexible, noncombustible blanket.
  Vapor barrier jacket: Kraft paper with glass fiber yarn and bonded to aluminized film. Moisture Vapor Permeability: 0.02 perm inch, when tested in accordance with ASTM E96/E96M.
  Secure with pressure-sensitive tape.
  Duct liner: Glass Fiber Insulation: Non-corrosive, incombustible glass fiber complying with ASTM C1071; flexible blanket, rigid board, and preformed round liner board; impregnated surface and edges coated with poly vinyl acetate polymer, acrylic polymer, or black composite.

- **Section 230719 – HVAC Piping Insulation**
  Glass Fiber, Rigid: Insulation: ASTM C547 and ASTM C795; rigid molded, noncombustible, with wicking material to transport condensed water to the outside of the system for evaporation to the atmosphere.
  Flexible Elastomeric Cellular Insulation: Insulation: Preformed flexible elastomeric cellular rubber insulation complying with ASTM C534/C534M Grade 1; use molded tubular material wherever possible.

- **Section 230800 – Commissioning of HVAC**
  This section covers the Contractor's responsibilities for commissioning; each subcontractor or installer responsible for the installation of a particular system or equipment item to be commissioned is responsible for the commissioning activities relating to that system or equipment item.
  Test Equipment: Provide all standard testing equipment required to perform startup and initial checkout and required functional performance testing.

- **Section 23 09 23 – Instrumentation and Control Devices for HVAC**
  Damper Operator: Provide smooth proportional control with sufficient power for air velocities 20 percent greater than maximum design velocity and to provide tight seal against maximum system pressures. Provide spring return for two position control and for fail safe operation. Spring return, adjustable stroke motor having oil immersed gear train, with auxiliary end switch.
  Temperature sensor: Use thermistor or RTD type temperature sensing elements with characteristics resistant to moisture, vibration, and other conditions consistent with the application without affecting accuracy and life expectancy.
  Thermostat: Programmable Room Thermostats: Programmable type with seven-day programming for two occupied and two unoccupied periods per day; individual occupied and unoccupied set points; three hour override of unoccupied program with automatic return to programmed schedule; battery back-up with rechargeable nicad battery; fan "auto" cycle available for both occupied and unoccupied cycles; automatic changeover on heating/cooling sequences. Provide lockable cover.

- **Section 232113 – Hydronic Piping**
  Aboveground hydronic piping sized larger than 2-inches will be Schedule 40 steel pipe using welded joints for the chilled water system, and grooved mechanical joints for the heating water system. The chilled and heating water systems for piping 2-inches and smaller will be Type L copper with solder joints size.
  Condenser water piping above ground: Copper Tube: ASTM B88 (ASTM B88M), Type L (B), drawn with solder Joints: ASME B16.18 cast brass/bronze or ASME B16.22 solder wrought copper fittings. Provide pipe hangers and supports in accordance with ASME B31.9 or MSS SP-58 unless indicated otherwise.

- **Section 232114 – Hydronic Specialties**
  Expansion tank: Welded steel, tested and stamped in accordance with ASME BPVC-VIII-1; supplied with National Board Form U-1, adjustable flexible EPDM diaphragm or bladder seal factory precharged.
  Automatic Cold Water Fill Assembly: Pressure reducing valve, reduced pressure double check backflow preventer, test cocks, strainer, vacuum breaker, and valved by-pass
  Air separator: Cast iron for sizes 1-1/2 inch and smaller, or steel for sizes 2 inch and larger; tested and stamped in accordance with ASME BPVC-VIII-1; for 125 psi operating pressure.
  Strainer: cast iron or brass body, threaded body with stainless steel perforated screen and blow-off plug for minimum working pressure of 175 psi.
  Pump connectors: Flanged, EPDM rubber double-sphere type with wetted components of stainless steel, sized to match piping.
  Balancing valves:
  Size 2 inch and smaller: Provide ball style with flow balancing, flow measurement, and shut-off capabilities, memory stops, minimum of two metering ports and NPT threaded or soldered connections.
  Size 2-1/2 inch and larger: Provide ball or globe style with flow balancing, flow measurement, and shut-off capabilities, memory stops, minimum of two metering ports and flanged, grooved, or weld end connections.
  Pressure reducing valves: Automatically feeds make-up water to the hydronic system whenever pressure in the system drops below the pressure setting of the valve.

- **Section 232123 – Hydronic Pumps**
  Base-mounted pumps: Casing: Cast iron with suction and discharge gauge ports, renewable bronze casing wearing rings, seal flush connection, drain plug, flanged suction and discharge. Impeller: Bronze, fully enclosed, keyed to shaft. Bearings: Oil lubricated roller or ball bearings. Shaft: Alloy steel with copper, bronze, or stainless steel shaft sleeve. Seal: Mechanical seal, 225 degrees F maximum continuous operating temperature.

- **Section 232300 – Refrigerant piping**
  Copper Tube: ASTM B280, H58 hard drawn or O60 soft annealed. Copper Tube to 7/8 inch OD: ASTM B88 (ASTM B88M), Type K (A), annealed.

- **Section 232500 – HVAC Water Treatment**
  Bypass pot feeder – working pressure of 175 psi
  Packaged glycol feeder - Packaged Glycol Feeder: Factory assembled, piped and wired for the automated addition of glycol solution to closed-loop hydronic systems.

- **Section 233100 HVAC Ducts and Casings**
  Metal ducts: Galvanized Steel: Hot-dipped galvanized steel sheet, ASTM A653/A653M FS Type B, with G60/Z180 coating.
  Round metal ducts: Round lock seam duct with galvanized steel outer wall.
  Flexible duct: UL 181, Class 1, aluminum laminate and polyester film with latex adhesive supported by helically wound spring steel wire with fiberglass insulation with polyethylene vapor barrier film.

- **Section 236436 Air Source Heat Pump**
  Basis of design: Multi-stack modular style.

- **Section 23 74 33 Dedicated Outdoor Air Units**
  Energy Recovery Exchanger Type: Membrane plate.
  Equipment Location: on the roof as indicated on drawings.
  Frame: Galvanized steel body or welded extruded aluminum tubular frame capable of supporting components and casings including integral base lifting holes.
  Double Wall Panels: Minimum of 18 gauge, 0.040 inch galvanized steel.
  Supply and Exhaust Fans Motor: Constant Speed, high efficiency, load matched, belt-driven, open drip proof, thermal overload protected TEFC motor with variable-sheave belt drive, and adjustable-removable motor-slide base. Size drives to 150 percent of load, minimum.
  Dampers and Louvers: Service ratings up to 6 in-wc closed and 3,000 fpm when open.
  Heating and Cooling Section: AHRI 410, glycol coil made of brass or copper tubes with aluminum fins spread at 8 fins per inch held in place by silver-brazed joints. Size for recovery-load differential capacity. Control: Factory supplied DDC with sensors, limit switches and frost control.

- **Section 238129 Variable Refrigerant Flow HVAC Systems**
  System Operation: Heating and cooling, simultaneously.
  Zoning: Provide capability for temperature control for each individual indoor/evaporator unit independently of all other units.
  For Each Indoor/Evaporator Unit: One wall-mounted wired "local" controller, with temperature sensor; locate where directed, in each space.
  All Units: Factory assembled, wired, and piped and factory tested for function and safety.
  Outdoor/Condensing Units: Air-cooled DX refrigeration units, designed specifically for use with indoor/evaporator units; factory assembled and wired with all necessary electronic and refrigerant controls; modular design for ganging multiple units.
  All Indoor/Evaporator Units: Factory assembled and tested DX fan-coil units, with electronic proportional expansion valve, control circuit board, factory wiring and piping, self-diagnostics, auto-restart function, 3-minute fused time delay, and test run switch.

Division 26 - Electrical

- **Section 260500 – Common Work Results for Electrical**
  Details information regarding codes, system requirements, product requirements, and other services for a complete electrical installation.

- **Section 260519 – Low Voltage Electrical Power Conductors and Cables**
  Work covered in this section outlines acceptable manufacturers, conductor types, connection requirements, and testing of power conductors and cables.

- **Section 260526 – Grounding and Bonding for Electrical Systems**
  Contains relevant information relating to furnishing of labor, equipment, supplies, materials, and testing unless otherwise specified for a complete grounding (earthing) and bonding system for the electrical systems.

- **Section 260529 – Hangers and Supports for Electrical Systems**
  Work covered in this section outlines hangers and support equipment for electrical conduits, light fixtures, pull and junction boxes, as well as rooftop mounted conduit.

- **Section 260533 – Raceways and Boxes for Electrical Systems**
  This specification section includes requirements for various types of project approved conduit, metallic boxes, floor boxes.

- **Section 260540 – Surface Metallic Raceway for Electrical Systems**
  Work covered by this Section consists of furnishing raceway systems.

- **Section 260545 – Seismic Restraints for Electrical Raceways and Equipment**
  This specification section outlines requirements for bracing conduits, cable trays, and suspended equipment. Additional information regarding installation is provided.

- **Section 260553 – Identification for Electrical Systems**
  Contains information regarding acceptable methods of labeling electrical equipment such as switchboards, transformers, panelboards, and other electrical appurtenances.

- **Section 260573 – Overcurrent Protective Device Coordination Study**
  This section outlines requirements for who may provide the overcurrent protective device coordination study as well as what constitutes an acceptable coordination study.

- **Section 260580 – Electrical Testing**
  Work described in this section outlines qualifications required by testing a organization with regards to the electrical system. The testing equipment and equipment to be tested are listed as well.

- **Section 260800 – Commissioning for Electrical**
  Provide labor and materials required to complete the commissioning of those Division 26, Electrical systems and equipment identified as Commissioned Systems and Equipment in Section 01 91 00, General Commissioning Requirements.

- **Section 260913 – Electrical Power Monitoring and Control**
  This section outlines acceptable manufacturers for metering equipment and what parameters are required for the monitoring system.

- **Section 260923 – Lighting Control Devices**
  The work included in this specification section provides requirements for lighting control stations, room controllers, occupancy/vacancy sensors, photosensors, relays, control wiring, and emergency lighting control relays.

- **Section 260933 – Central Dimming Controls**
  This section lists requirements for the dimming system operation, approved manufacturers, and requirements for the dimming control system.

- **Section 260943 – Network Lighting Controls**
  Work covered by this section outlines function requirements of the network lighting controls as well as approved manufacturers.

- **Section 260993 – Sequence of Operations for Lighting Controls**
  This section lists general controls approach for interior and exterior lighting loads, as well as emergency egress lighting. Other control methods such as scalability for campus approach are provided.

- **Section 262200 – Low Voltage Transformers**
  Work covered in this section provides requirements for dry type transformers including grounding, manufacturers, and installation.

- **Section 262413 – Switchboards**
  This section includes requirements for switchboards not limited to construction, buswork, circuit breakers, wiring/terminations, surge protection devices, and installation.

- **Section 262416 – Panelboards**
  Describes panelboard requirements such as identification, short circuit ratings, circuit breakers, shunt trips, and testing specified for a complete panelboard installation.

- **Section 262426 – Wiring Devices**
  Work covered in this section describes requirements for line voltage wall switches, receptacles, finish plates, and acceptable installation methods.

- **Section 262900 – Motor Controllers**
  Contains information regarding motor starter and toggle switch requirements provided by the electrical contractor.

- **Section 263213 – Engine Generators**
  Work under this section lists requirements for the generator and all generator accessories such as fuel filtering system, engine starting system, generator controls, the exciter, remote annunciator, and weatherproof housing.

- **Section 263623 – Automatic Transfer Switches**
  Work covered in this section provides requirements for automatic transfer switches that provide infrastructure for NEC 700 and NEC 702 generator backed power.

- **Section 264313 – Surge Protective Devices**
  Work described in this specification section outlines the materials and installation requirements for surge protective devices that protect electrical circuits from the effects of transients and capacitive load switching.

- **Section 265000 – Lighting**
  This specification section lists requirements for lighting appurtenances not limited to lenses, housings, finishes, lamps, power supplies, track lighting systems, as well as disposal and replacement of fixtures.

Division 27 – Low Voltage Communications

- **Section 270500 – Common Work Results for Communication Systems**
  Contains relevant information regarding materials, labor, tools, permits, incidentals, and other services to provide and make ready for Owner's use of communication systems

- **Section 270526 – Grounding and Bonding for Communication Systems**
  Contains relevant information relating to furnishing of labor, equipment, supplies, materials, and testing unless otherwise specified for a complete grounding (earthing) and bonding system for the communications systems.

- **Section 270528 – Pathways for Communication Systems**
  Work covered by this Section consists of furnishing labor, equipment, supplies, materials, and testing unless otherwise specified for a complete pathways system for the communications systems.

- **Section 270543 – Underground Ducts and Raceways for Communications**
  Work covered by this Section consists of furnishing labor, equipment, supplies, and materials required for underground work that support the delivery and installation of new cable and conduit for communications backbone

Section 270800 – Commissioning of Communications

This Specification includes requirements for types of labeling, administration, and testing for communications systems. It includes the commissioning of portions of telecommunications infrastructure work including but not limited to structured cabling systems, optical fiber cabling systems, coaxial cabling systems, outside plant cable, duct banks, trenches, maintenance holes, and aerial pole line distribution.

