WASHINGTON STATE UNIVERSITY

STEM/Student Success (Dana Hall)

2019 – 21 Request:	**$9,600,000**	**Project Type:**	**Stand-Alone Renovation**
		Project Phase:	**Des/Construct**
Institutional Priority:	**# 11**	**Gross Square Ft:**	**16,000**

WSU requests $9.6 million for critical upgrades in high-enrollment STEM learning spaces to increase graduates in engineering, computer science and construction management. This funding will renovate and modernize space for collocated teaching and learning and student support services. While the project's primary purpose is to increase the number of graduates in the high demand STEM fields, it will also revitalize Dana Hall, which, because of its end-of-life building systems, requires continuous repair. Dana Hall is the third most expensive WSU building to maintain.

Universities with the highest STEM graduation rates often combine modern learning environments with collocated student support services. The integrated programming creates a hub of teaching and learning activities to increase engagement, learning, and work force readiness. Students that are engaged in these programs have higher retention, graduation, and industry placement rates.

WSU's Voiland College of Engineering and Architecture offers many important student support programs that serve high demand fields such as engineering, computer science and construction management. However, the facilities are not collocated, are undersized, and do not have modern learning technologies. Almost 4,800 students per semester need access to the engineering tutoring facility, but it seats only 18 students at a time.

Advisors, who guide and help students reduce time to graduation, are located in four buildings. Capstone, design, and hands-on-learning support services are in six buildings, and career services is located in an obscure corridor of one building. Spaces meant for students to work and learn together are blocks away. These design challenges mean students are often isolated from each other and from support services, hindering their success and graduation goals.

Dana Hall contains the space needed to house a collocated model for teaching, learning and support. The 69-year-old building is part of the four-building complex serving WSU engineering programs, but it is underused because of its inconsistent and failing building systems. Undergraduate students, particularly those in the high-demand, engineering disciplines, will significantly benefit from collocated services near other engineering programming. By providing easier access to these important support programs in up-to-date facilities, this project supports student success and graduation to help fulfill the state of Washington's need to increase the quality and quantity of engineering graduates.

Consistent with the Governor's *Results Washington* goals, this project will help meet the goal of increasing the number of post-secondary enrollees and graduates in STEM and high demand fields including those in the College Bound Program (low-income students). This also aligns with WSU's Strategic Plan goals to enhance student engagement and achievement in academics and co-curricular activities and to increase the number of degrees awarded in high-demand fields. Finally, this request to revitalize and increase the use of Dana Hall advances both the *Results Washington* and WSU's goals of institutional effectiveness by making more effective use of university resources.

Institution
Washington State University
Project Title
STEM/STUDENT SUCCESS (DANA HALL)
Project Location (City)
Pullman, WA

1. **Problem Statement (short description of the project – the needs and the benefits)**

There has been rapid growth, supported by state initiatives, in the number of students in high-demand STEM programs at WSU. For example, the number of engineering, architecture, and computer science students has more than doubled in the past decade with more than 4,800 undergraduates and 800 graduate students currently enrolled.

Even with this enrollment expansion, the state of Washington continues to lead all other states as the largest importer of science, technology, engineering, and mathematics (STEM)-educated employees. While the state employs the highest percentage of STEM workers per capita in the nation, it is near the bottom among states in graduating students in these fields.[1] According to the U.S. Bureau of Labor Statistics, between 2010 and 2020, employment in all computer occupations is expected to increase by 22 percent, resulting in roughly 1.4 million jobs for computer scientists by 2020. Much of that demand is right here in Washington, where there are 27 times more open computer science jobs than graduates from in-state institutions[2] .

The on-going building boom in the state has also created an unfilled demand for structural engineers and construction managers, and the demand extends to all areas of engineering. For example, in 2017, the number of advertised positions for entry-level civil engineers was three times the number of graduates from engineering colleges in the state.

This demand has led students from a wide-variety of backgrounds to seek education in these STEM fields. Unfortunately, WSU's facilities have not been upgraded to support the educational needs of these students.

This project would remodel the first floor of Dana Hall (circa 1949) and upgrade the related building systems. It would modernize the space and WSU would collocate the vital student support functions that are currently dispersed in various buildings (see **Appendix A**) throughout the Voiland College of Engineering and Architecture (VCEA) and improve student success rates.

WSU has many programs to support students in attaining graduation and learning outside the classroom (including a tutoring center, student clubs, academic advisors, career and employment services programs, and more). Yet, due to the limitations of the 69-year old Dana Hall in which some of these programs are housed, student support programs for engineering, architecture and computer science students are distributed in nearly a dozen buildings and in more than two dozen spaces. Centralizing these programs would help students access them and help faculty and staff promote their use. This project will significantly modernize the Dana Hall first floor to support these programs and co-locate all of them in modernized space in a single building. The renovated space will more effectively support student needs and increase utilization to support student graduation and retention goals.

Multiple experiential learning programs are offered by the college but none have the facilities needed to meet the needs of the current student body. For example, the VCEA tutoring center is limited to supporting about 30 students at a time (less than 1% of our current student body). Enhanced and consolidated facilities will support increasing student graduation and retention.

[1] https://www.wsac.wa.gov/sites/default/files/2017.STEM.Report.Card.pdf
[2] https://www.geekwire.com/2014/analysis-examining-computer-science-education-explosion/

Dana Hall has sufficient square footage to meet the needs of these programs and is located centrally in the core of VCEA operations, but to be effective it requires the modernization that this project will provide.

2. History of the project or facility

Dana Hall was constructed in 1949, has never had a significant remodel, and has been operated as an engineering building for 69 years. External building entries display distinctive aluminum panels featuring engineering themes. It is a long, narrow building, three stories high, with a mechanical attic serving as a fourth story. When the building opened, it was the headquarters for the college of engineering, the division of industrial research and the physics department. Programming was a balanced blend of teaching, education and research functions. Over time, Dana Hall has become symbolically associated with the engineering program at WSU.

