

2020 PROJECT PROPOSAL CHECKLIST
2021-23 Biennium Four-year Higher Education Scoring Process

INSTITUTION	CAMPUS LOCATION
380 - Western Washington University	Bellingham
PROJECT TITLE	FPMT UNIQUE FACILITY ID # (OR NA)
Elevator Preservation Safety and ADA Upgrades	Click or tap here to enter text.
PROJECT CATEGORY	PROJECT SUBCATEGORY
Infrastructure	Standalone
PROPOSAL IS	
New or Updated Proposal (for scoring)	Resubmitted Proposal (retain prior score)
<input type="checkbox"/> New proposal <input checked="" type="checkbox"/> Resubmittal to be scored (more than 2 biennia old or significantly changed)	<input type="checkbox"/> Resubmittal from 2017-19 biennium <input type="checkbox"/> Resubmittal from 2019-21 biennium
CONTACT	PHONE NUMBER
Brian A. Ross	W: 360-650-6539; C: 559-270-4928

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) to: [Darrell Jennings](#).

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 70.235.070 and vehicle emissions reduction policy in place per RCW 47.01.440 or RCW 43.160.020 as applicable.
- Design proposals: A complete predesign study was submitted to OFM by July 1, 2020.
- 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.

2020 PROJECT PROPOSAL CHECKLIST
2021-23 Biennium Four-year Higher Education Scoring Process

REQUIRED APPENDICES

- Capital Project Report CBS 002
- Project cost estimate:
 - CBS 003 for projects between \$2 million and \$5 million
 - Excel C-100 for projects greater than \$5 million
- Degree Totals and Targets template to indicate the number of Bachelors, High Demand and Advanced degrees expected to be awarded in 2021. (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: [Click or tap here to enter text.](#)

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: Brian A. Ross Title: Assistant Director, Capital Budget

Signature: Brian A. Ross Date: 8.5.2020

INSTITUTION	CAMPUS
Western Washington University	Bellingham
PROJECT TITLE	
Elevator Preservation Safety and ADA Upgrades	

SUMMARY NARRATIVE

- **Problem statement**

Western Washington University (Western) currently has 13 elevators in academic facilities that do not conform to current codes and are need of modernization and repair. These elevators are at risk of unplanned service interruptions, cutting off ADA access to educational resources for unpredictable periods of time and causing difficulties for all building users. The 13 elevators have an average age of 24 years, which exceeds the expected 15-year useful life of the operating equipment.

- **Project description**

This project is proposing to modernize 13 elevators and their associated operating equipment in several academic buildings throughout campus. This project includes upgrading the elevators to ensure compliance with code and ADA requirements and to provide safe, smooth, and reliable operating performance.

This project is part of a multiphase, multi-biennia program to repair and modernize existing elevators in academic facilities. Phase 1 was funded in the 17-19 biennium, and included repairs to elevators in Parks Hall, Environmental Studies, Wilson Library - West, Biology Building, Morse Hall, Bond Hall, and Arntzen Hall. Phase 2 (this request), includes repairs to elevators in Wilson Library – South and East, Fine Arts Building, Engineering Technology, Archives Building, Humanities, SMATE, Haggard Hall, and the Performing Arts Center.

- **History of project or facility**

In 2015, with an increasing incidence of elevator breakdowns, Western commissioned a campus wide condition survey, conducted by Elevator Consulting Services (ECS), to inspect and analyze elevators across campus, determine current condition, compliance with code, and recommend options for elevator modernization. Overall, 29 elevators with original equipment 15 years and older were evaluated and identified as needing some level of modernization, repairs, or renewal. The survey found a range of need, from complete replacement of critical operating components and electronic controls to minor renovations. The following quote is from the report's executive summary:

"It was apparent that over the last 10 to 15 years there has been some elevator upgrade activity in some of the buildings.....some upgrades were code upgrades but not complete elevator modernizations on major components. ECS typically recommends performing complete modernizations of elevators and not a piecemeal approach. Eventually the piecemeal approach will catch up to you in the form of obsolescence of equipment."

The report recommended that identified elevators be modernized by replacing existing equipment with more reliable control equipment, energy reducing hoist equipment, upgraded safety enhancements and improved quality of life enhancements, offering the following benefits:

- Building, personal safety, and code requirements
 - Fire safety
 - Seismic safety
 - Passenger protection
 - ADA Upgrades
- Operation and performance
 - More efficient handling of traffic
 - Reduced maintenance costs
 - Energy savings
 - Longer life of retained equipment
- Appearance and quality of life
 - New cab interior and fixtures
 - New elevator lobby fixtures
- Increased value of buildings
- Reduced owner liability
- Reduced environmental risks

For the executive summary of the ECS study, please see Appendix B.