- **Section 271100 – Communications Equipment Room Fittings**
  Work Included: Provision of materials, installation, and testing of:
  1. Floor Mounted Racks
  2. Power Strips
  3. UPS
  4. Cable Support Systems

- **Section 271119 – Communications Termination Blocks and Patch Panels**
  Work covered by this section consists of furnishing labor, equipment, supplies, materials, and testing unless otherwise specified for a complete Termination and Patch Panel system for the communications systems.

- **Section 271300 – Communications Backbone Cabling**
  Work covered by this Section consists of furnishing labor, equipment, supplies, materials, and testing unless otherwise specified for a complete Backbone Cabling system for the communications systems.

- **Section 271500 – Communications Horizontal Cabling**
  Work described in this section contains relevant information regarding horizontal cabling. Horizontal cabling is the portion of the cabling system that extends from the work area to the Telecommunications Room Cross-connect.

- **Section 274116 – Integrated Audio-Video Systems and Equipment**
  Work covered by this section includes design, engineering, labor, material, products, guarantee, training, services for and incidental to the complete installation of new and complete audiovisual systems for the Owner.

Division 28 – Electronic Security Systems

- **Section 280500 – Common Work Results for Electronic Safety and Security**
  The work to be done under this section of the specifications includes the furnishing of labor, material, equipment, and tools required for the complete installation of the work indicated on the drawings or as specified herein.

- **Section 280513 – Conductors and Cables for Electronic Safety and Security**
  Work described contains relevant information regarding the furnishing, installation and testing of cabling and conduit for security systems

- **Section 280800 – Commissioning for Fire Alarm and Security**
  Provide labor and materials required to complete the commissioning of those Division 28, Electronic Safety and Security systems and equipment identified as Commissioned Systems and Equipment in Section 01 91 00, General Commissioning Requirements.

- **Section 281300 – Access Control**
  This Section includes:
  1. Access Control and Alarm Management System
  2. Card Readers and Proximity Cards
  3. End Devices
  4. Power Supplies

  This Section describes the requirements of the security access control system, including but not limited to:
  1. Furnishing and installing a UL-listed distributed processing computerized card access security control system.
  2. Furnishing and installing combination card reader and digital keypads, audible alarms, other end devices and related control equipment at door locations required to control and monitor access from public areas to secure areas and other doors as specified.
  3. Furnishing and installing wiring and conduit, junction boxes, pull boxes, terminal enclosures, etc., necessary for system wiring.

- **Section 282300 – Video Surveillance**
  Describes video surveillance systems equipment (manufacturer/model), installation and commissioning of devices including but not limited to:
  1. Video Management Systems (VMS)
  2. Surveillance Cameras
  3. Mounting Accessories
  4. Power Supplies
  5. Surveillance Camera Cabling

- **Section 283000 – Fire Detection and Alarm**
  Describes the furnishing, installation, and commissioning of fire alarm systems

- **Section 284800 – Emergency Response Antenna Systems**
  This specification describes technical and performance criteria for deploying Public Safety Networks (PSN). In-building Wireless System Contractor provides system design, project management, coordination with Public Safety Radio Enhancement Emergency Responder services, coordination with Owner Entities hardware, equipment, antennas, cabling, labeling, testing, configuration, programming, coordination, and documentation for a complete and operable system. In-building Wireless System Contractor coordinate required permits, submittals, and approvals of the AHJ.

Division 31 - Earthwork

- **Section 311000 - Site Clearing and Site Demolition**
  Work of this Section includes, but is not limited to, the following:
  Clearing and grubbing within project limits.
  Topsoil stripping.
  Disconnection, demolition, and capping of existing utilities.
  Removal of existing storm drain, sanitary sewer, water systems, and other utilities.
  Removal of surface features, including but not limited to, asphalt concrete pavement, cement concrete, concrete curbs, concrete walks, concrete planters, retaining walls, fences, etc.
  Potholing existing utilities.
  Protecting existing vegetation to remain.
  Removing existing trees and other vegetation within clearing limits.
  Protecting existing utilities to remain.
  Products include, but are not limited to, the following:
  There are no prescriptive products associated with this scope of work.

- **Section 312000 - Earth Moving**
  Work of this Section includes, but is not limited to, the following:
  Excavation and removal of existing fill and organic fill, and replacement with Structural Fill.
  Preparing subgrades for foundations, slabs-on-grade, walks, pavements, walls, lawns, and plantings.
  Excavating and backfilling for buildings, structures, and pavements.
  Importing required soil materials.
  Granular Subbase Course and Crushed Aggregate Base Course for asphalt pavements and cement concrete surfacing.
  Excavating and backfilling utility trenches outside building limits.
  Capillary break at building slab areas.
  Rough and final grading of the site from existing conditions to grades shown on plans.
  Dewatering for building foundation and utility excavations.
  Wet weather earthwork.
  Subsurface drainage backfill for walls.
  Grading and excavation for stormwater infiltration trench.
  Products include, but are not limited to, the following:
  Structural Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, or a well-graded mixture of sand and gravel, with at least 90 percent passing a 1-1/2-inch sieve and at least 25 percent retained on the No. 4 sieve, and less than 5 percent fines by dry weight passing the No. 200 sieve, based on the fraction passing the No. 4 sieve.
  Suitable onsite soils may be reused as Structural Fill during dry weather, when approved by the geotechnical engineer, when moisture conditioned, and when each lift may be compacted to 95 percent of ASTM D1557.
  “Common Borrow” conforming to WSDOT Specification 9-03.14(3) and “Ballast” conforming to WSDOT Specification 9-03.9(1) are acceptable as Structural Fill.

Pipe Bedding: “Gravel Backfill for Pipe Zone Bedding” conforming to WSDOT Specification 9-03.12(3).
Granular Subbase: “Ballast” conforming to WSDOT Specification 9-03.9(1) or “Gravel Borrow” conforming to WSDOT Specification 9-03.14.
Crushed Aggregate Base Course: “Crushed Surfacing Base Course” conforming to WSDOT Specification 9-03.9(3).
Crushed Aggregate Top Course: “Crushed Surfacing Top Course” conforming to WSDOT Specification 9-03.9(3).
Utility Locate Wire: Wire shall be No. 12 AWG insulated copper wire of specified color (red, yellow, orange, blue, green) for related utility.

- **Section 312513 - Erosion Control**
  Work of this Section includes, but is not limited to, the following:
  Transfer NPDES permit from Owner to Contractor in accordance with Washington State Department of Ecology requirements.
  Conform to all requirements of the National Pollutant Discharge Elimination System (NPDES) Construction Stormwater General Permit and the Construction Stormwater Pollution Prevention Plan (CSWPPP).
  Provide Certified Erosion and Sediment Control Lead (CESCL).
  Provide and maintain temporary erosion control measures as indicated on the drawings and as required by the Washington State Department of Ecology.
  Provide and maintain additional temporary erosion control measures as necessary and at no additional cost to the Owner, and to comply with Washington State Department of Ecology and Thurston County requirements.
  Prevent pollution or excess turbidity in State waters.
  Removal of temporary erosion control measures after completion of project.
  Submit “Notice of Termination Form” for Construction Stormwater General Permit to Department of Ecology to request termination of permit coverage.
  Products include, but are not limited to, the following:
  Inlet Protection: Streamguard Basin Insert #3003 by Bowhead Manufacturing or approved equivalent.
  Quarry Spalls: Conform to WSDOT Specification 8 15.3(6).
  Plastic Sheeting: Conform to WSDOT Specification 9 14.5.
  Straw Mulch: Air dried hay or straw; free from undesirable seed and coarse material, 2 inch depth minimum with no bare spots.

Division 32 - Exterior Improvements

- **Section 321216 - Asphalt Paving**
  Work of this section includes, but is not limited to, the following:
  Hot Mix Asphalt (HMA) paving and patching.
  Asphalt Treated Base (ATB).
  Pavement markings.
  Traffic related signage.
  Products include, but are not limited to, the following:
  Hot-Mix Asphalt “HMA” Materials: Conform to WSDOT Specifications 5-04.2, 9 03.8(6), and 9-02.1(4).
  Sand: ASTM D173, Grade Nos. 2 or 3.
  Joint Sealer: Shall be paving asphalt viscosity grade AR-4000 W or CSS-1.
  Asphalt Binder: PG 64-22.
  Pavement Markings: Conform to WSDOT Specification 9-34.2. Color shall be white.

Traffic Signs: Signs shall conform to Manual on Uniform Traffic Control Devices "MUTCD" and "Washington State Sign Fabrication Manual."
Posts shall be 2-inch square galvanized steel with concrete foundation.
Sign shall be of sheet aluminum with Type 3 or Type 4 reflective sheeting conforming to WSDOT Specification 9-28.12.
Sign color, message, font, and symbols shall conform to MUTCD for standard traffic signs.

- **Section 321313 - Concrete Paving, Curbs and Walks**
  Work of this section includes, but is not limited to, the following:
  Cement concrete pavements.
  Cement concrete sidewalks.
  Cast-in-place cement concrete curbs.
  Concrete wheel stops.
  Products include, but are not limited to, the following:
  Concrete Materials:
  Conform to WSDOT Specification 8-14.2 for sidewalks.
  Conform to WSDOT Specification 8-04.3 for curbs.
  Conform to WSDOT Specification 5-05.2 for driveways.
  Concrete Mixtures:
  Compressive Strength (28 days): 4000 psi.
  Maximum Water-Cementitious Materials Ratio at Point of Placement: 0.50.
  Slump Limit: 3 inches, plus or minus 1 inch.

- **Section 323300 - Site Furnishings**
  Per below, or approved equal.
  Surface mounted benches:
  Manufacturer: Mmcite
  Model: Vera Solo
  Finish: Powder-coated steel frame
  Surface mounted steel receptacle with top to prevent rain from entering receptacle
  Per Campus standards
  Stainless steel bike racks, embedded in concrete
  Per Campus standards or:
  Manufacturer: Sportworks
  Model: Tofino No-Scratch
  Bike lockers
  Manufacturer: SECURA Bike Lockers.
  Model: Single Bike locker

- **Section 328000 - Irrigation**
  The irrigation system will consist of high efficiency spray heads .
  Be operated by an Automatic Irrigation Controller and be supported by Rain Sensors, Automatic Remote Control Valves, Manual Valves, Quick Couplers, and irrigation hardware.
  The POC shall consist of Backflow Preventer, Double Check Valve Assembly and whatever is deemed suitable for the existing water source, pressure and code requirements.
  All Mainline, Lateral Lines and Sleeving Lines shall consist PVC Schedule 40 and 80 piping.
  Product specifications:
  Spray heads: Hunter MP rotators
  Root watering System (for trees): Rainbird RWS
  Controller: Rainbird ESP-LXME
  Weather sensor: WR2-RFC Series Wireless Rain/Freeze Sensor

- **Section 32 91 13 - Soil preparation**
  Amend existing site soils, supplement with imported topsoil where needed.
  Organic material shall be a well-decomposed, humus-like material derived from the decomposition of organic matter.
  Planting Soil shall be a three way mixture of 40% Sandy Loam Topsoil, 30% Organic material and 30% Builders Sand by volume.
  Compost Mulch shall meet all specifications for organic material but shall be screened to include particles between 1/2" and 3/4". Acceptable products are Steerco, GroCo, Cedar Grove "Pure Organic material" or approved substitute.

- **Section 32 93 00 - Plants**
  Work includes the procurement and installation of trees, shrubs and other plant materials meeting or exceed applicable American Association of Nurserymen (AAN) Standards.

Division #33 - Utilities

- **Section 331116 – Water Distribution**
  Work of this section includes, but is not limited to, the following:
  Piping and specialties for fire protection water service outside the building.
  Piping and specialties for potable water service outside the building.
  Products include, but are not limited to, the following:
  Ductile Iron Pipe and Fittings: Cement mortar lined conforming to AWWA C151 and WSDOT Specification 9-30.1(1). Non-restrained joints shall be rubber gasket, push-on type, or mechanical joint conforming to AWWA C111. Fittings shall conform to AWWA C110 and AWWA C111 or AWWA C153 and shall be cement-mortar lined conforming to AWWA C104.
  Fire Hydrants: Conform to City of Olympia requirements.

- **Section 333111 – Sanitary Sewerage**
  Work of this section includes, but is not limited to, the following:
  Piping and specialties for sanitary sewerage service outside the buildings.
  Connection to existing sewer systems.
  Products include, but are not limited to, the following:
  PVC Pipes and Fittings: Pipe shall conform to the requirements of ASTM D3034 and WSDOT Specification 9-05.12(1). Joints shall conform to ASTM D3212 using an elastomeric gasket conforming to ASTM F477.
  Cleanouts: Cast iron.
  Manholes: conform to the requirements of City of Olympia.

- **Section 334100 - Storm Utility Drainage Piping**

  Work of this section includes, but is not limited to, the following:
  All temporary and permanent storm drainage piping, fittings, and accessories.
  Catch basins, manholes, cleanouts, area drains, and site surface drainage.
  Connection of new building downspouts to existing drainage lines.
  Connection of foundation drains to storm system.
  Temporary systems for control of storm drainage during construction.
  Connection of site drainage piping to existing conveyance system.
  Cleaning and flushing of storm system at completion of project.
  Products include, but are not limited to, the following:
  Ductile Iron Pipe and Fittings: Conform to WSDOT Specification 9-05.13.