Dana Hall's structure has remained remarkably unchanged to the present day. The 90,023 gross square foot building is made of reinforced concrete with face brick. Building corridors span the full length of each floor. It has steam radiator heating and metal framed windows. Mechanical systems are original, as are the elevators and the majority of the building's lighting and electrical systems. Rooms are located behind solid steel doors. Natural lighting is available in rooms adjacent to the building's envelope with fluorescent lights servicing the building's core.

In present day, Dana Hall predominantly supports ancillary activities such as engineering shops, graduate students study and preparatory area, support services, and research personnel. The building has very little programming remaining for teaching and research. Variables in ventilation, power, lighting, and access make operating programs in Dana Hall both difficult and unreliable.

3. University programs addressed or encompassed by the project

Dana Hall would house the student support and teaching activities necessary in the success of engineering students. Student support programs identified for Dana Hall include academic advisors, the engineering tutoring center and offices for two NSF-sponsored programs. These include the Washington State Academic RedShirts (STARS) program to support first year students and the Louis Stokes Alliance for Minority Participation (LS-AMP) program to support underrepresented students in Science, Technology, Engineering and Mathematics (STEM). The space will also accommodate offices for scholarship, internship and placement office, hands-on workspaces for numerous student projects and clubs, and other related student support groups. All Pullman-based engineering, computer science, and architecture students use these resources.

Undergraduate and graduate students studying in the fields of mechanical-, electrical-, chemical-, biological-, materials-, civil-, and environmental engineering; computer science, architecture, landscape architecture, interior design, and construction management would be supported and trained in the building each semester.

In line with the university's strategic goal of achieving high first-year retention rates and 6-year graduation rates[3], the STEM fields of engineering, computer science, and architecture that have historically suffered from a high first-year dropout rate, provide an exceptional point for intervention. Success in this initiative will not only advance the university's strategic goals but also produce desperately needed STEM talent for the state of Washington. Modernization of the facilities to promote interdisciplinary teaming, peer-to-peer mentoring, experiential learning, and strong industrial engagement will increase students' collaborative critical-thinking skills and workforce readiness. Remodeling outdated facilities to foster small-group collaborations and modern audio-visual tools will expand the university's teaching capabilities and improve instructor-student and student-student communications. Pedagogical research also shows that the more time a student participates in extracurricular learning programs offered by the college, the better their performance (as measured by GPA) and the higher their retention rates.

[3] WSU Strategic Plan, Theme 2, Goals 1-3: https://strategicplan.wsu.edu/

The WSU freshman enrollment is projected to remain high (> 4,000 new students each fall semester) for the foreseeable future. Pedagogical research shows a positive correlation between active learning where students are working together to solve problems and increased student success. Modern student-support space in conjunction with teaching innovations will significantly enhance student performance, which in turn will enhance overall student retention, student success, and degree time-to-completion.

4. Age of Building Since Last Major Remodel:

Dana Hall is 69 years old and has never had a major renovation.

5. Condition of Building:

In 2015 a Comprehensive Facility Assessment conducted by specialty professionals (VFA) identified Dana Hall's Facility Condition Index (FCI) as 0.71, when Dana Hall was still categorized as a laboratory facility. This FCI generally indicates a facility where deferred maintenance requirements cannot be significantly resolved without major capital investment.

The 2016 Higher Education Facility Comparable Framework Assessment independently validated this description, categorizing Dana Hall's Condition Score as 4 (Needs Improvement – Limited Functionality). WSU has reclassified future use of this building to be classrooms and student support, which will allow the FCI to be adjusted to match the expected future use of the building.

The original study confirmed the structural integrity of the building and that renovation of Dana Hall would be the most cost-effective means to address the maintenance backlog and reclaim programming space, over demolition. **Appendix B** gives full facility assessment details from the consultant's 2015 study. While providing significant space for engineering programs, the space is inefficient and the building is significant in its high cost of performance.

Renovation that would restore programming to Dana Hall and achieve positive return on investment requires inclusion of building system replacement. This renovation project includes some upgrades to the building systems as well as remodeling to achieve more modern and efficient programming space.

The size of this project will trigger long overdue accessibility, life safety, and building code upgrades to bring the affected space and primary entrances into compliance. WSU will work with the code official to ensure an appropriate and effective balance of the available funds so that we are able to address critical code issues and deferred maintenance items, while still providing as much student support space as possible within the budget.

Dana Hall is not on the historic register.

6. 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 appendices, and reference them in the body of the proposal.)

Current systems and building construction are consistent with the codes that were in place when the building was constructed in 1949. As such, it is a very rich environment for code upgrades, which is a principal component of the project. The specific areas proposed to be addressed are:

- Life Safety (NFPA 101): Means of egress, fire suppression/detection, and building life safety alarms. The building presently does not have sprinklers, and the project will address appropriate fire

suppression to the Authority Having Jurisdiction's (AHJ's) satisfaction. Additional upgrades in this category will be pursued with the replacement of antiquated electrical distribution to bring the building into compliance.

- ADA: The main building entry does not comply with accessibility standards and will require modification. Similarly, conveyances and interior features (doors, restrooms, water fountains, signage) are not ADA compliant and will require improvements via this project.
- Energy Code: Dana Hall is presently ventilated via single pass air without reheat capture. The project will replace that antiquated and expensive HVAC system as a primary part of the work. Additional improvements will be pursued for lighting and window replacements.
- Seismic: The building is a prime candidate for remodeling and repurposing because it is structurally sound. The building will not require seismic retrofit as a part of this project.

7. Reasonableness of Cost:

The total project cost is $9.6 million and is based on typical renovation estimates for demolition and interior construction work within a partially occupied university facility in Pullman. The proposed scope includes any necessary abatement along with upgrades to mechanical, electrical, plumbing, exterior skin, interior framing and finish systems. The project cost estimate uses deferred maintenance costs/provided/supported by third party estimates from VFA and cost per square foot data from recent similar projects in Pullman.