• **University programs addressed or encompassed by the project**

Programs detailed in the table below would benefit from this project, as elevators in these academic buildings are modernized and upgraded. Ensuring safe, reliable access for all students, faculty and staff to the resources housed in these buildings directly supports a key goal in Western’s strategic plan—advancing inclusive success.

Building	Programs Housed
Engineering Technology	Engineering & Design
Fine Arts Building	Art Design and the Western Gallery
Haggard Hall	Academic Technology and Western Libraries
Humanities	English and Human Resources
Performing Arts	College of Fine & Performing Arts
Science, Math & Technology Education	All College of Science & Engineering academic departments
Wilson Library	Western Libraries and Rare Books Collection
Archives Building	Heritage Resources

GENERAL CATEGORY SCORING CRITERIA

1. Significant health, safety, and code issues

A. **This project is needed to bring the selected elevators into compliance with current life safety code and ADA requirements.** This project is a comprehensive effort to eliminate inconsistencies created by the wide range of original installation dates and modernization efforts and to ensure safe, reliable access to all parts of the buildings.

B. **While the elevators on campus do comply with the code in effect at the time of installation, they are not in full compliance with the 2016 ASME A17.1 Safety Code for Elevator and Escalators currently in effect in the State of Washington.** Upgrading the elevators identified in this project will address the following life safety and other code-related issues:

- Modernization would include the latest firefighter's service features. Dedicated firefighter's lockable panels would be added to car operating panels as needed. Several lobby call fixtures do not have the current communications failure indicator or the current fire fighters Phase 1 key switch per code.
- Elevators lack seismic over-speed valves in pits that will activate and stop the elevator if there is an oil line break between the jack and the pump unit, which are required by current code.
- The project would add restraints on roller guide assemblies, detection devices on counterweights, and seismic detection device located in elevator machine room, all required by current code.
- Hall and car operating panels do not comply with latest codes.
- Most of the elevators need upgrades to meet current ADA standards for elevators. Needed items include:
 - Braille on buttons and jambs and car direction lanterns located in plain view of hall stations.
 - Hall stations placed at code height for wheelchair access.
 - Hands free phone inside cab at bottom of car operating panel.

2. Evidence of increased repairs and/or service interruption

This project plans to modernize elevators which have become less reliable due to obsolete equipment and elevators which provide the only accessible route within a building, where a service interruption would preclude ADA access. At the inception of this modernization program, Western averaged more than 200 elevator breakdown callouts per year. Some of breakdown calls included metal on metal noise, controls not working, and people being stuck between floors. With completion of the first phase of this program, when

the worst elevators were modernized, the reactive call outs in the past few years have been reduced to an average of 34 per year. While this shows success of the program, the only way to improve on these gains is to complete the modernization of the remaining elevators needing to be serviced. See Appendix C (Elevator Call-Out Log) for a breakdown per elevator, per fiscal year.

With proper preventative maintenance, elevator mechanical equipment can be expected to last 15-20 years. The elevators targeted in this project have an average age of 24 years and were designed to meet codes that are more than 24 years old.

3. Impact on institutional operations without the infrastructure project

Elevators are a critical building system, allowing safe and reliable access to all floors of buildings by disabled students, faculty, and staff, as well as access for deliveries and service. Apart from the clear liability exposure for the University, continued functional inadequacy and deteriorating reliability will cause disruptions to all members of campus.

In addition, renovating and modernizing these elevators should substantially improve facilities management operations by decreasing the frequency and severity of repair calls to the elevator service contractor. The savings can then be redirected to more productive and useful maintenance activities.