CPEP Pipe and Fittings: Conform to WSDOT Specification 9-05.20.
PVC Pipe and Fittings: Conform to WSDOT Specification 9-05.12(1).
Cleanouts: Cast iron.
Catch Basins: Conform to WSDOT Standard Plan B Series.
StormFilter Catch Basin with ZPG media for water quality treatment.

- **Section 334600 - Subdrainage**

  Work of this section includes, but is not limited to, the following:
  Foundation drains for new buildings.
  Foundation drains for new retaining walls.
  Products include, but are not limited to, the following:
  Foundation Drainage Piping and Accessories: Provide PVC perforated and non-perforated pipe conforming to ASTM D3034 SDR-35, of 4-inch diameter size unless otherwise shown, complete with standard accessories.
  Filter Fabric: Filter fabric enveloping washed gravel surrounding the perforated piping shall be Mirafi "140N," Reemay "Typar," or approved equivalent.
  Gravel For Slotted Drain Tube Surround: Envelope around the perforated piping and against building foundation walls shall be 1 inch minus clean washed graded gravel conforming to WSDOT Specification 9.03.12(4) "Gravel Backfill for Drains" or pea gravel.
  Backfill Material: Furnish additional backfill materials as specified under Division 31 Section 312000, "Earth Moving."
  Infiltration Aggregate: Washed rock conforming to WSDOT Specification 9.03.12(5).

END OF SECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions and Division-01 Specification sections, apply to work of this section.

1.2 SCOPE

A. This work includes removal, handling, and disposal of the identified hazardous materials at The Evergreen State College (TESC) Seminar I Renovation Project.

B. This work includes the removal and disposal of asbestos-containing materials (ACMs) as identified by the Contract Documents and drawing sheets HM 1 - 6, as necessary to accommodate the Work.

C. This work includes performing activities impacting lead-containing paint (LCP) in accordance with the Contract Documents.

D. This work includes the removal and disposal of polychlorinated biphenyls (PCB)-containing light ballasts and caulking/sealants in accordance with the Contract Documents.

E. This work includes perform activities impacting mercury vapor fluorescent lamps in accordance with the Contract Documents.

F. Subcontractors performing work impacting hazardous materials are to coordinate all activities with the Contractor, Architect, and the Owners Environmental Consultant.

G. Presence of Hazardous Materials: Asbestos-containing materials, lead-containing materials, PCB-containing materials, mercury-containing materials, and metals in masonry have been identified at TESC Seminar I Renovation Project. See paragraphs 1.4 - 1.15.

H. The Contractor (Prime Contractor and Subcontractors) is to report on a daily basis the locations, types and quantities of all hazardous materials to be removed to the Environmental Consultant for review and approval prior to any removal. The Environmental Consultant will confirm the information prior to removal or demolition of any hazardous materials. The Contractor must support the Environmental Consultant during access and allow 24 hours to confirm the locations and quantities reported. The Contractor will not be compensated for any unverified hazardous materials removed or demolished.

1.3 RELATED WORK

A. Work performed under this specification section is governed by related specification sections, including, but not limited to, the following:

Division 00: Condition of the Contract
Division 01: General Requirements
Division 02: Existing Conditions:
028200, Asbestos Abatement
028300, Lead-Related Activities
028400, PCB-Related Activities
028500, Mercury-Related Activities

1.4 ASBESTOS-CONTAINING MATERIALS

A. Removal and other impact of asbestos-containing materials as identified by these Specifications is the responsibility of the Contractor. The Contractor shall be responsible for compliance monitoring and removal and disposal of these items.

B. Presence of Asbestos: The Owner has surveyed accessible portions of TESC) Seminar I Renovation Project included in this Scope of Work with the objective of identifying the presence of asbestos-containing materials. Asbestos-containing materials are identified in the contract drawings and survey report.

C. The Contractor shall refer to the Hazardous Materials Summary Report attached to this section which lists suspect-ACMs sampled at the project site and analysis for asbestos content. The Contractor shall ensure that a copy of this report is made available to and retained on the project site by all subcontractors.

D. The Contractor shall be aware that suspect-ACMs may exist in inaccessible locations and areas of project site. The Contractor shall proceed with caution during all phases of the Work. Should any suspect-ACMs not indicated in the Hazardous Materials Summary Report be encountered, the Contractor shall immediately notify the Owner and the Environmental Consultant. Concealed asbestos-containing materials are presumed to exist. No compensation will be considered unless these “unknown” materials have been reported and verified by the Environmental Consultant.

E. The Contractor is advised that should additional ACMs not included in the Hazardous Materials Summary Report be encountered, the Owner may elect to include such materials in the Work at a mutually agreed upon price. Work impacting such materials is not to occur prior to the Contractor receiving explicit written authorization from the Architect, and any Work performed without such approval is performed at the Contractor’s own risk and expense.

F. The disturbance or impact of ACMs may cause asbestos fibers to be released into the building’s atmosphere, thereby creating a potential health hazard to building occupants. Contractor is to apprise all workers, supervisory personnel, subcontractors and consultants who will be at the jobsite of the seriousness of this potential hazard and of proper Work procedures that must be followed, in the event of a release.

G. Where in the performance of the Work, workers, supervisory personnel, subcontractors, or consultants may encounter, disturb, or otherwise function in the immediate vicinity of

any identified ACMs; Contractor shall take appropriate continuous measures, as necessary, to protect all building occupants from the potential hazard of exposure to airborne asbestos. Such measures shall include the procedures and methods described herein, and compliance with applicable local, state, and federal regulations.

1.5 LEAD-RELATED ACTIVITIES

A. Lead-Containing Paint: The Owner has conducted a lead-containing paint survey of the project site. Survey samples and results are included in the attached Hazardous Materials Summary Report.

B. Consider all painted components to be coated with lead-containing paint. Follow specification Section 028300, Lead-Related Activities for activities associated with painted components.

C. Toxicity Characteristic Leachate Procedure (TCLP) laboratory analysis has not been performed on representative waste streams of buildings that were found to have components with elevated concentrations of lead in the paint. The Contractor is responsible for all costs associated with dangerous waste handling, packing, transport and disposal. The Contractor is responsible for all final waste stream characterization.

1.6 PCB-CONTAINING EQUIPMENT AND MATERIALS

A. Consider all non-labeled magnetic fluorescent light fixture ballasts to be PCB-containing. Follow specification Section 028400, PCB-Related Activities for handling PCB-containing components and materials.

B. Contractor shall provide all labor, materials, equipment, services, permits and insurance required to complete the removal, transport and proper disposal of PCB-containing materials.

C. PCB-containing light fixture ballasts were not identified but may be present.

D. Asbestos-containing exterior caulking/sealants were found to contain PCB's. The Contractor is responsible for proper handling, removal and disposal of PCB-containing sealants/caulking.

1.7 MERCURY-CONTAINING EQUIPMENT AND MATERIALS

A. Consider all fluorescent lamps, tubes, thermostat bulbs, and HID bulbs to be mercury-containing. Remove and recycle according to specification Section 028500, Mercury Related Activities.

B. Contractor shall provide all labor, materials, equipment, services, permits and insurance required to complete the removal, transport and proper recycling and or disposal of mercury-containing equipment to include fluorescent tubes and lamps.

1.9 MISCELLANEOUS HAZARDOUS MATERIALS

A. Contractor shall provide all labor, materials, equipment, services, permits and insurance required to complete the removal, transport and proper disposal of all miscellaneous typical small quantity hazardous materials (e.g., paints, cleaning fluids, housekeeping chemicals, household pesticides/herbicides, lubricating oils, solvents, adhesives, etc.).

B. The work includes the proper removal and recovery of all refrigerants associated with the Seminar I Building Renovation Project. Recovery shall be performed by firms and personnel trained and certified to conduct such work. Refrigerant recovery shall be documented sufficiently and identify location, quantity, firm performing recovery, equipment used in recovery, and final disposition of recovered material. The Contractor is responsible for locating and determining all equipment throughout the project that requires refrigerant recovery. See other specification sections regarding recovery of refrigerants.

1.10 WORK COVERED BY CONTRACT DOCUMENTS

A. Abatement scope of work, schedule, phasing, work plan, and inspections will be discussed with the Environmental Consultant at the pre-demolition meeting.

B. Contractor shall furnish all labor, materials, equipment, permits, services and insurance (specifically covering the handling and transportation of asbestos-containing materials) that is specified, shown, or reasonably implied for the removal and/or impact of asbestos-containing materials as necessary to accomplish the Work and as defined by these Specifications and the Hazardous Materials Abatement Plans.

C. The Contractor shall comply with all applicable regulations, laws and ordinances concerning removal, remodeling, cutting, handling, storage, disposal, monitoring and protection against exposure or environmental pollution. Work related to lead-containing paint and lead-containing components within this contract is the responsibility of the Contractor and shall be performed in accordance with the requirements contained in contract drawings and specification Section 028300 Lead-Related Activities.

D. The Contractor is responsible for performing characterization of all final waste streams generated by this project and submitting those results to the Owner. The Contractor is responsible for the proper handling, transportation and disposal of any dangerous waste generated.

E. Contractor shall furnish all labor, materials, equipment, permits, services and insurance specifically covering the handling and transportation of polychlorinated biphenyls (PCBs) that is specified, shown, or reasonably implied for the removal and/or impact of PCB-containing fluorescent light fixture ballasts and transformers and caulking/sealants, and as necessary to accomplish the Work and as defined by these Specifications and Contract Drawings sheets.

F. Contractor shall furnish all labor, materials, equipment, permits, services and insurance (specifically covering the handling and transportation of mercury-containing materials and equipment) that is specified, shown, or reasonably implied for the removal and/or impact of mercury-containing fluorescent light fixture lamps, tubes, bulbs, HID bulbs, and thermostat bulbs necessary to accomplish the Work and as defined by these Specifications and Contract Drawings sheets.

1.11 EXISTING CONDITIONS

A. The Environmental Consultant, Architect, and Owner make no representation, warranty or guarantee the conditions indicated by the test reports or inspection summary are representative of those conditions existing throughout the project area, or that unforeseen developments may not occur, or that materials other than, or in proportions different from those indicated, may not exist.

B. Contractor is advised that the locations of all ACMs may not be clearly known and that care should be taken to prevent impact of ACMs located in concealed and inaccessible locations. Selective demolition will be required to locate and access concealed hazardous materials.

C. Contractor is advised to coordinate the Work to facilitate access as necessary to areas where ACMs and other hazardous materials may exist. These areas include but are not limited to the mechanical chases, attics, crawl spaces, ceiling/wall spaces, subsurface locations and under concrete slabs.

D. Contractor is advised to familiarize with access and space restrictions in areas affected by the Work and to account for such limitations in schedule and production expectations.

1.12 WORK NOT COVERED BY CONTRACT DOCUMENTS

A. Area and Post-abatement air monitoring and all visual inspections related to hazardous materials will be performed for the Owner by the Environmental Consultant. Contractor shall perform all personnel air monitoring required by code and that is described in Specification Sections 028200, 028300, 028400, and 028500 related to employee exposure.

1.13 PAGERS/MOBILE PHONES

A. Supervisors and CASs shall carry a mobile phone at all times (i.e., 24 hours a day/7 days a week) during the performance of this Work to maintain contact with General Contractor, his/her crew, the Owner and its representatives.

1.14 SEGREGATION OF WORK AREAS

A. It is imperative that the Contractor segregate work areas from the surrounding occupied and unoccupied areas to prevent contaminant migration and protect other trades and visitors.

1.15 CLEAN UP

A. Ensure that all areas are visibly clean at completion of each work shift and the Work.

END OF SECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions and Division-01 Specification sections, apply to work of this section.

1.2 SCOPE

A. This section covers the removal and disposal of asbestos-containing materials (ACMs) from The Evergreen State College (TESC) Renovation Project, as defined by these specifications and drawings.

B. Abatement Subcontractor shall coordinate with Demolition Subcontractor and all other jobsite trades for the proper removal of all ACM's.

C. Contractor shall provide all labor, materials, equipment, services, permits and insurance required to complete asbestos abatement procedures as indicated in this Specification.

D. Hazardous Materials Abatement Drawings: Drawing sheets HM1 – HM6 indicate general locations and quantities of known asbestos-containing materials (ACMs). The methods acceptable for abatement are described in this Specification.

E. The Hazardous Materials Summary Report attached to Section 011101 lists suspect materials sampled at the Evergreen High School Project and the laboratory analysis for asbestos content.

1.3 RELATED WORK

A. Work performed under this specification section shall be governed by all related specification sections, including, but not limited to, the following:

Division 00: Condition of the Contract
Division 01: General Requirements
Division 02: Existing Conditions:
028300, Lead-Related Activities
028400, PCB-Related Activities
028500, Mercury-Related Activities

1.4 DEFINITIONS

A. Authorized Visitor: The Owner or designated representative, or a representative of any regulatory or other agency having jurisdiction over the project, and having required training, medical, fit test, etc.

B. Environmental Consultant: Consultant to the Architect specializing in asbestos abatement--PBS Environmental--or any subcontractor designated by PBS.