In review of Chapter 5.0 of the Project Evaluation Guideline, please note that this renovation includes both classroom (student collaboration) and administrative (faculty/student services) space. As a result, a weighted average based on approximately 50% classroom and 50% offices was used to determine the appropriate cost/GSF numbers, resulting in base construction and total costs of $258/GSF and $365/GSF, respectively. A mid-construction date of December 15, 2020 would allow a 1.342 cost index multiplier bringing the allowable construction and total costs up to $346/GSF and $499/GSF, respectively. This project has an estimated construction cost of $367/GSF and estimated total cost of $600/GSF.

The projected construction cost of $367/GSF is reasonable and only slightly above OFM's expectation of $346/GSF. The total project cost estimate exceeds OFM's expectations because it includes more than an interior renovation of space. The project includes the replacement of the building's electrical and HVAC primary equipment, which are both original to the building and affect the entire building, while the fit-out portion of the project only affects one floor. The building system equipment replacement is outside of the renovation project area square footage but costs are included in the total project.

8. Availability of Space/Utilization on Campus:

This renovation will not add traditional classroom or laboratory space but will greatly improve efficiency of instructional and student support space. This will be accomplished by relocating Voiland College of Engineering & Architecture tutoring, academic advising and other student support functions from scattered Pullman campus locations into one easily accessible and modernized location in Dana Hall (see **Appendix A**)

Use of campus classrooms and labs nearly meet the HECB standards (refer to **Appendix C**). In fact, if all the classes and labs scheduled after hours were included, overall usage of those spaces is above the HECB standard. The HECB formula counts usage within a nine-hour contiguous block of time. While the majority (93%) of scheduled classroom use occurs between 8:00 a.m. and 5:00 p.m., (the hour block used for this calculation), 7% of classroom time is scheduled outside this timeframe. If included, those additional contact hours of usage put the classroom space use above the current standard. While the majority (87%) of scheduled lab use occurs between 9:00 a.m. and

6:00 p.m. (the block used for this calculation), 13% of the teaching lab use is outside this time range. If included, those additional contact hours of usage put the lab space use above the current standard.

9. Efficiency of Space Allocation:

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 4.0 of the Project Evaluation Guidelines for an example. Supporting tables may be included in an appendix.

a. The remodeled space will be consistent with FEPG guidelines. Please refer to **Appendix D.**

b. Identify the following on form CBS002:

1. Usable square feet (USF) in the proposed facility = 15,000
2. Gross square feet (GSF) = 16,000
3. Building efficiency (USF divided GSF) = 0.94

Program-Related Space Allocation Table –See **Appendix E.**

10. Adequacy of Space:

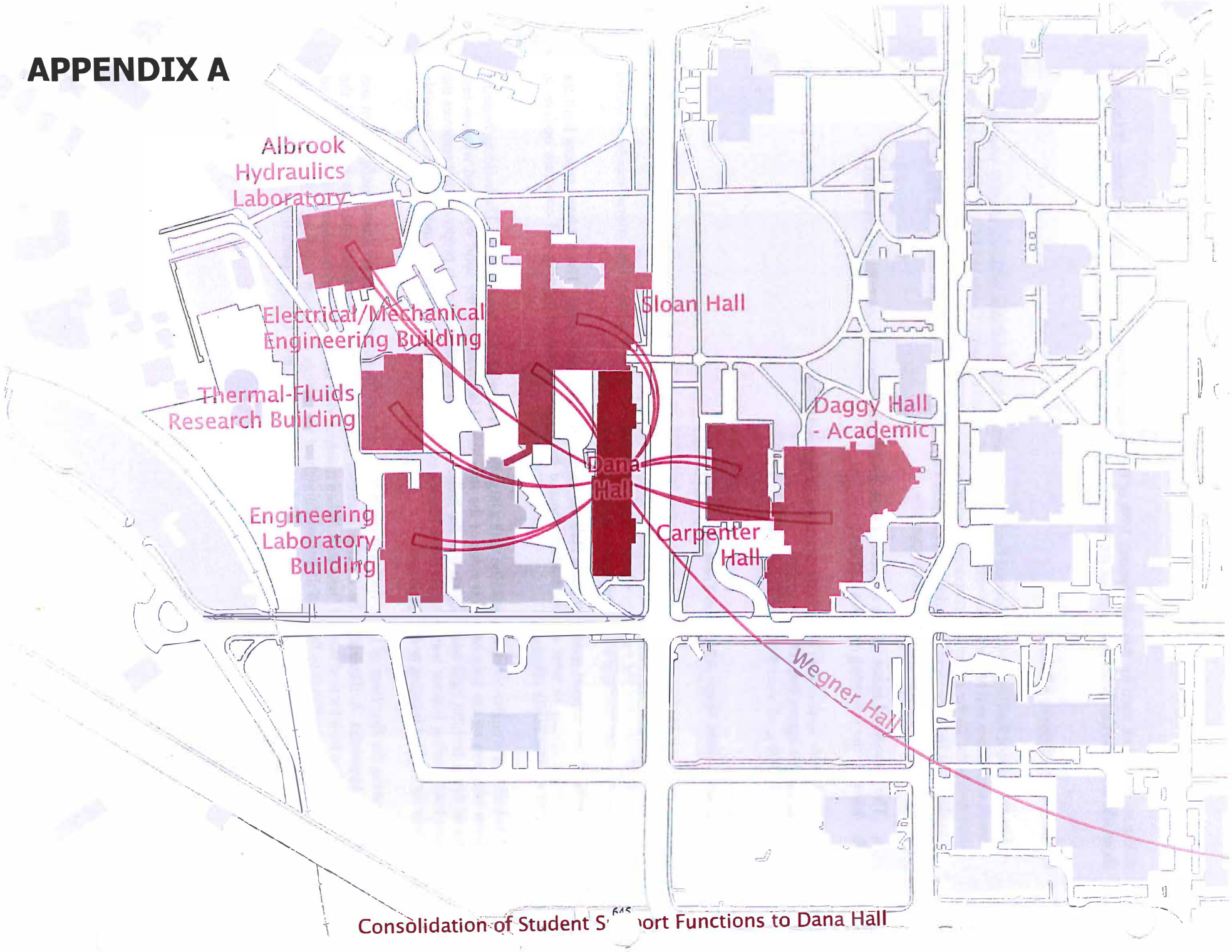
Describe whether and the extent to which the project is needed to meet modern educational standards and/or to improve space configurations, and how it would accomplish that.