4. Reasonable estimate

The estimates in the C100 are based on the costs identified in the 2015 condition study, conducted by ECS. The 2015 elevator survey included cost estimates for each elevator based on recommended upgrades, number of stops, proposed improvements, and other elevator projects of similar scope. The original consultant’s estimates have been adjusted to account for inflation and lessons learned from the recently completed projects. The following tables compares the MACC identified in the Engineering Study with the C100:

MACC/ELEVATOR IN THE 2015 ENGINEERING STUDY (ECS)

Elevator	2015 ECS Study Estimate	MACC Escalated/ Adjusted to July 2020
Wilson Library South	\$294,000	\$376,684
Wilson Library East	\$245,000	\$313,903
Fine Arts	\$98,000	\$125,561
Engineering Tech North	\$147,000	\$188,341
Engineering Tech East	\$98,000	\$125,561
Archives Building	\$98,000	\$125,561
Humanities	\$147,000	\$188,341
Science, Math & Technology Education	\$98,000	\$125,561
Haggard Hall #1	\$196,000	\$251,122
Haggard Hall #2	\$98,000	\$125,561
Haggard Hall #3	\$147,000	\$188,341
Performing Arts - North	\$196,000	\$251,122
Performing Arts - South	\$147,000	\$188,341
MACC		\$2,574,000
MACC Escalated to Dec 2022 (Mid-point Construction)		\$2,724,579

MACC PER C100

	C100 MACC
MACC	\$2,574,000
Escalated MACC	\$2,724,579
Over/(Under) – compared to Engineering Study	\$0

5. Engineering study

In 2015, Western contracted with ECS to complete a condition assessment of selected elevators across campus. This capital request reflects the recommendations of that study. ECS surveyed 29 aging elevators, originally installed in or before 2000, in state funded academic buildings. All elevators went through rigorous on-site inspection and operational testing. ECS scored the condition of each elevator in several categories and totaled the results into a single overall profile score, with higher numbers indicating poorer condition.

Scores over 30 in 2015 warranted immediate modernization; 25-30 were recommended within 2-5 years and are now past due; 17-24 had a 6-9-year horizon which matches this proposed project cycle. Because of the highly disruptive and possibly unsafe nature of unreliable elevators, this project proposes modernizing the elevators before severe problems begin.

The graphic below provides an example profile of the worst condition elevators in the system at the Wilson Library (the West elevator was included in phase 1, the East and South are included in this proposal):

Elevator Modernization Report
Western Washington University
November 17, 2015
Wilson Library East, West and South



Elevator Equipment Profile									
Customer / Job Site: Wilson Library East, West & South									
Equipment: In-Ground Hydraulic Elevator									
	Age	Code Compliance	Preventive Maintenance	Performance & Operation	Frequency Of Use	Environmental Conditions	Energy Efficiency	Design & Installation	TOTAL
5 Extreme	5	5	5	5			5	5	30
4 High					4	4			8
3 Moderate									0
2 Low									0
1 Minimal									0
TOTAL	5	5	5	5	4	4	5	5	38

= Critical conditions.
 = Moderate conditions.
 = Acceptable conditions.

Profile Score = 38

Profile Factor	Description	Time Frame to Replace
Greater than 30	Equipment condition is extreme. Major components expected to fail. Proper maintenance is difficult and parts are, or will become, obsolete. Multiple safety and code concerns. Modernize immediately	Immediate
25 – 30	Equipment is nearing end of expected life. Potential failure of major components. Proper maintenance is becoming difficult and parts are becoming obsolete. Potential safety and code issues. Begin planning for modernization	2 to 5 years
17 – 24	Equipment shows normal wear based on current age. Update and improve maintenance program. Include modernization in long term planning	6 to 9 years
Less than 16	Equipment shows normal wear based on current age. Maintain existing maintenance program. Modernization should not be needed for 10+ years	10 + years

6. Support by planning

A. This elevator modernization project supports the Campus/Facilities master plan by ensuring the entire campus is accessible to all who study, work, and visit at Western.

Western's Comprehensive Campus Master Plan contains six guiding principles for future campus development. This project is fully aligned with Principle #3: "Provide convenient and safe access to and through the campus for the University's guests, faculty, staff and students."

In addition, in Western's hilly topography, building elevators are crucial for providing an ADA accessible route across campus, ensuring that all members of the community have equal access to educational and social opportunities.

B. Elevators are a critical component for circulation between floors for people, sensitive equipment and supplies for research, and support services.

As stewards of state resources, Western is expected and required to provide a safe learning and working environment where building systems are reliable and code compliant. Furthermore, it is a cornerstone of Western's strategic plan to be as inclusive as possible for all populations and make campus a welcoming place for all.

7. Resource efficiency and sustainability

Fully modernized elevators will reduce energy consumption and maintenance costs in academic buildings. Modernized elevators use more efficient motors and include occupancy sensors so that lights turn off while the cab is idled, waiting for the next call. The control system is also more sophisticated, linking requested trips in the most efficient sequence. Finally, reductions in call-outs and breakdowns will free up human resources to more efficiently address needs throughout campus.