C. Independent Testing Laboratory: A laboratory financially independent from and hired by

the Owner or Contractor which is either AIHA-accredited for asbestos with demonstrated proficiency via the AIHA PAT program or has analysts proficient in the AIHA AAR program for air sample analysis.

D. Owner: Representatives designated by the Owner, or designated employees of the Owner.

E. Work Area: An area where asbestos abatement activities are performed; isolated from non-work areas by negative pressure, containment barriers, decontamination enclosure systems and warning signs.

1.5 DOCUMENTS INCORPORATED BY REFERENCE

A. The current issue of each document shall govern. Where conflict among requirements or with these Specifications exists, the most stringent requirements shall apply.

1. U.S. Environmental Protection Agency National Emissions Standards for Hazardous Air Pollutants (NESHAPS). (Code of Federal Regulations Title 40, Part 61, Subparts A and B.)

2. U.S. Environmental Protection Agency Office of Toxic Substances Guidance Document, *Guidance for Controlling Friable Asbestos-Containing Materials in Buildings,* EPA Report Number 560/5-85-024 ("Purple Book").

3. U.S. Department of Labor Occupational Safety and Health Administration (OSHA):

a. Title 29 Code of Federal Regulations Section 1910.1001--General Industry Standard For Asbestos.

b. Title 29 Code of Federal Regulations Section 1910.134--General Industry Standard For Respiratory Protection.

c. Title 29 Code of Federal Regulations Section 1910 *et al.*--Occupational Exposure to Asbestos; Final Rule.

d. Title 29 Code of Federal Regulations 1926.1101--Construction Standard for Asbestos.

e. Title 29 Code of Federal Regulations Section 1910.2--Access to Employee Exposure and Medical Records.

f. Title 29 Code of Federal Regulations Section 1910.1200--Hazard Communication.

g. Environmental Protection Agency 40 CFR Part 763, AHERA, Asbestos-Containing Materials in Schools.

h. National Institute for Occupational Safety and Health (NIOSH), 30 CFR, Part II, Respirators.

i. American National Standards Institute (ANSI) NY; ANSI Standard Z 88.2-1980 *American National Standards Practice for Respiratory Protection*, latest edition.

j. CERCLA, Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. 9601 et. seq.)

k. RCRA, Resource Conservation and Recovery Act.

l. Washington State General Occupational Health Standards, WISHA Chapter 296-62 Washington Administrative Code (WAC); Chapter 296-65 WAC Asbestos Removal & Encapsulation; Chapter 296-155 WAC Safety Standards for Construction Work.

m. Olympic Region Clean Air Agency (ORCAA) Regulations.

n. Washington Industrial Safety and Health Act (WISHA).

o. International Building Code (I.B.C.), latest edition, regulations as applicable.

p. Electrical work shall be performed in accordance with the National Electrical Code.

q. All local ordinances, regulations, or rules pertaining to asbestos, including its storage, transportation, and disposal.

1.6 SUBMITTALS AND NOTICES

A. Contractors shall submit three (3) bound, indexed copies of each submittal package as indicated below for review. In addition, submit three separate sets of the Work Plan for review by other parties. Electronic copies are acceptable. Following receipt of review comments from the Architect and Environmental Consultant, submit three complete sets of the revised submittals to the Architect.

B. Additional requirements for submittals are described in the contract documents. The requirements in this section pertain to asbestos-containing materials removal.

C. Initial Submittal: Contractors shall submit the following information 10 days prior to beginning work on the project. No hazardous materials handling or abatement shall begin prior to written approval of submittals:

1. Work Plan: Include a detailed plan of the procedures proposed for use in complying with the requirements, including the following:

a. A description of all equipment, techniques, and methods to be used to remove and dispose of each asbestos-containing material identified in the Project, including schematic drawings of work area layout(s) showing entries/exits, HEPA exhausts, decon units, waste load-outs, any

scaffolding and access plan for over height asbestos-containing materials, etc.

b. A specific schedule indicating proposed start dates/times and completion dates/times for individual regulated areas as configured in the proposed Work Plan.

c. Specific information relating to storage, handling, transport and disposal of asbestos-containing waste. Provide name and address of the designated transporter and proposed disposal site at which any waste material generated during the project will be disposed and furnish evidence of all necessary regulatory approvals of disposal.

2. Laboratory Qualification Information: Submit information pertaining to the proposed Air Monitoring Program for this project. Contractor's air monitoring shall include employee exposure monitoring. This information shall include the name(s) of personnel collecting air samples, types of equipment, sampling schedule, sampling procedures, calibration record keeping, name and address of proposed Independent Testing Laboratory, and evidence of analyst's NIOSH 582 course completion and AIHA PAT program participation.

3. Worker Certification: Submit written proof that all employees performing asbestos-related work will have completed all necessary asbestos-related training in compliance with WAC Chapters 296-62 and 296-65. Written proof may be in the form of a notarized letter stating such intent and signed by an owner or principal of the appropriate firm(s). The Owner and/or the Environmental Consultant reserves the right to remove a certified asbestos worker from the work at any time during the project for any reason at no additional costs or schedule delays to the owner.

4. Written Respirator Program and Fit Testing: Submit written proof that all employees requiring respiratory protection participate in a written respiratory protection program established and maintained in accordance with WAC 296-62-07715. The Contractor shall provide written proof of the existence of a respiratory protection program.

5. Notifications and Policies: Submit copy of all required notifications and permits obtained by the Contractor (including but not limited to Washington State Department of Labor and Industries and ORCAA) and copies of all types of specified bonds and insurance. Submit upon receipt any approved amendments to notifications or re-notifications for multi-phase activities.

6. Certified Asbestos Supervisor (CAS): Submit the name, Asbestos Supervisor Certification and resume of experience of the assigned on-site CAS's. At a minimum, the foreman shall have successfully completed a supervisor training course in compliance with WAC Chapter 296-65-007. References and work on similar projects must be provided and will be reviewed. The CAS's working on this project must show a minimum of 5 years experience as a CAS. The Owner and Environmental Consultant reserves the right to remove the CAS from the work at any time during the project for any reason. The Contractor shall then

submit another on-site CAS for approval as described above at no additional costs or schedule delays to the owner.

D. Daily Job Submittals

1. Personal Air Monitoring: Submit copies of all personal air monitoring data sheets, chain-of-custody and analytical results to the Contractor and Environmental Consultant on a daily basis within 24 hours following collection.

2. Daily Field Logs: Submit copies of all field logs to the Contractor, Owner and Environmental Consultant daily, prior to the end of the next work shift. Daily logs shall indicate the date, time, identity, company or agency represented, and reason for entry of all persons entering the work area, and the type, amount and location(s) of all ACMs removed, and work stoppages/delays.

3. Entry/Exit logs: Submit copies of regulated area entry/exit logs to the Contractor and Environmental Consultant on a daily basis prior to the end of the next work shift.

4. Periodic Submittals

   a. Asbestos Training: Upon verbal request, immediately make available to the Environmental Consultant proof of Asbestos Worker Certification or Asbestos Supervisor Certification. Provide copies of worker training certification to the Owners representative upon request.

   b. Work Plan modification/clarification: In the event that on-site activities will require departure from any and all aspects of the information outlined in the pre-approved Work Plan, submit written clarification/modification of proposed changes to the Owner and Environmental Consultant for review and approval prior to performing that work.

   a. Disposal Manifests: Submit copies of all asbestos waste transportation and disposal manifests including signed receipts from the landfill, and or chain-of-custody. A copy of the disposal information for asbestos waste shall be submitted within 5 days of leaving the project site. The intent of this requirement is to track the disposition of the asbestos waste at all times. No progress payments will be approved without proper documentation of asbestos transportation and disposal.

5. Post-Job Submittals shall be delivered to the Contractor within 15-days of completion of asbestos-related work as specified by these Contract Documents and shall include the following:

   b. Certification: Provide written certification from the Abatement Subcontractor's Project Manager or Supervisor that the Abatement Subcontractor has fully inspected the work area and completed work in strict accordance with the Specifications.

c. Air Monitoring: Submit documentation of all employee personal air monitoring results relative to OSHA and WISHA respiratory protection level compliance. Include copies of all air monitoring data sheets, chain-of-custody documentation and analysis reports for sampling conducted at the site.

d. Project Record Documents: Provide project records including documentation of all contract changes, and copies of worksite entry logs, work area entry/exit logs, safety logs, safety meeting sign-in sheets, and supervisor's daily field reports.

e. Disposal Manifests: Submit copies of all asbestos waste transportation and disposal manifests including signed receipts from the landfill, and or chain-of-custody. A copy of the disposal information for asbestos waste shall be submitted within 5 days of leaving the project site. The intent of this requirement is to track the disposition of the waste at all times. No progress payments will be approved without proper documentation of asbestos transportation and disposal.

1.7 PERSONNEL PROTECTION

A. Training

1. Prior to commencement of work, ensure all workers have been trained as specified in WAC Chapter 296-65.

2. Provide and post decontamination, respirator, and work procedures to be followed by the workers.

B. Personnel Protective Equipment for Asbestos Removal

1. Provide protective clothing and equipment per WAC 296-62.

1.8 AIR MONITORING BY CONTRACTOR

A. Industrial Hygienist: An Independent Testing Laboratory shall be retained by the Abatement Subcontractor for PCM sample analysis. All analysis shall be performed by an Industrial Hygienist. The Hygienist must be experienced and trained in asbestos sampling and analysis. At a minimum, documentation of prior asbestos sampling and analysis experience, plus satisfactory completion of the NIOSH 582 course or equivalent will be required. Air sample collection may be performed by an Industrial Hygienist or the Abatement Contractor's foreman. Perform sampling and analysis of air samples for asbestos in compliance with WAC Chapter 296-62-07735, Appendix A-WISHA reference method.

B. Sample Documentation: Documentation shall be kept for each filter sample procured as to worker sampled, social security number, activity, work area location, date and time taken, volume of air drawn through filter, pump identification number and calibration. Documentation shall indicate in what areas tests were taken and shall clearly indicate the specified maximum allowable fiber levels for each area tested. Report all data within 48

hours. Submit chain-of-custody records along with all samples.

C. Analysis Procedures: The samples shall be collected on 25 mm filters and analyzed within 12 hours using the membrane filter method at 400-500x magnification with phase contrast illumination--NIOSH Analytical Method No. 7400--for laboratory and field analysis. The analyst shall sign and submit permanent records of all samples analyzed directly to the Environmental Consultant. The Independent Testing Laboratory shall seal the unused portion of all filters in airtight containers so that individual samples can be re-analyzed at a later date if necessary. The containers shall be clearly labeled with Project Name and Sample Number and shall become property of the Owner at work completion at the Owner's request.

D. Controls: The Contractor's testing laboratory shall submit sample analysis results, chain-of-custody and equipment calibration records to the Environmental Consultant within 24 hours from the time of collection.

E. Contractor's Sampling During Abatement

1. Sample Collection: Air monitoring shall be performed to determine worker exposure during the period of asbestos abatement in each work area. Begin sampling when asbestos removal commences. Samples are to be taken where Class I or II work is being conducted during each 8-hour work shift until abatement is complete.

2. Most Contaminated Worker: The Contractor shall determine which worker(s) in each work area is probably experiencing the most severe exposure. This is the "Most Contaminated Worker(s)". 8-hour TWA and 15-minute excursion samples shall be collected on this worker(s). This worker shall wear a personal sampling pump and the sample shall be drawn from the breathing zone of this worker.

3. The number of air samples collected shall be in accordance with the Contractor's approved work plan; however, a minimum of one sample per work area must be collected daily.

1.9 AIR MONITORING BY OWNER

A. Industrial Hygienist: The Architect/Owner will retain an experienced Industrial Hygienist/Environmental Consultant to collect and analyze asbestos air samples prior to abatement, inside the work area, outside the work area, at HEPA exhaust and after visual inspection. Any airborne asbestos concentrations in excess of regulatory limits will be reported. Documentation of sample results will be forwarded to the Contractor as appropriate.

B. Sampling and analysis of asbestos samples shall be performed in compliance with WAC Chapter 296-62-07735, Appendix A--WISHA reference method and 40 CFR Part 761 AHERA. Laboratory analysis of TEM post-abatement air sampling will be performed on a 24-hour turnaround time. Samples will be delivered to the lab within eight (8) hours of completion of sampling. Any expedited after “hours” analysis or weekend analysis is subject to the approval by the Owner of resulting additional costs.

C. The Owner reserves the right to monitor Contractor's performance via air samples on abatement workers in addition to the Contractor's air monitoring.

1.10 WORKING HOURS

A. Submit proposed work schedule to Owner prior to commencement of work. See Specification Section for Temporary Facilities and Controls for site work hours. Schedule and work hours must be pre-approved by the Owner.

1.11 PERMITS AND NOTIFICATIONS

A. The Contractor is responsible for obtaining all permits and notifications as required for the completion of the work by the Washington State Department of Labor and Industries, the U.S. E.P.A., the Olympic Region Clean Air Agency and any other permitting agency involved with the completion of the work included herein. For each phase of the work the Contractor shall notify the Environmental Consultant in writing a minimum of 72 hours prior to commencing any hazardous material related work at the project site.