The educational support spaces in Dana Hall are technologically inadequate. The outdated spaces limit the university's ability to meet current student demand for STEM education training and constrain options to expand programmatic offerings.

The building is cinder-block construction with a large number of relatively small spaces. The building benefits from windows on the long east-west sides of the structure. Unfortunately, the solid walls and window-less metal doors prohibit light transmission into the halls. A radical transformation is proposed that removes the non-load bearing interior walls and creates a blank canvas from which to design the most effective possible space for student learning and engagement.

Renovating the first floor of Dana Hall will result in significant improvement in the space configuration and usage. **Appendix A** illustrates the current scattered locations of these activities and the layout of the consolidation plan for first floor of Dana Hall. When finished, vital student support functions will be collocated instead of being difficult to find and dispersed throughout the college in various buildings. Renovation will also enhance the recruitment of better-qualified students, staff, and faculty, particularly in the STEM disciplines.

APPENDIX A


Albrook
Hydraulics
Laboratory
Electrical/Mechanical
Engineering Building
Sloan Hall
Thermal-Fluids
Research Building
Daggy Hall
- Academic
Dana
Hall
Engineering
Laboratory
Building
Carpenter
Hall
Wegner Hall
Consolidation of Student S ort Functions to Dana Hall

APPENDIX B

Asset Detail Report
By Asset Name

Region: Washington State University - FCA Data **Asset:** DANA HALL
Campus: Assessed - September 2014 **Asset Number:** 0056

Assets are ordered by Asset Name **Currency: USD**

Statistics

FCI Cost:	9,687,971	**FCI:**	0.55
RI Cost:	16,034,980	**RI:**	0.91
Total Requirements Cost:	16,034,980		
Current Replacement Value:	17,594,161	**Date of most Recent Assessment:**	Oct 14, 2014

Type	Building		
Area	90,023 SF		
Use	ACADEMIC INSTRUCTION	**Construction Type**	IBC - Type II A
Floors	4	**Historical Category**	None
Address 1	305 SPOKANE ST	**City**	PULLMAN
Address 2	-	**State/Province/Region**	UNITED STATES OF AMERICA
Year Constructed	1949	**Zip/Postal Code**	99164
Year Renovated	-	**Architect**	-
Ownership	Client Owned	**Commission Date**	-
		Decommission Date	-

Photo

DANA HALL

Asset Description

General Description:

Dana Hall is located on the Washington State University Campus in Pullman, Washington. The building is situated at the west side of the campus adjacent to Spokane Street. The structure is 90,023 square foot (GSF), four stories with a small partial

basement. The building is rectangular in shape and built on a sloping parcel of land. The building is attached to the Electrical Mechanical Engineering Building on the north elevation. According to WSU information, construction for the building was completed in 1949.

The building contains classroom, laboratories and offices with mechanical equipment located throughout the floors and basement. Per the 2012 International Building Code, Chapter 3, and Section 303 – Assembly Group, this building is classified as Occupancy Group A3. According to the 2012 International Building Code, Chapter 6, Section 602, this building's construction type is Type II - Noncombustible, as determined from field observations.

Requirements

Requirement Name	Renewal	Prime System	Category	Priority	Action Date	Estimated Cost
Exterior Stairs - Concrete Renewal	Yes	B1015 - Exterior Stairs and Fire Escapes	Lifecycle	3- Due within 5 Years of Inspection	Oct 14, 2020	4,649
Damaged Exterior Limestone Wall	No	B2010 - Exterior Walls	Reliability	2- Due within 2 Years of Inspection	Oct 14, 2016	263,415
Metal Paneled Walls Renewal	Yes	B2010 - Exterior Walls	Lifecycle	3- Due within 5 Years of Inspection	Oct 14, 2020	1,904
Install Insulation	No	B2010 - Exterior Walls	Reliability	2- Due within 2 Years of Inspection	Sep 1, 2015	52,683
Aluminum Windows Renewal	Yes	B2020 - Exterior Windows	Lifecycle	2- Due within 2 Years of Inspection	Oct 14, 2016	336,250
Door Assembly - Large Glazed HM Renewal	Yes	B2030 - Exterior Doors	Lifecycle	3- Due within 5 Years of Inspection	Oct 14, 2017	42,404
Door Assembly - 6 x 7 HM Renewal	Yes	B2030 - Exterior Doors	Lifecycle	3- Due within 5 Years of Inspection	Oct 14, 2020	8,207
Door Assembly - 3 x 7 Decorative Metal Renewal	Yes	B2030 - Exterior Doors	Lifecycle	3- Due within 5 Years of Inspection	Oct 14, 2019	100,282