8. Appendices: the following supporting documentation is included

- A. Office of Financial Management Reports (CBS002) Project Cost Summary/C100
- B. Elevator Modernization Executive Summary provided by Elevator Consulting Services
- C. Elevator Call-Out Log

2. Supporting Link:

- A. [WWU Comprehensive Master Plan/Guiding Principles](#)

Appendix A

Capital Project Request

2021-23 Biennium

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Version: SV 2021-23 Capital Budget Request

Report Number: CBS002

Date Run: 8/6/2020 10:53AM

Project Number: 30000772

Project Title: Elevator Preservation Safety and ADA Upgrades

Description

Starting Fiscal Year: 2022

Project Class: Preservation

Agency Priority: 9

Project Summary

Western is experiencing increasing incidences of elevator breakdowns, and is unable to wait for major building renovations to address currently known deficiencies for 29 of the oldest and most prone to breakdown elevators. This project will modernize these elevators in a single comprehensive project, bringing those elevators back up to a code compliant condition with safe, smooth, and reliable operating equipment. The requested funding will address Phase 2 of this project. The first phase was funded in the 2017-19 biennium.

Project Description

Western Washington University (Western) currently has 13 elevators in academic facilities that do not conform to current codes and are in need of modernization and repair. These elevators are at risk of unplanned service interruptions, cutting off ADA access to educational resources for unpredictable periods of time and causing difficulties for all building users. The 13 elevators have an average age of 24 years, which exceeds the expected 15-year useful life of the operating equipment.

Scope: This project is proposing to modernize 13 elevators and their associated operating equipment in several academic buildings throughout campus. This project includes upgrading the elevators to ensure compliance with code and ADA requirements and to provide safe, smooth, and reliable operating performance.

This project is part of a multiphase, multi-biennia program to repair and modernize existing elevators in academic facilities. Phase 1 was funded in the 17-19 biennium, and included repairs to elevators in Parks Hall, Environmental Studies, Wilson Library - West, Biology Building, Morse Hall, Bond Hall, and Arntzen Hall. Phase 2 (this request), includes repairs to elevators in Wilson Library – South and East, Fine Arts Building, Engineering Technology, Archives Building, Humanities, SMATE, Haggard Hall, and the Performing Arts Center.

History/Supporting Information: In 2015, with an increasing incidence of elevator breakdowns, Western commissioned a campus wide condition survey, conducted by Elevator Consulting Services (ECS), to inspect and analyze elevators across campus, determine current condition, compliance with code, and recommend options for elevator modernization. Overall, 29 elevators with original equipment 15 years and older were evaluated and identified as needing some level of modernization, repairs, or renewal. The survey found a range of need, from complete replacement of critical operating components and electronic controls to minor renovations. The following quote is from the report's executive summary:

"It was apparent that over the last 10 to 15 years there has been some elevator upgrade activity in some of the buildings..... some upgrades were code upgrades but not complete elevator modernizations on major components. ECS typically recommends performing complete modernizations of elevators and not a piecemeal approach. Eventually the piecemeal approach will catch up to you in the form of obsolescence of equipment."

The report recommended that identified elevators be modernized by replacing existing equipment with more reliable control equipment, energy reducing hoist equipment, upgraded safety enhancements and improved quality of life enhancements, offering the following benefits: building, personal safety, and code requirements; operation and performance; appearance and quality of life; increased value of buildings; reduced owner liability; and reduced environmental risks.

Schedule: Design is scheduled to commence in August 2021. Construction is scheduled to be complete in June 2023.

Location

City: Bellingham

County: Whatcom

Legislative District: 040

Project Type

Infrastructure (Major Projects)

Capital Project Request

2021-23 Biennium

*

Version: SV 2021-23 Capital Budget Request

Report Number: CBS002

Date Run: 8/6/2020 10:53AM

Project Number: 30000772

Project Title: Elevator Preservation Safety and ADA Upgrades

Description

Growth Management impacts

none

Funding

Acct Code	Account Title	Estimated Total	Expenditures		2021-23 Fiscal Period	
			Prior Biennium	Current Biennium	Reappropriations	New Appropriations
057-1	State Bldg Constr-State	7,314,243	437,779	1,376,464	1,500,000	4,000,000
065-1	WWU Capital Projects-State	1,456,462		456,462	1,000,000	
	Total	8,770,705	437,779	1,832,926	2,500,000	4,000,000