1.12 PERSONNEL TRAINING

A. All personnel accomplishing removal of asbestos-containing materials shall have received the minimum training as required by the Washington State Department of Labor and Industries for the work to be performed. At a minimum, the Abatement Contractors Foreman shall be the bearer of a current "Certified Asbestos Supervisor Certificate" issued by the Washington State Department of Labor and Industries.

1.13 LIABILITY

A. The Contractor is an independent contractor and not an employee of the Owner, Architect or Environmental Consultant. The Owner, Architect and the Environmental Consultant shall have no liability to the Contractor or any third persons for Contractor's failure to faithfully perform and follow the provisions of these Specifications and the requirements of the governing agencies. Notwithstanding the failure of the Owner, Architect or the Environmental Consultant to discover a violation by the Contractor of any of the provisions of these Specifications, or to require the Contractor to fully perform and follow any of them, such failure shall not constitute a waiver of any of the requirements of these Specifications which shall remain fully binding upon the Contractor.

1.14 SUBCONTRACTORS

A. Subcontractors employed by the Contractor shall be bound to all the work and safety standards specified. Subcontractor's personnel shall meet requirements as specified, and shall be supervised by the Contractor during performance of this work.

1.15 QUALITY ASSURANCE

A. On-Site Observation

1. Post Removal: Environmental Consultant shall perform visual inspections after the removal of asbestos-containing materials is complete. The Abatement

Subcontractor shall assist the Environmental Consultant with the visual inspection and provide the necessary equipment to conduct such inspections. The Abatement Subcontractors certified asbestos supervisor shall escort the Consultant on all such inspections, when requested. The Abatement Subcontractor shall give a minimum of 24 hour written notice for all visual inspections of regulated work areas. All weekend work requires 5 days notice.

2. Observation: Environmental Consultant shall perform observations regarding: integrity of isolation barriers, decontamination facilities, worker protection, Contractor's air monitoring program, performance of abatement operations, and conformance to the Specification, EPA, OSHA, WISHA and ORCAA regulations.

3. Stop Work: Environmental Consultant shall notify the Contractor in writing to stop work if the Environmental Consultant determines that work practices are in violation of regulations, these Specifications or work is endangering workers or occupants of the building. The Contractor shall continue work when conditions and actions are corrected and when written authorization is received from the Environmental Consultant.

4. Environmental Consultant shall attend progress meetings as requested by Architect and Owner.

B. Air Monitoring

1. Notification: If, at any time during the work, analysis of an air sample taken by the Contractor, Owner, or Environmental Consultant, indicates a fiber concentration in excess of the applicable Maximum Allowable Fiber Concentration, the laboratory that analyzed the air sample shall immediately notify the Contractor, the Contractor's Superintendent, and the Environmental Consultant.
2. Maximum Allowable Fiber Concentrations:

   a. Outside all Regulated Work Areas: 0.01 f/cc (fibers per cubic centimeter by PLM) or below pre-abatement.

   b. Inside Isolated Regulated Work Area: 0.1 f/cc.

   c. Inside Non-Isolated Regulated Work Area: 0.01 f/cc or below pre-abatement levels.

   d. Post-Abatement: 0.01 f/cc by TEM or PCM analysis methods, whichever is appropriate.

4. Procedures: Immediately upon being notified of fiber concentration in excess of the PEL, the Abatement Subcontractor shall perform the following steps in the order presented, at no additional cost to the Owner:

   a. Stop abatement work.

b. Identify source of high fiber counts.

c. Corrective Actions: Immediately correct containment breaches, pressure differential changes and potential cause of high fiber counts. The Environmental Consultant will determine the affected area considered to be contaminated. The Environmental Consultant will determine the actions to be taken by the Abatement Subcontractor at no additional cost to the Owner.

d. Clean the affected area. Cleaning will include wet methods and HEPA vacuuming.

e. Re-sample air until fiber counts are determined to be below the specified maximum levels.

f. Secure and repair containment barriers, repair or add equipment.

g. Modify work procedures, and make other changes to reduce fiber counts.

5. Document these activities in writing in detail and provide to Owner for review.

6. Resume work and air monitoring.

7. Additional Costs: The Contractor shall be responsible for all costs of any testing and associated labor, cleanup, repair, down time loss, etc. that is a result of the Contractor's negligence, poor maintenance of isolated areas, improper procedures and or failed clearance inspections and testing.

C. Performance: Work shall be performed in a skillful manner representing industry standards. Environmental Consultant shall require Contractor to remove from the work site employees and subcontractors the Environmental Consultant deems incompetent, careless or objectionable.

PART 2 - PRODUCTS

2.1 PROTECTIVE CLOTHING AND EQUIPMENT

A. Protective Clothing: Provide approved clothing per WAC 296-62 for all workers and all official representatives of the Owner, State or other governmental entity, and the Environmental Consultant who may inspect or visit the project.

2.2 MATERIALS

A. Encapsulants (Sealants): Encapsulants shall be rated as "Acceptable" using the test method described in the EPA document published as National Technical Information Service report PB 88-113 329/AS [available from NITS, 5825 Port Royal Road, Springfield, VA 22161.] (The report is summarized in EPA publication EPA/600/S-87/091 [available from Center for Environmental Research Information, EPA 26 Martin Luther King Drive West, Cincinnati, OH 45220-2242].)

B. Use a colorant in all encapsulants to easily distinguish materials that have been encapsulated from those that have not been encapsulated.

C. Ensure that any chemical used for removing mastics is compatible with all new products being installed, if appropriate.

PART 3 - EXECUTION

3.1 WORK AREA PREPARATION

A. Performance: Contractor shall perform the following procedures in the order in which they are presented for work according to the approved work plan

1. Shut down HVAC systems. Seal openings with two separate layers of plastic sheeting.

2. Restrict access to work area and post warning signs. Do not perform abatement work in an occupied area.

3. Completely pre-clean visible accumulation of asbestos debris in work area using HEPA vacuum equipment or wet cleaning methods.

4. Set up worker decontamination enclosure system satisfying requirements of WAC 296-62. Once this system is installed and abatement commences, it shall be utilized in the specified manner for the ingress and egress of only personnel. All personnel shall sign the Worksite Entry Log Book each time they pass in or out of the modified decontamination enclosure system.

5. Install HEPA air-purifying equipment pressure differential fan system. Discharge from air-purifying equipment shall be ducted outside the building.

6. Cover floors, walls and other objects below work area with plastic sheeting. Seal openings as directed by the Environmental Consultant.

7. Have emergency cleanup equipment and supplies, including HEPA vacuum, amended water, disposal bags, mop, buckets, towels and sponges, on hand prior to start of abatement work.

B. Compliance: No asbestos abatement work shall occur unless the work area has been found acceptable for Specification compliance by the Environmental Consultant. Notifications to perform asbestos abatement and a Good Faith Inspection report shall be posted at the work site. Abatement Subcontractor shall post asbestos warning signs at entrances to asbestos work areas and asbestos warning/danger tape shall be posted on fence barriers at construction boundaries.

C. Isolated work area enclosure system maintenance. The Abatement Subcontractor shall be responsible for daily documentation of the following:

1. Prior to the first use and at the beginning of each shift during abatement work, containments shall be given a complete visual inspection by the Abatement Con-

tractor's CAS. This shall include inspection of the HEPA air-purification system and associated filters. A smoke tube test by the shift foreman shall then be made of the worker decontamination enclosure system and other critical areas to verify that the isolated area is under negative air pressure. Work shall not begin until the inspection is completed and all defects have been repaired.

2. Periodic inspections shall be made before, during and after each shift to ensure the proper functioning of the enclosure and HEPA filtered differential pressure fan system to prevent potential contaminant migration. The Contractor shall make every effort to ensure the integrity of the negative pressure enclosure at all times.

3.2 REMOVAL OF ASBESTOS-CONTAINING MATERIALS

A. Perform all asbestos related work and comply with the general safety and health provisions in conformance with 29 CFR 1910.1001 and 29 CFR 1910.20, respectively. Remove and properly dispose of all asbestos-containing materials indicated to be removed in the Contract Documents in accordance with general work practices, and work practices for removal and encapsulation as specified in 40 CFR Part 61, 29 CFR 1926.1101, and other appropriate work procedures approved by the Environmental Protection Agency (EPA), Washington Department of Labor and Industries, and Olympic Region Clean Air Agency, or as more stringently specified herein.

B. Contractor shall apply spray coat of amended water to asbestos materials to be removed. Keep material damp during entire removal process. A fine mist of water shall be continuously applied to all materials being removed using mechanical methods.

C. Contractor shall maintain a safe and uncluttered work site including staging area, work area, worker decontamination system, and waste load-out area at all times.

3.3 SELECTIVE DEMOLITION TO ACCESS ASBESTOS MATERIALS

A. Abatement Subcontractor shall perform selective demolition to access ACMs in concealed or limited access locations throughout the Highline High School Project Site. Wall, ceiling and flooring assemblies shall be demolished as necessary to investigate for and access concealed material(s). The Abatement Subcontractor shall visit the site to become familiar with construction types that may require demolition. The Abatement Subcontractor is required to investigate all areas where suspect materials potentially occur.

3.4 DISPOSAL

A. Regulations: Determine current waste handling, transportation, and disposal regulations for the work site and for each waste disposal landfill. Comply with these regulations and U.S. Department of Transportation, ORCAA Regulations and EPA requirements. Double-bagged material in containers shall be delivered to the pre-designated disposal site.

B. Transport: Remove decontaminated containers from site within ten calendar days after collection for disposal at a waste disposal site operated in accordance with the provisions

of 40 CFR 61.156. Notify disposal site in advance of delivery to ensure immediate disposal. Maintain chain-of-custody until accepted by the landfill.

C. Submit disposal receipts and chain-of custody for waste as specified. No monthly progress payments will be made without waste manifest documentation identifying the disposition of the waste. All waste manifest documents must be approved by the Environmental Consultant prior to approval of monthly progress payments.

END OF SECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions and Division-01 Specification sections, apply to work of this section.

1.2 SUMMARY OF WORK

A. General work items include, but are not limited to:

1. Compliance: Activities requiring compliance with this Section include but are not limited to, manual demolition, cutting, sawing, sanding, welding, torch burning, and mechanical demolition of building components containing lead as defined in these specifications and drawing sheets HM1- HM6.

2. Based on testing the Owner assumes all painted components to be lead-containing.

3. All masonry and mortar is presumed to contain barium and chromium. See lab results.

4. The Contractor shall perform activities involving lead-containing materials and other metals in compliance with current applicable state and federal regulations including, but not limited to, WAC 296-62-07521: "Lead"; WAC 296-155-176: 40 CFR Part 745.

5. Waste Disposal: Waste characterization performed by the Owner on the anticipated general waste stream indicates that disposal of certain building components may be considered a dangerous waste in accordance with WAC 173-303, if segregated. If the contractor chooses to segregate lead-containing components, the contractor is responsible for all costs associated with characterization, packing, transport and proper disposal of that waste. The

6. Some building components may not be recyclable. Contractor is responsible for determining recycling options, procedures and all associated costs.

7. The Contractor is responsible for performing all final waste stream characterization.

8. Monitoring: Monitoring of airborne concentrations of lead shall be in accordance with WAC 296-155-176. Exposure monitoring of initial work activities on lead materials will provide information for the Environmental Consultant to determine effectiveness of engineering, work practice and administrative controls. This initial assessment will dictate future lead related activities. The intent of this Section is to reduce and maintain employee exposure to lead at or below the permissible exposure limit.

1.3 RELATED SECTIONS

A. Work performed under this specification section shall be governed by all related specification sections, including, but not limited to, the following:

Division 00: Condition of the Contract
Division 01: General Requirements
Division 02: Existing Conditions:
028200, Asbestos Abatement
028400, PCB-Related Activities
028500, Mercury-Related Activities

1.4 SUBMITTALS

A. Submit three (3) copies of the following "Pre-Work Submittals" at least 10 working days prior to start of work. Electronic copies are acceptable. The Work may not proceed until complete Pre-Work Submittal package has been reviewed and approved by the Environmental Consultant.

1. Lead Compliance Program and Work Plans: Submit a site-specific lead compliance program in accordance with WAC Chapter 296-155. The plan shall be developed and implemented to provide engineering, work practice and administrative controls to reduce and maintain employee exposure to lead at or below the permissible exposure limit. The plan will include at a minimum a description of activities; controls; personnel; procedures; equipment, method of compliance; technology used to meet compliance; air monitoring plan; detailed schedule; work practice program; administrative controls and other relevant information.

2. Medical Program: Submit written proof that your medical exam program is in compliance with OSHA Lead Regulations 29 CFR 1910.2 and 1926.62, and WAC Chapter 296-155. Initial medical surveillance consisting of biological monitoring in the form of blood sampling and analysis for lead and zinc protoporphyrin levels shall be submitted for each employee performing lead related work.

3. Worker Training Program: Submit written proof indicating that all employees impacting lead-containing materials have received training per 29 CFR 1926.62 and WAC Chapter 296-155 and 40 CFR Part 745. Proof shall include a signature from the Contractor's Principal indicating that all employees performing lead related activities have completed such a program.

4. Respirator Program: Submit written proof indicating respirator program is in compliance with all parts of OSHA Lead Regulations 29 CFR 1910.134 and 1926.62, and WAC Chapter 296-155.