Asset Detail Report
By Asset Name

Requirement Name	Renewal	Prime System	Category	Priority	Action Date	Estimated Cost
Dana Hall 304A Roof Leak	No	B30 - Roofing	Reliability	2- Due within 2 Years of Inspection	Jan 6, 2019	10,681
REPLACE ROOF	Yes	B30 - Roofing	Lifecycle	2- Due within 2 Years of Inspection	Oct 14, 2016	717,251
Windows/Storefront Partitions Renewal	Yes	C1010 - Partitions	Lifecycle	3- Due within 5 Years of Inspection	Oct 14, 2022	8,731
Swinging Doors - Pair - 6 x 7 Wd - Rated Renewal	Yes	C1020 - Interior Doors	Lifecycle	3- Due within 5 Years of Inspection	Oct 14, 2022	256,895
Swinging Doors - 3 x 7 HM Renewal	Yes	C1020 - Interior Doors	Lifecycle	3- Due within 5 Years of Inspection	Oct 14, 2022	189,199
Swinging Doors - 3 x 7 Wd Renewal	Yes	C1020 - Interior Doors	Lifecycle	3- Due within 5 Years of Inspection	Oct 14, 2022	433,262
Swinging Doors - Pair - 6 x 7 HM - Rated Renewal	Yes	C1020 - Interior Doors	Lifecycle	3- Due within 5 Years of Inspection	Oct 14, 2020	43,123
Restroom Accessories Renewal	Yes	C1030 - Fittings	Lifecycle	3- Due within 5 Years of Inspection	Oct 14, 2020	13,859
UPGRADES TO RESTROOMS - PHASE 2	No	C1030 - Fittings	Lifecycle	2- Due within 2 Years of Inspection	Sep 29, 2018	120,654
Toilet Partitions - Steel Renewal	Yes	C1030 - Fittings	Lifecycle	3- Due within 5 Years of Inspection	Oct 14, 2020	12,719
Fittings - Signage (Room	Yes	C1035 -	Interior Finishes	3- Due	Oct 14,	15,887

Asset Detail Report
By Asset Name

Requirement Name	Renewal	Prime System	Category	Priority	Action Date	Estimated Cost
Numbering and Identification) Renewal		Identifying Devices		within 5 Years of Inspection	2017	
Stairs - Wood Renewal	Yes	C20 - Stairs	Lifecycle	3- Due within 5 Years of Inspection	Oct 14, 2019	1,281
Stair Handrails - Non-Compliant	No	C20 - Stairs	Building Code	4- Not Time Based		25,768
PATCH AND PAINT ROOM 251	No	C3010 - Wall Finishes	Lifecycle	2- Due within 2 Years of Inspection	Jun 14, 2018	855
Paint Masonry/Epoxy Finish Renewal	Yes	C3010 - Wall Finishes	Interior Finishes	3- Due within 5 Years of Inspection	Oct 14, 2020	276,000
Concrete - Painted Renewal	Yes	C3020 - Floor Finishes	Interior Finishes	3- Due within 5 Years of Inspection	Oct 14, 2018	5,666
VCT Renewal	Yes	C3020 - Floor Finishes	Interior Finishes	3- Due within 5 Years of Inspection	Oct 14, 2019	66,047
VAT Renewal	Yes	C3020 - Floor Finishes	Interior Finishes	3- Due within 5 Years of Inspection	Oct 14, 2017	217,955
Carpeting - Broadloom Renewal	Yes	C3020 - Floor Finishes	Lifecycle	3- Due within 5 Years of Inspection	Oct 14, 2021	27,113
ACT System - Concealed Spline Renewal	Yes	C3030 - Ceiling Finishes	Interior Finishes	4- Not Time Based	Oct 14, 2019	199,375
Damaged or Open Ceiling	No	C3030 - Ceiling Finishes	Reliability	2- Due within 2 Years of Inspection	Oct 14, 2016	7,412
GWB Taped and Finished Renewal	Yes	C3030 - Ceiling Finishes	Interior Finishes	3- Due within 5	Oct 14, 2020	103,700

Asset Detail Report
By Asset Name

Requirement Name	Renewal	Prime System	Category	Priority	Action Date	Estimated Cost
				Years of Inspection		
Painted Plaster Renewal	Yes	C3030 - Ceiling Finishes	Interior Finishes	3- Due within 5 Years of Inspection	Oct 14, 2020	349,200
Traction Geared Freight Elevator Renewal	Yes	D1010 - Elevators and Lifts	Lifecycle	3- Due within 5 Years of Inspection	Oct 14, 2017	373,843
Traction Geared Freight Elevator - Exposed Live Electrical Parts - Elevator Machine Room 501	No	D1010 - Elevators and Lifts	Life Safety	1- Due within 1 Year of Inspection	Oct 14, 2015	3,845
Update freight elevator cab wall paint and refinish wood floor and entry doors	No	D1010 - Elevators and Lifts	Interior Finishes	2- Due within 2 Years of Inspection	May 26, 2019	7,231
Restroom Fixtures - Group Locker Room Showers Renewal	Yes	D2010 - Plumbing Fixtures	Lifecycle	3- Due within 5 Years of Inspection	Oct 14, 2017	19,780
Water Coolers - 1995 Renewal	Yes	D2010 - Plumbing Fixtures	Lifecycle	3- Due within 5 Years of Inspection	Oct 14, 2020	24,770
Laboratory Sinks Renewal	Yes	D2010 - Plumbing Fixtures	Mission	3- Due within 5 Years of Inspection	Oct 14, 2020	341,468
Water Coolers - 1970 Renewal	Yes	D2010 - Plumbing Fixtures	Lifecycle	2- Due within 2 Years of Inspection	Oct 14, 2016	24,770
Custodial/Utility Sinks Renewal	Yes	D2010 - Plumbing Fixtures	Lifecycle	3- Due within 5 Years of Inspection	Oct 14, 2017	18,552
Emergency Eyewash and Shower Units Renewal	Yes	D2010 - Plumbing Fixtures	Mission	3- Due within 5 Years of	Oct 14, 2020	5,157