Future Fiscal Periods

	2023-25	2025-27	2027-29	2029-31
057-1 State Bldg Constr-State				
065-1 WWU Capital Projects-State				
Total	0	0	0	0

Operating Impacts

No Operating Impact

Capital Project Request

2021-23 Biennium

*

<u>Parameter</u>	<u>Entered As</u>	<u>Interpreted As</u>
Biennium	2021-23	2021-23
Agency	380	380
Version	SV-A	SV-A
Project Classification	*	All Project Classifications
Capital Project Number	30000772	30000772
Sort Order	Project Priority	Priority
Include Page Numbers	Y	Yes
For Word or Excel	N	N
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

STATE OF WASHINGTON
AGENCY / INSTITUTION PROJECT COST SUMMARY

Updated June 2020

Agency	Western Washington University	
Project Name	Elevator Preservation that Includes ADA Upgrades	
OFM Project Number		

Contact Information	
Name	Rick Benner, FAIA
Phone Number	(360) 650-3550
Email	rick.benner@wwu.edu

Statistics			
Gross Square Feet		MACC per Square Foot	
Usable Square Feet		Escalated MACC per Square Foot	
Space Efficiency		A/E Fee Class	B
Construction Type	Other Sch. B Projects	A/E Fee Percentage	12.36%
Remodel	yes	Projected Life of Asset (Years)	50
Additional Project Details			
Alternative Public Works Project	no	Art Requirement Applies	no
Inflation Rate	2.38%	Higher Ed Institution	no
Sales Tax Rate %	8.70%	Location Used for Tax Rate	Bellingham
Contingency Rate	10%		
Base Month	July-20	OFM UFI# (from FPMT, if available)	
Project Administered By	agency		

Schedule			
Predesign Start		Predesign End	
Design Start	August-21	Design End	April-22
Construction Start	June-22	Construction End	June-23
Construction Duration	12 Months		

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Project Cost Estimate			
Total Project	\$3,786,593	Total Project Escalated	\$4,000,368
		Rounded Escalated Total	\$4,000,000

Cost Estimate Summary

Acquisition			
Acquisition Subtotal	\$0	Acquisition Subtotal Escalated	\$0

Consultant Services	
Predesign Services	\$0
A/E Basic Design Services	\$241,473
Extra Services	\$33,000
Other Services	\$133,488

STATE OF WASHINGTON
AGENCY / INSTITUTION PROJECT COST SUMMARY

Updated June 2020

Agency	Western Washington University		
Project Name	Elevator Preservation that Includes ADA Upgrades		
OFM Project Number			
Design Services Contingency	\$40,796		
Consultant Services Subtotal	\$448,757	Consultant Services Subtotal Escalated	\$468,259

Construction			
Construction Contingencies	\$257,400	Construction Contingencies Escalated	\$272,458
Maximum Allowable Construction Cost (MACC)	\$2,574,000	Maximum Allowable Construction Cost (MACC) Escalated	\$2,724,579
Sales Tax	\$246,332	Sales Tax Escalated	\$260,743
Construction Subtotal	\$3,077,732	Construction Subtotal Escalated	\$3,257,780

Equipment			
Equipment	\$0		
Sales Tax	\$0		
Non-Taxable Items	\$0		
Equipment Subtotal	\$0	Equipment Subtotal Escalated	\$0

Artwork			
Artwork Subtotal	\$0	Artwork Subtotal Escalated	\$0

Agency Project Administration			
Agency Project Administration Subtotal	\$180,104		
DES Additional Services Subtotal	\$0		
Other Project Admin Costs	\$0		
Project Administration Subtotal	\$180,104	Project Administration Subtotal Escalated	\$190,641

Other Costs			
Other Costs Subtotal	\$80,000	Other Costs Subtotal Escalated	\$83,688

Project Cost Estimate			
Total Project	\$3,786,593	Total Project Escalated	\$4,000,368
		Rounded Escalated Total	\$4,000,000