5. Should the lead waste stream characterization determine that it necessary to dispose as a dangerous waste the Contractor shall provide the method of transport, name and address of the waste transporter and waste acceptance facility 5 days prior to removal from the project site. No waste shall leave the site without this notification. The Contractor is responsible for tracking and

documenting the disposition of this waste at all times and must provide written proof of such activities immediately, when requested. Progress payments can be withheld if this information is not provided as specified.

B. Final Submittals:

1. Post-Job Submittals submittal shall be delivered to the Environmental Consultant within 15-days of completion of work.

2. Project Record Documents: Provide record of lead control activities including disposition of each type of lead-contaminated item removed from the site.

3. Air Monitoring: Submit copies of all air monitoring data collected as part of the initial exposure assessment for workers impacting lead-containing materials. Submit documentation of all employee personal air monitoring results relative to OSHA and WISHA respiratory protection level compliance. Include copies of all air monitoring data and analysis reports conducted at the site.

4. Disposal Manifests: Submit copies of all lead waste transportation and or disposal/recycling manifests including signed receipts from the accepting facility, and chain-of-custody documentation. This documentation shall be delivered to the Owner within 5 days of leaving the project site. Final payments will not be made without this information.

1.5 AIR MONITORING

A. Testing Laboratory: An Independent Testing Laboratory shall be retained by the Contractor for all lead air *analysis*. All exposure monitoring analysis shall be performed in accordance with 29 CFR Part 1926.62 and WAC Chapter 296-155. The laboratory must participate in the ELPAT Program and be a member of AIHA. Air sample collection may be performed by an Industrial Hygienist or the Abatement Subcontractor's trained supervisor at the Abatement Subcontractor's option.

B. Sample Documentation: Documentation shall be kept for each filter sample procured as to worker sampled, social security number, activity, work area location, date and time taken, volume of air drawn through filter, pump identification number and calibration. Documentation shall indicate in what areas tests were taken and shall clearly indicate the specified maximum allowable levels for each area tested. Report and submit all air monitoring data within 48 hours, prepare laboratory chain-of-custody records along with all samples.

C. Analysis Procedures: The samples shall be collected on 37 mm filters and analyzed within 24 hours using NIOSH Analytical Method No. 7105 or 7082. The containers shall be clearly labeled with project name and Sample Number and shall become property of the Owner at work completion at the Owner's request.

D. Submittals: The Abatement Subcontractor's laboratory shall submit sample analysis results, chain-of-custody and equipment calibration records prior to application for payment.

E. Contractor's Sampling During Lead Related Activities:

1. Initial exposure: Exposure monitoring shall be performed during impact of representative lead-painted building components per WAC 296-155.

2. Most Contaminated Worker: The Contractor shall determine which worker(s) in each work area is probably experiencing the most severe exposure. This is the "Most Contaminated Worker(s)". 8-hour time weighted average samples shall be collected on this worker(s). Worker shall wear a personal sampling pump and the sample shall be drawn from this worker's breathing zone.

3. Number of samples: The number of air samples collected shall be as defined in the approved Lead Compliance Program. Historical measurements may be used to satisfy continuing exposure assessment requirements.

F. Work Area Monitoring

1. Monitoring: The Owner reserves the right to monitor Contractor's performance via air, dust wipes and TCLP samples during lead related activities, in addition to the Contractor's exposure monitoring and testing. Sampling performed by the Environmental Consultant will not be available for use for the Contractor's Initial Exposure Assessment.

1.6 SUBCONTRACTORS

A. Subcontractors employed by the Contractor shall be bound to all the work and safety standards specified. Subcontractor's personnel shall meet requirements as specified, and shall be supervised by the Contractor during performance of this work.

1.7 LIABILITY

A. The Contractor is an independent contractor and not an employee of the Owner, Architect or Environmental Consultant. The Owner, Architect and the Environmental Consultant shall have no liability to the Contractor or any third persons for Contractor's failure to faithfully perform and follow the provisions of these Specifications and the requirements of the governing agencies. Notwithstanding the failure of the Owner, Architect or the Environmental Consultant to discover a violation by the Contractor of any of the provisions of these Specifications, or to require the Contractor to fully perform and follow any of them, such failure shall not constitute a waiver of any of the requirements of these Specifications which shall remain fully binding upon the Contractor.

PART 2 - PRODUCTS

2.1 PROTECTIVE CLOTHING AND EQUIPMENT

A. Personnel Protective Equipment for Lead related activities shall be provided per WAC 296-155.

PART 3 - EXECUTION

3.1 REMOVAL AND DISPOSAL PROCEDURES

A. Demolition and Component Removal Procedures:

1. Before beginning any lead related activities the Contractor shall provide the Environmental Consultant with 48 hours prior written notice.

2. Set-up Activities: Prior to removal of lead-containing painted components, the Contractor shall cover the ground below the work area with 6-mil plastic sheeting or equivalent. The drop-sheeting shall extend outward a minimum of 6 feet from the location of item(s) being removed. Any tears that occur in the drop-sheeting shall be immediately repaired with duct tape or other acceptable seal. Debris shall be collected with a wet/dry vacuum to avoid escape from the drop-sheeting. Wash water shall be retained on the drop-sheeting and removed by mops or wet/dry vacuums. The residue/debris and water shall be placed in storage drums for testing prior to disposal.

3. Perform removal of lead-containing painted components in accordance with approved lead work plan. Use procedures and equipment required to limit occupational and environmental exposure to lead when lead-containing paint is impacted. The procedures employed by the Contractor shall not create the potential for contaminating surrounding areas or materials with lead-containing dust. Dust generation shall be minimized at all times.

4. At completion of the above operations, HEPA vacuum drop-sheeting to remove any paint particles or debris. Wet wash plastic sheeting to remove all dust. Request area inspection by the Environmental Consultant.

5. Negative Exposure Assessment: The Contractor may waive the requirement of a negative pressure enclosure when using mechanical methods upon submittal of data to the Environmental Consultant indicating a negative exposure assessment has been completed per WAC 296-155 and paragraph 1.04, Air Monitoring.

B. Housekeeping: Maintain all surfaces as free as practicable of accumulations of lead-containing dust and debris. Perform clean-up of work areas as necessary according to WAC 296-155-17617. No visible lead-containing dust or debris shall remain in non-regulated areas at the end of the work shift. No visible lead-containing debris shall remain in or on the site soils when demolition is completed.

C. Water and Debris Testing

1. It is recommended that the water collected with wet/dry vacuums be HEPA filtered to remove paint and debris chips. The paint and debris chips shall be placed in a separate drum for testing. No rinse water shall be discharged without testing.

2. Debris Testing: A representative sample from debris shall be collected for TCLP testing. The method/location of disposal will be established by test results.

3. Water Testing: Stir the water in the drum and immediately obtain a 12-liter-size

sample from each drum of water to be disposed of. If a laboratory test (EPA Lead 7241) indicates lead levels below 2.0 ppm discharge to the Sanitary Sewer is permitted. When tests show higher levels, dilute the water until tests show levels are acceptable for discharge.

D. Disposal Procedures:

1. Testing performed by the Owner on the anticipated general waste stream indicates that disposal certain building components may be considered a dangerous waste in accordance with WAC 173-303. Components coated with lead-containing paint may be included in the general waste stream.

2. The Contractor shall be responsible for disposal of all lead-containing debris produced by removal and surface preparation of lead-containing painted coatings according to applicable local, state and federal regulations. The Contractor is responsible for all final waste stream characterization and shall provide testing data to Environmental Consultant prior to any offsite transport or disposal.

END OF SECTION

SECTION 028400: PCB RELATED ACTIVITIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions and Division-01 Specification sections, apply to work of this section.

1.2 SCOPE

A. Contractor shall provide all labor, materials, equipment, services, permits, notifications and insurance required to complete the removal, transport and proper disposal of polychlorinated biphenyl (PCB)-containing light fixture ballasts and caulking/sealants

B. The work includes the removal of PCB-containing light fixture ballasts and caulking/sealants. The Abatement Subcontractor shall inspect all light fixtures throughout the project for suspect PCB-containing ballasts. All magnetic ballasts are presumed to contain PCBs regardless of labeling.

C. The Contractor and Abatement Subcontractors shall refer to drawing sheets HM1-HM6 for approximate locations and quantities of PCB-containing materials.

D. See Hazardous Materials Summary Report.

1.3 RELATED WORK

A. The Contractor shall coordinate with the following related sections:

Division 00: Condition of the Contract
Division 01: General Requirements
Division 02: Existing Conditions:
028200, Asbestos Abatement
028300, Lead-Related Activities
028500, Mercury-Related Activities

1.4 DEFINITIONS

A. Authorized Visitor: The Owner or designated representative, or a representative of any regulatory or other agency having jurisdiction over the project, and having required training, medical approval, fit test, etc.

B. Controlled Area: Area which only qualified and properly protected workers or authorized visitors have access.

C. Decontamination Area: Enclosed area adjacent and connected to controlled/ regulated work area, consisting of an equipment room and clean room, which is used to decontaminate workers, materials, and equipment. Where PCB removal is done in

conjunction with asbestos or lead abatement the decontamination area for asbestos or lead may be used for this purpose.

D. Disposal: Procedures necessary to transport and deposit the PCB materials in an approved waste disposal site in compliance with EPA and other applicable regulations. Disposal Site shall be an approved landfill, incinerator or recycling company for PCB-containing waste.

E. Environmental Consultant: Environmental consultant specializing in hazardous materials abatement--PBS Environmental--or any subcontractor designated by PBS.

F. Incineration: The destruction of PCBs by an EPA-approved facility. The facility must be a TSCA-permitted incinerator and a licensed TSDF, Transportation Storage and Disposal Facility. All operating permits must be current and valid.

G. MSDS: Material Safety Data Sheet supplied by manufacturer provides information on a product listed in OSHA 29 CFR 1910.1200(g)(2).

H. Polychlorinated Biphenyls (PCBs): A class of chlorinated hydrocarbon compounds containing a variable number of chlorine atoms. Commercially available products contain mixtures of as many as 40 to 70 PCB compounds (isomers). A compound containing more than 50 ppm of PCBs is considered to be PCB-containing. PCBs range from oily liquids to white, crystalline solids to hard, non-crystalline resins or waxy solids. A material containing 2 ppm or more PCB's requires special handling.

I. Waste Shipment Records: Form similar to *Uniform Hazardous Waste Manifest*, or an EPA approved state form.

1.5 DOCUMENTS INCORPORATED BY REFERENCE

A. The current issue of each document shall govern. Where conflict among requirements or with these Specifications exists, the most stringent requirements shall apply.

1. U.S. Environmental Protection Agency Toxic Substance Control Act, TSCA, (Code of Federal Regulations Title 40, Part 761).

2. U.S. Environmental Protection Agency Office of Toxic Substances Guidance Document, *Summary of PCB Regulations*, EPA Document No. 910-S-94-002.

3. U.S. Department of Labor, Occupational Safety and Health Administration (OSHA), 40 CFR 1910.120.

4. RCRA, Resource Conservation and Recovery Act, 40 CFR Part 761, Subpart D.

5. Washington State Department of Ecology, Dangerous Waste Regulations, Chapter 173-303 WAC.

1.6 SUBMITTALS AND NOTICES

A. Contractor shall submit three (3) copies of the following information 10 days, prior to

beginning work, for review and approval. Electronic copies are acceptable. No PCB handling work shall begin prior to written approval of work plans.

1. WORK PLAN. Submit a written "work plan" satisfactory to the Owner and Environmental Consultant describing the schedule for PCB abatement, specific means, methods and equipment, work practices and worker protection for each material removed/handled. The work plan shall include decontamination procedures and plans for each material to be removed or handled. Emergency control, spill cleanup procedures and emergency phone number(s) shall be provided. The work plan shall include proof of employee training.

2. DISPOSAL PLAN. Submit written proof that all required permits, notifications and arrangements for transport and disposal of PCB-containing or contaminated materials, supplies, and waste at a site approved by EPA have been obtained. Submit specific information relating to storage, transport and disposal. Provide name and address of the designated transporter and proposed disposal site at which any waste material generated during the project will be disposed and furnish evidence of all necessary regulatory approvals of disposal.

B. Prior to requesting payment for completion of PCB abatement, the Contractor shall submit Waste Shipment Records completely filled out and signed by all handlers.

C. Refer to EPA, OSHA, and other standards referenced herein for further information and regulatory requirements not included above.

1.7 PERSONNEL PROTECTION

A. Personnel Protective Equipment for PCB Removal

1. Worker personal protective equipment (PPE) shall consist of PCB-resistant gloves and clothing. Eye, hearing, head and fall protection as necessary.

2. Half-face mask, negative-pressure respirator with disposable chemical vapor cartridge. Protection factor: 10. Additional HEPA filter cartridges for particulates including asbestos and lead shall be available for use in areas where these materials are present.

3. Provide additional personnel and respiratory protection to minimize any possible exposure from inhalation.

B. Worker Decontamination Area

1. Where PCB abatement is performed in conjunction with asbestos, lead abatement or other hazardous materials abatement, a multiple use decontamination area shall be established.

2. The Contractor shall provide a decontamination/emergency clean up area consisting of PCB-resistant sheeting (drop cloth) with absorbent material and other necessary equipment. Washing facilities with hot water and cleanser that is capable of removing oily compounds without injury to human skin.