Asset Detail Report
By Asset Name

Requirement Name	Renewal	Prime System	Category	Priority	Action Date	Estimated Cost
				Inspection		
Restroom Fixtures Renewal	Yes	D2010 - Plumbing Fixtures	Lifecycle	3- Due within 5 Years of Inspection	Oct 14, 2017	123,479
Water Dist Complete Renewal	Yes	D2020 - Domestic Water Distribution	Lifecycle	3- Due within 5 Years of Inspection	Oct 14, 2020	100,000
Sanitary Waste - Gravity Disch Renewal	Yes	D2030 - Sanitary Waste	Lifecycle	3- Due within 5 Years of Inspection	Oct 14, 2017	263,652
Roof Drainage - Gravity Renewal	Yes	D2040 - Rain Water Drainage	Lifecycle	3- Due within 5 Years of Inspection	Oct 14, 2017	212,436
Heat Trace Installation	No	D2040 - Rain Water Drainage	Reliability	3- Due within 5 Years of Inspection	Aug 28, 2020	21,790
Shop Air Compressor Renewal	Yes	D2090 - Other Plumbing Systems	Lifecycle	3- Due within 5 Years of Inspection	Oct 14, 2017	28,621
Lab Acid Waste System - Glass Pipe Renewal	Yes	D2090 - Other Plumbing Systems	Mission	3- Due within 5 Years of Inspection	Oct 14, 2017	281,125
Natural Gas Distribution for Lab Renewal	Yes	D2090 - Other Plumbing Systems	Mission	3- Due within 5 Years of Inspection	Oct 14, 2020	132,740
Inadequate Ventilation - Engineering Study	No	D30 - HVAC	Life Safety	1- Due within 1 Year of Inspection	Oct 14, 2015	14,865
DX Condensing Unit - Carrier (Rm215) Renewal	Yes	D3030 - Cooling Generating Systems	Mission	3- Due within 5 Years of Inspection	Oct 14, 2017	4,278

Asset Detail Report
By Asset Name

Requirement Name	Renewal	Prime System	Category	Priority	Action Date	Estimated Cost
DX Condensing Unit - Carrier (Rm301) Renewal	Yes	D3030 - Cooling Generating Systems	Mission	3- Due within 5 Years of Inspection	Oct 14, 2017	4,278
DX Condensing Unit - Carrier (Rm302) Renewal	Yes	D3030 - Cooling Generating Systems	Mission	3- Due within 5 Years of Inspection	Oct 14, 2017	4,278
DX Condensing Unit - Carrier (Rm15) Renewal	Yes	D3030 - Cooling Generating Systems	Mission	3- Due within 5 Years of Inspection	Oct 14, 2017	4,278
DX Condensing Unit - Carrier (Rm306) Renewal	Yes	D3030 - Cooling Generating Systems	Mission	3- Due within 5 Years of Inspection	Oct 14, 2017	4,278
Refrigeration Walk-in Unit Renewal	Yes	D3032 - Direct Expansion Systems	Mission	1- Due within 1 Year of Inspection	Oct 14, 2015	31,799
HVAC Distribution System - Ductwork Renewal	Yes	D3040 - Distribution Systems	Lifecycle	3- Due within 5 Years of Inspection	Oct 14, 2020	439,726
Exhaust System - General Building Renewal	Yes	D3040 - Distribution Systems	Lifecycle	3- Due within 5 Years of Inspection	Oct 14, 2017	80,916
Replace Condensate Receiver Tank and Pumps	No	D3040 - Distribution Systems	Reliability	1- Due within 1 Year of Inspection	May 23, 2018	5,165
Fan Coil System - Cabinet - Heating/Cooling - 4 Pipe Renewal	Yes	D3040 - Distribution Systems	Lifecycle	3- Due within 5 Years of Inspection	Oct 14, 2020	142,983
REPLACE RADIATOR VALVES & TRAPS	No	D3040 - Distribution Systems	Reliability	2- Due within 2 Years of Inspection	Sep 8, 2014	0
Exhaust System - Restroom	Yes	D3040 -	Lifecycle	3- Due	Oct 14,	13,096

Asset Detail Report
By Asset Name

Requirement Name	Renewal	Prime System	Category	Priority	Action Date	Estimated Cost
Renewal		Distribution Systems		within 5 Years of Inspection	2017	
INSTALL SUPPLY/RETURN FANS	No	D3040 - Distribution Systems	Reliability	1- Due within 1 Year of Inspection	Sep 3, 2016	0
Four Pipe Distribution System w/Pumps Renewal	Yes	D3040 - Distribution Systems	Lifecycle	4- Not Time Based	Oct 14, 2017	1,416,258
Supply Fans 1-6 - Const Volume Renewal	Yes	D3040 - Distribution Systems	Mission	3- Due within 5 Years of Inspection	Oct 14, 2017	188,441
Exhaust System - Fume Hoods Renewal	Yes	D3040 - Distribution Systems	Mission	3- Due within 5 Years of Inspection	Oct 14, 2017	394,939
Install Cowling over Outside Wall Louvers in Rm 316	No	D3040 - Distribution Systems	Lifecycle	1- Due within 1 Year of Inspection	May 26, 2018	12,706
Perimeter Heat System - Hydronic Fin Tube Renewal	Yes	D3040 - Distribution Systems	Lifecycle	3- Due within 5 Years of Inspection	Oct 14, 2020	667,819
Steam Piping and Condensate Return Renewal	Yes	D3040 - Distribution Systems	Lifecycle	3- Due within 5 Years of Inspection	Oct 14, 2017	229,035
Make-Up Air Unit w/ Cooling Tower - Cooling w/Steam Heat Renewal	Yes	D3050 - Terminal and Package Units	Mission	2- Due within 2 Years of Inspection	Oct 14, 2016	26,822
Window AC Units Renewal	Yes	D3050 - Terminal and Package Units	Mission	3- Due within 5 Years of Inspection	Oct 14, 2017	138,426
Unit Heaters - Steam/Hot Water Renewal	Yes	D3050 - Terminal and Package Units	Lifecycle	3- Due within 5 Years of	Oct 14, 2017	16,898