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	

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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				
Other				
Insert Row Here				
Sub TOTAL	\$0	1.0258	\$0	Escalated to Design Start
2) Construction Documents				
A/E Basic Design Services	\$241,473			69% of A/E Basic Services
Other				
Insert Row Here				
Sub TOTAL	\$241,473	1.0339	\$249,660	Escalated to Mid-Design
3) Extra Services				
Civil Design (Above Basic Svcs)				
Geotechnical Investigation				
Commissioning				
Site Survey				
Testing				
LEED Services				
Voice/Data Consultant				
Value Engineering				
Constructability Review				
Environmental Mitigation (EIS)				
Landscape Consultant				
Advertising	\$3,000			
Controls	\$30,000			
Sub TOTAL	\$33,000	1.0339	\$34,119	Escalated to Mid-Design
4) Other Services				
Bid/Construction/Closeout	\$108,488			31% of A/E Basic Services
HVAC Balancing				
Staffing				
On-Site Reps	\$25,000			
Insert Row Here				
Sub TOTAL	\$133,488	1.0585	\$141,297	Escalated to Mid-Const.
5) Design Services Contingency				
Design Services Contingency	\$40,796			
Other				
Insert Row Here				
Sub TOTAL	\$40,796	1.0585	\$43,183	Escalated to Mid-Const.
CONSULTANT SERVICES TOTAL				
	\$448,757		\$468,259	

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Cost Estimate Details

Construction Contracts				
Item	Base Amount	Escalation Factor	Escalated Cost	Notes
1) Site Work				
G10 - Site Preparation				
G20 - Site Improvements				
G30 - Site Mechanical Utilities				
G40 - Site Electrical Utilities				
G60 - Other Site Construction				
Other				
Insert Row Here				
Sub TOTAL	\$0	1.0461	\$0	
2) Related Project Costs				
Offsite Improvements				
City Utilities Relocation				
Parking Mitigation				
Stormwater Retention/Detention				
Other				
Insert Row Here				
Sub TOTAL	\$0	1.0461	\$0	
3) Facility Construction				
A10 - Foundations				
A20 - Basement Construction				
B10 - Superstructure				
B20 - Exterior Closure				
B30 - Roofing				
C10 - Interior Construction				
C20 - Stairs				
C30 - Interior Finishes				
D10 - Conveying				
D20 - Plumbing Systems				
D30 - HVAC Systems				
D40 - Fire Protection Systems				
D50 - Electrical Systems				
F10 - Special Construction				
F20 - Selective Demolition				
General Conditions				
Overall	\$2,574,000			
Insert Row Here				
Sub TOTAL	\$2,574,000	1.0585	\$2,724,579	
4) Maximum Allowable Construction Cost				
MACC Sub TOTAL	\$2,574,000		\$2,724,579	
This Section is Intentionally Left Blank				



7) Construction Contingency			
Allowance for Change Orders	\$257,400		
Other			
Insert Row Here			
Sub TOTAL	\$257,400	1.0585	\$272,458
8) Non-Taxable Items			
Other			
Insert Row Here			
Sub TOTAL	\$0	1.0585	\$0
Sales Tax			
Sub TOTAL	\$246,332		\$260,743
CONSTRUCTION CONTRACTS TOTAL	\$3,077,732		\$3,257,780

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Cost Estimate Details

Equipment					
Item	Base Amount		Escalation Factor	Escalated Cost	Notes
E10 - Equipment					
E20 - Furnishings					
F10 - Special Construction					
Other					
Insert Row Here					
Sub TOTAL	\$0		1.0585	\$0	
1) Non Taxable Items					
Other					
Insert Row Here					
Sub TOTAL	\$0		1.0585	\$0	
Sales Tax					
Sub TOTAL	\$0			\$0	
EQUIPMENT TOTAL					
EQUIPMENT TOTAL	\$0			\$0	

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Cost Estimate Details

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

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Cost Estimate Details

Project Management					
Item	Base Amount		Escalation Factor	Escalated Cost	Notes
Agency Project Management	\$180,104				
Additional Services					
Other					
Insert Row Here					
PROJECT MANAGEMENT TOTAL	\$180,104		1.0585	\$190,641	

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Cost Estimate Details

Other Costs					
Item	Base Amount		Escalation Factor	Escalated Cost	Notes
Mitigation Costs					
Hazardous Material Remediation/Removal					
Historic and Archeological Mitigation					
Maintenance & Operation Assist	\$50,000				
Plan Review/Permits	\$30,000				
OTHER COSTS TOTAL	\$80,000		1.0461	\$83,688	

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C-100(2020)
Additional Notes

Tab A. Acquisition

<i>Insert Row Here</i>

Tab B. Consultant Services

<i>Insert Row Here</i>

Tab C. Construction Contracts

<i>Insert Row Here</i>

Tab D. Equipment

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Tab E. Artwork

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Tab F. Project Management

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Tab G. Other Costs

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Appendix B



ELEVATOR MODERNIZATION REPORT

**Western Washington University
Bellingham, WA**

**29 Academic Elevators
7 Residence Elevators**

November 17, 2015

Prepared for:

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Section I – Executive Summary

This report was commissioned to inspect and analyze 29 academic elevators and 7 residence elevators at Western Washington University to determine their current condition, compliance with current code, safety requirements, and to identify and recommend options for an elevator modernization. During our on-site audit we inspected the elevators components and operation to determine whether they should be reused, refurbished or replaced with new equipment with much improved technology as part of an elevator modernization. We started with the Wilson Library elevators and worked our way through the campus in what we consider to be a chronological order from worst to best elevators according to their age and type. It was apparent that over the last 10 to 15 years there has been some elevator upgrade activity in some of the buildings. I did notice that some upgrades were code upgrades but not complete elevator modernizations on major components. ECS typically recommends performing complete modernizations of elevators and not a piece meal approach. Eventually the piece meal approach will catch up to you in the form of obsolescence of equipment. You will see in the information provided in the audit details, per building, the condition of the elevators and the recommendations of the work that needs to be provided to bring them back to code compliant, safe smooth, operating equipment that will restart there lifecycle. Below we have created an equipment description spread sheet to identify the equipment and the particulars for each. We have also added a column called “Profile Score” that shows how we have ranked the elevators in priority based on our audit matrix findings. The larger the number the more urgent the need for modernization.

Additional observations were also recognized on the current maintenance provider’s documentation and code required maintenance tasks, as well as testing. Although ThyssenKrupp Elevator did have a Maintenance Control Program (MCP) on site, it appeared that the record-keeping was not 100% accurate and up-to-date. If the monthly maintenance visits are being performed the MCP maintenance tasks should be filled out and sequenced through the year to show monthly visits and maintenance being performed. 100% MCP documentation of test logs, maintenance tasks, oil loss records, callbacks logs, major component replacement logs, and all other documentation affiliated with the maintenance control program is key to maintaining and documenting the equipment effectively and efficiently. This is a code compliance requirement. I was really concerned about the number of hydraulic elevators with single section jacks and no oil loss records being kept. I also noticed the quarterly fire service testing was not current on most of the equipment as well.

The Academic elevators did appear to have average to above average maintenance performed on them. The Residential elevators needed some extra attention. Hoistways were dirty and governors were clanking and clunking as they ran. Door operations was noisy and needs to be serviced and adjusted.

Elevator Safety and Code Compliance

While the elevators on campus did comply with the code that was in effect at the time of installation, the do not comply with the current 2010 ASME A17.1 Safety Code for Elevator and Escalators

currently in effect in the State of Washington. While there are many code compliance issues with these elevators there are several that may pose **life safety issues** such as:

1. Do not comply with current code related to firefighter's service.
 - A modernization would include the latest firefighter's service features.
2. Do not comply with current code related to seismic protection.
 - Current code requires seismic over-speed valves in pits that will activate and stop the elevator if there is an oil line break between the jack and the pump unit.
 - Restraints on roller guide assemblies.
 - The real detection devices on counterweights.
 - Seismic detection device located in elevator machine room.
3. Hall and car operating panels do not comply with latest codes.
 - The hall fixtures are at code height but the car operating panel does not have the current dedicated firefighter's lockable panel. The main lobby hall call fixture does not have the current communications failure indicator, or the current fire fighters Phase 1 key switch per code.
4. Machine rooms too hot. These conditions cause elevator to run sporadically and not level accurately and can cause trip hazards. Below items could be done prior to modernization and reused on new equipment later if desired.
 - Most of the machine rooms need added HVAC to keep controls and oil between 60 to 95 degrees. The lower end of the temperature requirement's the better.
5. ADA requirements.
 - The majority of the elevators are behind on current ADA codes and standards for elevators. Items needed are Braille on buttons and jambs, car direction lanterns located in plain view of hall stations, hall stations not at code height for wheel chair handicaps, and hands free phone inside cab at bottom of car operating panel.