1.8 SAFETY

A. With regard to the work of this contract, the safety of the Contractor's employees, the Owner's employees, and the public is the sole responsibility of the Contractor

1.9 LIABILITY

A. The Contractor is an independent contractor and not an employee of the Owner, Architect or Environmental Consultant. The Owner, Architect and the Environmental Consultant shall have no liability to the Contractor or any third persons for Contractor's failure to faithfully perform and follow the provisions of these Specifications and the requirements of the governing agencies. Notwithstanding the failure of the Owner, Architect or the Environmental Consultant to discover a violation by the Contractor of any of the provisions of these Specifications, or to require the Contractor to fully perform and follow any of them, such failure shall not constitute a waiver of any of the requirements of these Specifications which shall remain fully binding upon the Contractor.

1.10 QUALITY ASSURANCE

A. Environmental Consultant shall perform periodic inspections to observe work, handling and packaging procedures. Environmental Consultant may perform surface and air testing for PCBs to determine possible contamination and exposure, and verify that PCB levels are not exceeded.

B. Environmental Consultant shall notify the Contractor in writing to stop work if the Environmental Consultant determines that work practices are in violation of the Specifications or work is endangering workers and occupants of the building. The Contractor shall continue work when conditions and actions are corrected and when written authorization is received from the Environmental Consultant.

1.11 LIMITS

A. The Contractor shall limit PCB levels as follows:

1. Airborne concentrations below 1 ug/m^3 (microgram per cubic meter) or pre-abatement background levels, where available.

2. Concentrations below 2 ug/cm^2 (microgram per square centimeter) on building surfaces.

PART 2 - PRODUCTS

2.1 Plastic Sheet: Plastic sheeting shall be flame-retardant polyethylene material. It shall not dissolve on contact with PCB compounds or any chemicals used by the Contractor for abatement/decontamination. The minimum thickness shall be 6-mil.

2.2 Storage Containers: Storage containers shall be suitable to receive and retain any PCB-containing or contaminated materials until disposal or incineration at an approved site. They shall comply with container specifications set forth in 49 CFR 178.80, 178.82, 178.102 or 178.116. Containers

shall be labeled with waterproof print and permanent adhesive in accordance with WAC, OSHA, DOT and EPA regulations.

2.3 Warning labels on all disposal containers/drums shall be according to EPA Region 10 Toxic Substances Section, PCB Regulations.

2.4 Warning Signs: Unless other signs or security access is provided, warning signs shall be provided and displayed at each regulated area to warn of the presence of PCBs.

PART 3 - EXECUTION

3.1 WORK AREA PREPARATION

A. Where the work area containment requirements are determined by abatement of other hazardous materials, the Contractor shall perform PCB abatement within existing containments.

B. Where no other hazardous materials abatement is performed in conjunction with the PCB abatement prepare the work area as follows:

1. Contractor shall isolate the work area from unauthorized, unqualified and unprotected persons. At a minimum, warning signs indicating the presence of PCBs and danger tape shall be used. Whenever possible doors should be closed to further reduce unauthorized access.

2. An approved disposable floor covering (i.e. plastic sheeting) shall be kept beneath the work and in areas of dismantling, consolidation or packaging.

3. An approved worker decontamination area.

3.2 REMOVAL OF PCB-CONTAINING LIGHT BALLASTS AND CAULKING/SEALANTS

A. Contractor shall isolate work area and perform work at times and in a manner that will not result in the release or discharge of PCBs or the exposure to employees or other building occupants.

B. Contractor shall carefully handle light ballasts and shall not break, drop, throw or otherwise damage the ballasts.

C. Where leaking light ballasts are observed, the Contractor shall dispose of the light fixture and clean/dispose of other building components where PCB-laden oils spill.

D. Contractor shall carefully remove and handle PCB caulk so as not to cause removed materials to migrate beyond work areas.

E. All tools that have come into contact with PCB contaminated materials shall be properly cleaned prior to removal from the regulated work area.

F. If demolition of the PCB caulk and its substrates create dust and debris, these areas shall be thoroughly cleaned by wet wiping and HEPA vacuuming or other method to

completely remove all PCB contamination. No visible airborne dust or debris is allowed outside of the regulated work area.

3.3 DISPOSAL

A. The Contractor shall determine current waste handling, transportation, and disposal regulations for the work site and for each waste disposal facility. The Contractor must comply with these regulations and U.S. Department of Transportation and EPA requirements.

B. The Contractor shall supervise the storage, movement around the site and loading of all PCB wastes.

C. Unless permitted by the Owner, Contractor shall remove containers from site within ten calendar days after collection for disposal or incineration at a site operated in accordance with the provisions of 40 CFR 761, no exceptions. Notify disposal site in advance of delivery to ensure immediate disposal.

D. The Contractor must notify the Owners Representative 24 hours prior to removal of the PCB-containing waste from the project site. No waste shall leave the site without the Owners Authorization. No exceptions.

E. The Contractor is responsible for ensuring that appropriate documentation completed and returned to the Owners Representative on a timely basis in accordance with the following; the owner must be notified prior to any waste leaving the site; the signed transportation manifest from the hauler must be provided to the Owners Representative/Environmental Consultant within 24 hours of the PCB waste leaving the site; waste manifest signed by the waste acceptance facility must be provided to the Owners Representative/Environmental Consultant within 5 days of delivery to the waste facility.

F. Progress and or final payments will NOT be approved without the above disposal documentation properly signed and filled out. The intent of this requirement is to track the disposition of the “PCB waste” at all times.

END OF SECTION

PART 1 - GENERAL

1.1 RELATED WORK DESCRIBED ELSEWHERE:

A. The provisions and intent of the contract, including the General Conditions and General Requirements apply to this work as if specified herein. Related work is described in:

Division 00: Condition of the Contract
Division 01: General Requirements
Division 02: Existing Conditions:
028200, Asbestos Abatement
028300, Lead-Related Activities
028400, PCB-Related Activities

1.2 DESCRIPTION OF WORK:

A. The work includes the handling, removal and disposal of lamps, tubes, HID bulbs, and mercury thermostat switches.

B. The Contractor's employees involved with the removal, handling, transportation, or recycling of fluorescent light tubes shall receive hazard communication training for mercury and other identified metals in accordance with WAC 296-62, Part C.

C. The Contractor shall supply all labor, materials, vehicles, services, insurance, special permits and equipment necessary to remove and recycle fluorescent light tubes, lamps, HID bulbs, and thermostat switches. The fluorescent tubes, lamps HID bulbs, and mercury switches be packaged intact and transported to an off-site licensed and permitted recycling facility.

D. The Contractor shall perform all mercury related activities in accordance with all applicable federal, state and local regulations and these specifications. All required permits, certificates, registrations or licenses shall be kept valid for the duration of the work addressed by the permit. All shipping/receiving logs shall be legibly filled out in ink. Forms shall include all information requested.

1.3 REFERENCE STANDARDS:

A. General Requirements:

1. All work under this contract shall be done in strict accordance with all applicable regulations, standards and codes governing mercury and in accordance with best available technology and practice. This includes any other work, including trade work conducted in conjunction with the project.

B. Specific Standards:

The most recent edition of any relevant regulation, standard, document or code shall be in effect during the work, regardless of the effective date of this specification's governing contract. Where conflict among the requirements or with these specifications exists, the

most stringent requirements shall be utilized. All regulatory revisions and requirements relating to this project after the contract is signed shall, nonetheless, be incorporated at no additional cost to the Owner.

1. State of Washington Department of Labor & Industries (L&I) –

   a. Chapter 296-24 WAC - Safety Standards,

   b. Chapter 296-62 WAC - Occupational Health and Safety Regulations, including:

   c. Chapter 296-62-054 WAC - Hazard Communication Standard

   d. Chapter 296-62-071 WAC - Respiratory Protection.

   e. Chapter 296-155 WAC Construction Standards.

   f. Washington State Department of Ecology

   g. WAC 173-303, Dangerous Waste Regulations

2. Olympic Regional Clean Air Agency (ORCAA)

C. Other guidelines, codes or documents:

1. United States Department of Transportation (DOT) Hazardous Materials Regulations, Code of Federal Regulations Title 49.

1.4 DEFINITIONS:

A. AIHA - American Industrial Hygiene Association

B. ASTM - American Society for Testing and Materials

C. Authorized Visitor - Designated representatives of the Contractor, tenant or the Owner, and representatives of a regulatory or other agency having jurisdiction over the project.

D. Certified Industrial Hygienist (CIH) - An industrial hygienist certified in the Comprehensive Practice of Industrial Hygiene by the American Board of Industrial Hygiene.

E. Contractor - The individual or business with which the Owner arranges to perform the Work of the Contract.

F. Abatement Subcontractor - The individual or business with which the Contractor arranges to perform the hazardous materials abatement.

G. Ecology - Washington State Department of Ecology

H. EPA - United States Environmental Protection Agency

I. HEPA Filter - A high efficiency particulate air filter capable of removing particles greater than 0.3 microns in diameter with 99.97% efficiency.

J. L & I - Washington State Department of Labor & Industries

K. NESHAP - National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61)

L. Negative Pressure Enclosure. The NPE shall generate airflow patterns throughout that will produce sufficient velocities to overcome the contaminant laden air plus extraneous air currents. The NPE fan system shall exchange a minimum of 4 completed air changes per hour of the total air volume of the contained area. The air velocities through any and all openings in the containment must be great enough to prevent the escape of any contaminants and the air exhaust volumes must be sufficient enough to carry away all air or gas introduced into or created within the enclosure.

M. NIOSH - The National Institute for Occupational Safety and Health

N. OSHA - The Occupational Safety and Health Administration

O. WAC – Washington Administrative Code as enforced by the Washington State Department of Labor and Industries

P. WISHA – Washington Industrial Safety and Health and Health Act as enforced by the Washington State Department of Labor and Industries

1.5 SUBMITTALS AND NOTICES:

A. Contractor shall submit three (3) bound, indexed copies of each submittal package as indicated below for review. In addition, submit three separate sets of the Work Plan for review by other parties. Following receipt of review comments from the Architect and Environmental Consultant, submit three complete sets of the revised submittals to the Architect.

B. Additional requirements for submittals are described in the contract documents. The requirements in this section pertain to mercury-containing materials removal.

C. Initial Submittal: Contractor shall submit the following information 10 days prior to beginning work on the project. No hazardous materials handling or abatement shall begin prior to written approval of submittals:

1. Work Plan: Include a detailed plan of the procedures proposed for use in complying with the requirements, including the following:

a. A description of all equipment, techniques, and methods to be used to remove and dispose of each mercury-containing materials identified in the Project, including schematic drawings of work area layout(s) showing entries/exits, HEPA exhausts, decon units, waste load-outs, any scaffolding and access plan for over height asbestos-containing materials, etc.

b. A schedule indicating proposed start dates/times and completion dates/times for individual regulated areas as configured in the proposed Work Plan.

c. Specific information relating to storage, handling, transport and disposal of mercury-containing waste. Provide name and address of the designated transporter and proposed disposal site at which any waste material generated during the project will be disposed and furnish evidence of all necessary regulatory approvals of disposal. A description of the transportation and recycling/disposal methods and procedures. Name and location of the pre-determined recycling and EPA approved disposal sites. Record keeping procedures for packaging, transportation and recycling. Labeling procedures for packaging of waste and recycled materials.

d. Submit MSDS for all materials to be used in removal, packaging, and cleaning up of broken tubes, bulbs, or switches to be used on site. A description of employee work practices, personal hygiene procedures such as decontamination and general health and safety procedures.

2. Worker Training: Submit written proof that all employees performing mercury-related work will have completed all necessary training in compliance with WAC. Written proof may be in the form of a notarized letter stating such intent and signed by an owner or principal of the appropriate firm(s). The Owner and/or the Environmental Consultant reserve the right to remove a worker from the work at any time during the project for any reason at no additional costs or schedule delays to the owner.

3. Written Respirator Program and Fit Testing: Submit written proof that all employees requiring respiratory protection participate in a written respiratory protection program established and maintained in accordance with WAC. The Contractor shall provide written proof of the existence of a respiratory protection program.

4. Notifications and Policies: Submit copy of all required notifications and permits obtained by the Contractor and copies of all types of specified bonds and insurance.

5. Mercury Abatement Supervisor: Submit the name and resume of experience of the assigned on-site Supervisor. At a minimum, the Abatement Supervisor shall have successfully completed the 40 hour Hazwoper training and associated Hazwoper Supervisor Training, mercury related hazardous communications training, experience with controlling vapors and have 5 years experience removing similar materials. References and work on similar projects must be provided and will be reviewed. The Owner and Environmental Consultant reserve the right to remove a Supervisor from the work at any time during the project for any reason. The Abatement Contractor shall then submit another on-site Supervisor for approval as described above at no additional costs or schedule delays to the owner.

D. Daily Job Submittals

1. Personal Air Monitoring: Submit copies of all personal air monitoring data sheets, chain-of-custody and analytical results to the Contractor and Environmental Consultant on a daily basis within 24 hours following collection.

2. Daily Field Logs: Submit copies of all field logs (including those from subcontractors) to the Contractor and Environmental Consultant daily, prior to the end of the next work shift. Daily logs shall indicate the date, time, identity, company or agency represented, and reason for entry of all persons entering the work area, and the type, amount and location(s) of all mercury-containing materials removed, and work stoppages/delays.