Asset Detail Report
By Asset Name

Requirement Name	Renewal	Prime System	Category	Priority	Action Date	Estimated Cost
				Inspection		
Pneumatic Controls - Average Renewal	Yes	D3060 - Controls and Instrumentation	Lifecycle	3- Due within 5 Years of Inspection	Oct 14, 2017	564,981
Fire Protection - Building Not Sprinklered	No	D40 - Fire Protection	Building Code	4- Not Time Based		421,353
Wet Standpipe System Renewal	Yes	D40 - Fire Protection	Lifecycle	3- Due within 5 Years of Inspection	Oct 14, 2020	179,579
Main Emergency Electrical Service - Panels Lacking	No	D5010 - Electrical Service and Distribution	Life Safety	1- Due within 1 Year of Inspection	Oct 14, 2015	67,126
Main Normal Unit Substation - 208Y/120V Renewal	Yes	D5011 - High Tension Service and Dist.	Lifecycle	3- Due within 5 Years of Inspection	Oct 14, 2017	133,515
Distribution Equipment - 2000A 208Y/120V Renewal	Yes	D5012 - Low Tension Service and Dist.	Lifecycle	3- Due within 5 Years of Inspection	Oct 14, 2017	633,171
Distribution Equipment - Capacity Upgrade Needed	No	D5012 - Low Tension Service and Dist.	Capacity	2- Due within 2 Years of Inspection	Oct 14, 2016	2,009,286
Branch Wiring - Non-GFCI Receptacle - Room 302	No	D5021 - Branch Wiring Devices	Life Safety	1- Due within 1 Year of Inspection	Oct14, 2015	234
Branch Wiring - Power Receptacles Lacking - Rooftop	No	D5021 - Branch Wiring Devices	Life Safety	1- Due within 1 Year of Inspection	Oct 14, 2015	11,060
Branch Wiring - Non-GFCI Receptacles - Labs 123 and 124	No	D5021 - Branch Wiring Devices	Life Safety	1- Due within 1 Year of Inspection	Oct 14, 2015	2,576
Branch Wiring - Non-GFCI Receptacles - Lab 221 Wall	No	D5021 - Branch Wiring Devices	Life Safety	1- Due within 1	Oct 14, 2015	702

Asset Detail Report
By Asset Name

Requirement Name	Renewal	Prime System	Category	Priority	Action Date	Estimated Cost
				Year of Inspection		
Branch Wiring - Non-GFCI Receptacles - Lab 240	No	D5021 - Branch Wiring Devices	Life Safety	1- Due within 1 Year of Inspection	Oct 14, 2015	937
Branch Wiring - Non-GFCI Receptacles - Lab 108	No	D5021 - Branch Wiring Devices	Life Safety	1- Due within 1 Year of Inspection	Oct 14, 2015	1,873
Branch Wiring - Non-GFCI Receptacles - Lab 221 Table	No	D5021 - Branch Wiring Devices	Life Safety	1- Due within 1 Year of Inspection	Oct 14, 2015	1,405
Branch Wiring - Non-GFCI Receptacles - Restrooms 131 and 135A	No	D5021 - Branch Wiring Devices	Life Safety	1- Due within 1 Year of Inspection	Oct 14, 2015	468
Branch Wiring - Non-GFCI Receptacles - Lab 313	No	D5021 - Branch Wiring Devices	Life Safety	1- Due within 1 Year of Inspection	Oct 14, 2015	702
Branch Wiring - Obstructed Panel Access - Room 240A	No	D5021 - Branch Wiring Devices	Life Safety	1- Due within 1 Year of Inspection	Oct 14, 2015	206
Branch Wiring Renewal	Yes	D5021 - Branch Wiring Devices	Lifecycle	4- Not Time Based	Oct 14, 2017	400,750
Branch Wiring - Non-GFCI Receptacles - Lab 203	No	D5021 - Branch Wiring Devices	Life Safety	1- Due within 1 Year of Inspection	Oct 14, 2015	937
Branch Wiring - Obstructed Panel Access - Room 46	No	D5021 - Branch Wiring Devices	Life Safety	1- Due within 1 Year of Inspection	Oct 14, 2015	413
Fire Alarm System Renewal	Yes	D5037 - Fire Alarm Systems	Lifecycle	2- Due within 2 Years of Inspection	Oct 14, 2016	590,964
LAN System Renewal	Yes	D50392 - LAN	Technological	3- Due	Oct 14,	564,823

Asset Detail Report
By Asset Name

Requirement Name	Renewal	Prime System	Category	Priority	Action Date	Estimated Cost
		Network - Wired	Improvements	within 5 Years of Inspection	2017	
Building Wireless Upgrade	No	D50393 - LAN Network - Wireless	Technological Improvements	1- Due within 1 Year of Inspection	Aug 25, 2017	170,098
Casework Cabinets Renewal	Yes	E - Equipment and Furnishings	Lifecycle	4- Not Time Based	Oct 14, 2017	147,305
Laboratory Casework Renewal	Yes	E - Equipment and Furnishings	Mission	3- Due within 5 Years of Inspection	Oct 14, 2020	352,313
Steel Crane Renewal	Yes	E10 - Equipment	Lifecycle	3- Due within 5 Years of Inspection	Oct 14, 2017	41,233
Total						**16,034,980**

Replacement Value Based on System Cost with Overheads

System Costs

System	System Name	Cost
A - Substructure	Concrete Footings	46,898
A - Substructure	Structural Slab on Grade - Non-Industrial	141,336
A - Substructure	Foundation Wall and Footings 12-Ft - Full Basement	230,077
B10 - Superstructure	Multi-Story - Concrete	2,110,263
B10 - Superstructure	Wood Roof	201,960
B1015 - Exterior Stairs and Fire Escapes	Exterior Stairs - Concrete	11,705
B1020 - Roof Construction	Fall Protection - Rooftop Guardrails	30,046
B2010 - Exterior Walls	Brick Walls - CIP Concrete Backup	1,113,166
B2010 - Exterior Walls	Metal Paneled Walls	15,864
B2010 - Exterior Walls	Stone Veneer Walls - Limestone	200,040
B2020 - Exterior Windows	Aluminum Windows	269,000
B2030 - Exterior Doors	Door Assembly - 3 x 7 Decorative Metal	80,226
B2030 - Exterior Doors	Door Assembly - Large Glazed HM	33,923
B2030 - Exterior Doors	Door Assembly - 6 x 7 HM	6,566