As a result, it is our recommendation that these elevators be modernized according to ranking and profile under Section II – Existing Equipment Description “Profile Score Column”. Equipment will be replaced with more reliable control equipment, energy reducing hoist equipment, upgraded safety enhancements and improved quality of life enhancements. Although a modernization of the elevator systems is a large expenditure, the advantages are many, including:

1. Building & Personal Safety & Code Requirements
 - Fire safety
 - Seismic safety
 - Passenger protection
2. Operation & Performance
 - More efficient handling of traffic
 - Reduced maintenance to keep obsolete equipment functioning and more maintenance on the proper areas

- Savings on electrical power
 - Longer life of retained equipment
3. Appearance and Quality of Life
 - New cab interior and fixtures
 - New elevator lobby fixtures
 4. Increased Value of the Buildings
 5. Reduced Owner Liability
 6. Reduced Environmental Risks



Section II – Existing Equipment Descriptions

Elevator ID	Building	Owner	Installed Date	Latest Mod Date	Age	Original Code Date	Current Code in effect	Mod Code Date	Outdated code compliance	Profile Score	
Wilson Library South	WL	ACAD	1971		0	44	1967	2010	N/A	43	38
Wilson Library West	WL	ACAD	1962		0	53	1957	2010	N/A	53	38
Wilson Library East	WL	ACAD	1962		0	53	1957	2010	N/A	53	38
Bond Hall #1 North	BH	ACAD	0	1994	21	1967	2010	1994		16	38
Bond Hall #2 South	BH	ACAD	0	1994	21	1967	2010	1994		16	38
Environmental Studies West	ES	ACAD	0	1992	23	0	2010	1987		23	37
Chemistry #1 South	CB	ACAD	1983		0	32	1978	2010	N/A	32	36
Chemistry #2 North	CB	ACAD	1983		0	32	1978	2010	N/A	32	36
Parks Hall East	PH	ACAD	1981		0	34	1971	2010	N/A	39	36
Parks Hall West	PH	ACAD	1981		0	34	1971	2010	N/A	39	36
Biology	BI	ACAD	1993		0	22	1987	2010	0	23	36
Bond Hall #3 SWF	BH	ACAD	0	1994	21	0	2010	1994		16	35
Arntzen Hall North	AH	ACAD	0	1999	16	0	2010	1996		14	34
Arntzen Hall South	AH	ACAD	0	1999	16	0	2010	1996		14	34
Fine Arts	FI	ACAD	0	2002	13	1978	1996	0		18	33
Engineering Tech. North	ET	ACAD	1987		0	28	0	2010	1996	14	31
Engineering Tech. East	ET	ACAD	1987		0	28	0	2010	1996	14	31
Archives Building	AB	OTHER	1991		0	24	1987	2010	0	23	31
Humanities	HU	ACAD	1994		0	21	1990	2010	0	20	29
Smate	SL	ACAD	1996		0	19	1993	2010	0	17	28
Haggard Hall #1	HH	ACAD	0	1998	17	0	2010	1993		17	27
Haggard Hall #3	HH	ACAD	0	1998	17	0	2010	1993		17	27
Haggard Hall #2	HH	ACAD	0	1998	17	0	2010	1993		17	25
Enviro. Studies East	ES	ACAD	0	2002	13	0	2010	1996		14	25
Performing Arts North	PA	ACAD	0	2000	15	0	2010	1996		14	23
Performing Arts South	PA	ACAD	0	2000	15	0	2010	1996		14	23
Admin. Services	AC	ACAD	2000		0	15	0	2010	1996	14	20
Old Main South	OM	ACAD	0	2002	13	0	2010	1996		14	19
Old Main North	OM	ACAD	0	2002	13	0	2010	1996		14	19

Appendix C

WWU Elevator Call-Out Log Summary FY17-FY20

Building	Elevator ID	Installed Date	Last Modernize Date	Effective Age	2015 Condition (Profile) Score	REACTIVE CALL-OUT REPAIRS				
						FY17	FY18	FY19	FY20	TOTAL
WL	Wilson Library South	1971	0	49	38	3	11	2	12	28
WL	Wilson Library East	1962	0	58	38	3	15	3	4	25
FI	Fine Arts	0	2002	18	33	0	2	0	2	4
ET	Engineering Tech. North	1987	0	33	31	1	1	1	0	3
ET	Engineering Tech. East	1987	0	33	31	2	3	0	0	5
AB	Archives Building	1991	0	29	31	1	0	1	0	2
HU	Humanities	1994	0	26	29	8	1	0	4	13
SL	SMATE	1996	0	24	28	1	3	0	0	4
HH	Haggard Hall #1	0	1998	22	27	6	2	3	3	14
HH	Haggard Hall #2	0	1998	22	25	1	1	1	1	4
HH	Haggard Hall #3	0	1998	22	27	6	2	2	2	12
PA	Performing Arts North	0	2000	20	23	4	1	6	4	15
PA	Performing Arts South	0	2000	20	23	3	0	1	3	7
						39	42	20	35	136
						Annual Average Repairs				34