3. Periodic Submittals

   a. Training: Upon verbal request, immediately make available to the Environmental Consultant proof of worker training. Provide copies of worker training certification to the Environmental Consultant upon request.

   b. Work Plan modification/clarification: In the event that on-site activities will require departure from any and all aspects of the information outlined in the pre-approved Work Plan, submit written clarification/modification of proposed changes to the Environmental Consultant for review and approval prior to performing that work. The Contractor shall allow 72 hours for work plan modification reviews and approvals.

   c. Disposal Manifests: Submit copies of all waste transportation and disposal manifests including signed receipts from the landfill and or chain-of-custody/manifest. A copy of the disposal information for waste shall be submitted within 5 days of leaving the project site. The intent of this requirement is to track the disposition of the mercury waste at all times. No progress payments will be made without receipt of this information.

5. Post-Job Submittals shall be delivered to the Contractor within 15-days of completion of mercury-related work as specified by these Contract Documents and shall include the following:

   a. Certification: Provide written certification from the Abatement Subcontractor's Supervisor that Abatement Subcontractor has fully inspected the work area and completed work in strict accordance with the Specifications.

   b. Project Record Documents: Provide project records including documentation of all contract changes, and copies of worksite entry logs, work area entry/exit logs, safety logs, safety meeting sign-in sheets, and supervisor's daily field reports.

c. Disposal Manifests: Submit copies of all asbestos waste transportation and disposal manifests including signed receipts from the landfill, and or chain-of-custody. A copy of the disposal information for waste shall be submitted within 5 days of leaving the project site. The intent of this requirement is to track the disposition of the waste at all times. No progress payments will be approved without proper documentation of transportation and disposal.

d. Final payment will be issued by the Architect only with written approval, by the Environmental Consultant, of post-job submittals. Additionally, progress payments may be withheld without the receipt of proper documentation of mercury disposal.

1.6 RESPONSIBILITIES:

A. TRAINING:

The Contractor shall be responsible for assuring the following training has been completed prior to the Commencement of work:

1. Hazard communication training related to the handling, transport and disposal of mercury-containing light tubes and switches.

2. 40 Hour Hazardous Waste Worker and Supervisor in accordance with WAC.

3. Special on-site training on equipment and procedures unique to this job site shall be performed as required.

4. Training in emergency response and evacuation procedures shall be performed.

B. LIABILITY

The Contractor is an independent contractor and not an employee of the Owner, Architect or Environmental Consultant. The Owner, Architect and the Environmental Consultant shall have no liability to the Contractor or any third persons for Contractor's failure to faithfully perform and follow the provisions of these Specifications and the requirements of the governing agencies. Notwithstanding the failure of the Owner, Architect or the Environmental Consultant to discover a violation by the Contractor of any of the provisions of these Specifications, or to require the Contractor to fully perform and follow any of them, such failure shall not constitute a waiver of any of the requirements of these Specifications which shall remain fully binding upon the Contractor.

C. SUBCONTRACTORS

Subcontractors employed by the Contractor (Prime Contractor) shall be bound to all the work and safety standards specified. Subcontractor's personnel shall meet requirements as specified, and shall be supervised by the Contractor during performance of this work. The Contractor has supervisory authority over all Subcontractors. The Contractor is responsible for specification/regulatory compliance even though the Contractor may not

be qualified to perform the work described in this specification section. The Contractor shall ascertain whether the Subcontractor is in compliance and shall require the subcontractor to come into compliance when necessary.

D. QUALITY ASSURANCE

1. Qualifications for Performance of Work

a. Abatement Subcontractor shall have a record of successful experience in related Work similar in scope and magnitude to this Project. Abatement Subcontractor shall have valid licenses and certifications as a Contractor and an Abatement Contractor in the State of Washington.

b. Maintain on site a full-time Hazardous Materials Supervisor approved by the Owner per pre-job submittals.

c. Provide one experienced Abatement Foreman for every 10 abatement workers, or portion thereof, utilized on the Project.

PART 2 - PRODUCTS

2.1 EQUIPMENT AND SUPPLIES

A. Personal Protective Equipment:

1. Respiratory Protection: All employees cleaning up broken fluorescent light tubes and mercury switches shall be provided with and required to use adequate and appropriate respiratory protection in accordance with WAC 296-62, Part E.

2. For workers cleaning up broken fluorescent light tubes or mercury switches, full body disposable protective clothing incorporating head, body and feet covering constructed of material such as Tyvek (or equivalent) shall be provided in sufficient quantities and adequate sizes to accommodate movement without tearing, to all workers and authorized visitors.

3. Additional safety equipment (e.g., hard hats meeting the requirements of ANSI Standard Z89.1-1981, eye protection meeting the requirements of ANSI Standard Z87.1-1979, safety shoes meeting the requirements of ANSI Standard Z41.1-1967, disposable gloves) shall be provided as necessary to all workers and authorized visitors and shall be sized to fit the wearer.

B. Removal Equipment:

1. A sufficient supply of scaffolds, ladders, lifts and hand tools (e.g., screwdrivers) shall be provided as needed.

2. Additional support equipment as needed.

C. Packaging Equipment and Material:

1. Fiberglass drums

2. Fluorescent light tube shipping boxes

3. Leak-tight containers for mercury-containing materials

PART 3 - EXECUTION

NOTE: Alternate Procedures:

Procedures described in this specification are to be utilized at all times unless exempted in writing by the Environmental Consultant. Alternate procedures or equipment shall provide equivalent or greater protection than the procedures or equipment they replace. If Alternate procedures are to be used the Contractor shall submit a work plan to the Environmental Consultant for prior approval. The Contractor shall allow 72 hour review time for approval of work plan modifications.

3.1 INSPECTIONS:

A. Prior to Commencement of Work:

1. The Contractor and the Environmental Consultant have inspected the site to make sure that work can begin.

2. The Contractor shall notify the Environmental Consultant a minimum of 72 hours prior to the start of any mercury-related activities.

B. Throughout the Project: Consultants will perform routine inspections of the site to document compliance with applicable regulations and this specification. The Owner may also conduct spot checks throughout the project.

C. On-Site Observation

1. Pre-Removal: Environmental Consultant shall perform observations regarding: demarcation of regulated area and installation of critical barriers. Contractor shall request pre-removal observations a minimum of twenty four hours prior to desired removal commencing. No abatement work shall be performed prior to pre-removal inspections by the Environmental Consultant.

2. Observation: Environmental Consultant shall perform observations regarding: integrity of isolation barriers, decontamination facilities, worker protection, Contractor's air monitoring program, performance of abatement operations, and conformance to the Specification, EPA, OSHA, WISHA and PSCAA regulations.

3. Post Removal: Environmental Consultant shall perform visual inspections after the removal of mercury-containing materials and cleaning of work area(s) is complete.

4. Following abatement and cleaning of work area(s), the Abatement Subcontractors supervisor shall inspect the work area(s), and notify the Environmental Consultant that the scheduled post-abatement inspection may commence.

5. Upon completion of the post-abatement inspection, the Environmental Consultant shall indicate acceptance of the work area for compliance. Should additional cleaning of the work area be required the Environmental Consultant shall indicate deficiencies and notify the Abatement Subcontractor of such deficiencies. The Contractor shall not proceed until post-removal visual inspection by the Environmental Consultant has determined work area(s) acceptable.

7. Stop Work: Environmental Consultant shall notify the Abatement Subcontractor in writing to stop abatement work if the Environmental Consultant determines that work practices are in violation of regulations, these Specifications or that work is endangering workers or occupants of the building. The Abatement Subcontractor shall continue work when conditions and actions are corrected and when written authorization is received from the Environmental Consultant.

8. Schedule of Inspections: The Abatement Subcontractor shall schedule pre-removal and post-removal visual inspections with the Environmental Consultant a minimum of forty-eight (48) hours in advance of the desired inspection occurring.

9. Any delay in the completion of the Work caused by a lack of proper scheduling of inspections shall not be sufficient cause for any extension of time or extension of the project completion date or additional costs to the Owner.

10. Compensation for time spent by the Environmental Consultant on the Project resulting from pre-arranged meetings at which the Work has not progressed to the designated level of completion shall be the responsibility of the Abatement Subcontractor and will be deducted from future payments due the Abatement Sub Contractor, by the Owner.

11. Performance: Work shall be performed in a skillful manner representing industry standards. Environmental Consultant shall require Contractor to remove from the work site employees and Subcontractors the Environmental Consultant deems incompetent, careless or objectionable.

12. Additional Costs: The Abatement Subcontractor shall be responsible for costs of any testing, cleanup, repair, down-time loss, etc. that is a result of the Abatement Contractor's negligence, poor maintenance of isolated areas, improper procedures or airborne mercury vapor concentrations. The Abatement Subcontractor shall be responsible for all additional costs incurred by the Owner associated with additional visual inspections and testing by the Environmental Consultant.

3.2 SITE SECURITY:

A. The work area is to be restricted only to authorized, trained and protected personnel.

B. Entry into the work area by unauthorized individuals shall be reported immediately by the Abatement Subcontractor to the Environmental Consultant.

3.3 EMERGENCY PLANNING:

A. Emergency contingency plans shall be developed by the Contractor for approval by the Environmental Consultant prior to initiation of any work.

3.4 PREPARATION OF THE WORK AREA:

A. Contractor shall coordinate with the Owner to ensure that any required shut down and lock out of utilities such as electric power, water or HVAC lines to the project area is performed. The Contractor shall provide temporary power and lighting as appropriate. Ensure safe installation (including ground faulting) of temporary power sources and equipment by compliance with all applicable electrical codes and WISHA requirements for temporary electrical systems.

B. The Abatement Subcontractor shall use appropriate engineering controls to control the migration of mercury vapors and airborne particulate outside of the work area.

3.5 REMOVAL PROCEDURES

A. Removal and Packaging of Fluorescent Light Tubes, HID Bulbs, and Mercury Thermostat Switches:

1. Tubes, Bulbs, and Switches shall be removed in a manner to prevent breakage. If a tube, bulb, or switch breaks immediately clean-up debris and place in a box specified for broken tubes, bulbs, or switches. Broken tubes, bulbs, switches shall also be recycled but must be separated from unbroken components.

2. Tubes, Bulbs, and Switches shall be placed in boxes or fiberglass drums in a manner to prevent breakage. These boxes shall be shipped to a licensed and permitted recycling facility. The Abatement Subcontractor shall complete all shipping/manifest papers.

3. Tubes shall not be taped together.

B. Clean-up Procedures for Broken Fluorescent Light Tubes, HID Bulbs, and Mercury Thermostat Switches:

1. The Abatement Subcontractor shall have cleanup kit on site prior to removing/dismantling fluorescent light fixtures HID fixtures, or mercury thermostat switches.

2. Broken tubes, bulbs, or switches shall be cleaned-up immediately.

3. Use calcium polysulfide wetting solution on spilled material to inhibit vaporization

4. Following removal of broken glass, clean the floor with diluted trisodium phosphate solution according to manufacturer's recommendations.

5. Identify, seal, and mark all containers with broken bulbs or thermostat switches for special handling.

6. Mark and seal all drums of collected phosphate powder.

3.6 HANDLING AND TRANSPORTATION TO OFF-SITE FACILITIES:

A. The mercury-containing equipment and materials shall be packaged and transported to a licensed and permitted recycling and or disposal facility. The Abatement Subcontractor shall provide a shipping record to the Environmental Consultant at the time of shipment. Following completion of processing, Abatement Subcontractor shall provide the Environmental Consultant and the Contractor with a certificate of recycling or disposal from the recycling/disposal facility indicating exact number of tubes, bulbs, and switches recycled and date of processing and the quantity of materials received. The recycling and disposal documentation shall be provided to the Environmental Consultant within 5 days of materials leaving the project site for review and approval. No progress or final payments will be made without receipt of approved waste transportation and disposal information.

END OF SECTION

integrus
ARCHITECTURE

117 S Main St, Suite 100
Seattle, WA 98104
206.628.3137 | Phone
206.628.3138 | Fax
www.integrusarch.com

Appendix M.

Greenhouse Gas Emissions Policy

The College recognizes its responsibility to meet or beat the greenhouse gas (GHG) reduction goals established for state agencies in RCW 70A.45.050, which directs all agencies to:

Reduce Scope 1 (on-site combustion fuels and refrigerants) and Scope 2 (purchased electrical and thermal energies) related greenhouse gas emissions below the College's 2005 baseline as scheduled to:

- 15% below 2005 level by 2020
- 45% below 2005 by 2030
- 75% below 2005 by 2040
- 95% below 2005 by 2050 and achieve net zero using offset and/or carbon capture mechanisms approved by the WA Dept of Ecology.

The College will include these goals as minimum criteria in all of its planning and investment decisions and operational practices for college-owned infrastructure and vehicles, to include:

- On-site electrical and thermal energy generation and fuel(s) combustion
- Electrical, thermal, and motive energy systems in buildings and vehicles
- Electrical and thermal energy and motive fuel purchase agreements
- Refrigerant selection and management
- All other Scope 1 and 2 related GHG emissions {Scopes 1 & 2 as defined by the GHG Protocol}