Asset Detail Report
By Asset Name

System	System Name	Cost
B30 - Roofing	Built Up Roof	6,930
B30 - Roofing	Modified Bitumen	334,907
C1010 - Partitions	Windows/Storefront Partitions	14,082
C1010 - Partitions	GWB Walls - Standard (Non-Painted)	46,400
C1010 - Partitions	CMU Block Walls - Plain	745,500
C1010 - Partitions	Plaster Walls - Thin Coat	22,800
C1020 - Interior Doors	Swinging Doors - 3 x 7 HM	151,359
C1020 - Interior Doors	Swinging Doors - 3 x 7 Wd	346,610
C1020 - Interior Doors	Swinging Doors - Pair - 6 x 7 HM - Rated	34,499
C1020 - Interior Doors	Swinging Doors - Pair - 6 x 7 Wd - Rated	205,516
C1030 - Fittings	Restroom Accessories	14,783
C1030 - Fittings	Toilet Partitions - Steel	13,567
C1035 - Identifying Devices	Fittings - Signage (Room Numbering and Identification)	19,859
C20 - Stairs	Stairs - Spiral Staircase	10,530
C20 - Stairs	Stairs - Wood	3,462
C20 - Stairs	Stairs - Concrete	163,941
C3010 - Wall Finishes	Painted Finish - Average (1 Coat Prime - 2 Coats Finish)	101,000
C3010 - Wall Finishes	Paint Masonry/Epoxy Finish	220,800
C3010 - Wall Finishes	Glazed Block	199,455
C3020 - Floor Finishes	Concrete - Painted	4,533
C3020 - Floor Finishes	Carpeting - Broadloom	21,690
C3020 - Floor Finishes	VCT	52,838
C3020 - Floor Finishes	Terrazzo - Cast-in-Place	408,520
C3020 - Floor Finishes	VAT	176,125
C3030 - Ceiling Finishes	ACT System - Concealed Spline	159,500
C3030 - Ceiling Finishes	GWB Taped and Finished	82,960
C3030 - Ceiling Finishes	Painted Plaster	279,360
C3030 - Ceiling Finishes	ACT System - Standard	33,700
D1010 - Elevators and Lifts	Traction Geared Freight Elevator	236,575
D2010 - Plumbing Fixtures	Restroom Fixtures - Group Locker Room Showers	15,824
D2010 - Plumbing Fixtures	Water Coolers - 1995	19,816
D2010 - Plumbing Fixtures	Water Coolers - 1970	19,816
D2010 - Plumbing Fixtures	Restroom Fixtures	131,711

Asset Detail Report
By Asset Name

System	System Name	Cost
D2010 - Plumbing Fixtures	Laboratory Sinks	273,175
D2010 - Plumbing Fixtures	Emergency Eyewash and Shower Units	4,125
D2010 - Plumbing Fixtures	Custodial/Utility Sinks	14,842
D2020 - Domestic Water Distribution	Water Heater - Steam Instantaneous	111,906
D2020 - Domestic Water Distribution	Water Dist Complete	280,567
D2030 - Sanitary Waste	Sanitary Waste - Gravity Disch	210,921
D2040 - Rain Water Drainage	Roof Drainage - Gravity	169,949
D2090 - Other Plumbing Systems	Natural Gas Distribution for Lab	106,192
D2090 - Other Plumbing Systems	Shop Air Compressor	27,259
D2090 - Other Plumbing Systems	Lab Acid Waste System - Glass Pipe	224,900
D2090 - Other Plumbing Systems	Lab Acid Waste System - Polypropylene	72,128
D3030 - Cooling Generating Systems	DX Condensing Unit - Carrier (Rm215)	3,422
D3030 - Cooling Generating Systems	DX Condensing Unit - Carrier (Rm15)	3,422
D3030 - Cooling Generating Systems	DX Condensing Unit - Carrier (Rm306)	3,422
D3030 - Cooling Generating Systems	DX Condensing Unit - Carrier (Rm302)	3,422
D3030 - Cooling Generating Systems	DX Condensing Unit - Carrier (Rm301)	3,422
D3032 - Direct Expansion Systems	Refrigeration Walk-in Unit	31,799
D3040 - Distribution Systems	Exhaust System - Restroom	10,476
D3040 - Distribution Systems	Four Pipe Distribution System w/Pumps	1,133,007
D3040 - Distribution Systems	Exhaust System - General Building	64,733
D3040 - Distribution Systems	HVAC Distribution System - Ductwork	351,781
D3040 - Distribution Systems	Perimeter Heat System - Hydronic Fin Tube	596,267
D3040 - Distribution Systems	Fan Coil System - Cabinet - Heating/Cooling - 4 Pipe	114,386
D3040 - Distribution Systems	Steam Piping and Condensate Return	183,228
D3040 - Distribution Systems	Supply Fans 1-6 - Const Volume	150,753
D3040 - Distribution Systems	Exhaust System - Fume Hoods	315,951
D3050 - Terminal and Package Units	Unit Heaters - Steam/Hot Water	15,088
D3050 - Terminal and Package Units	Window AC Units	131,834
D3050 - Terminal and Package Units	Make-Up Air Unit w/ Cooling Tower - Cooling w/Steam Heat	21,458
D3060 - Controls and Instrumentation	Pneumatic Controls - Average	504,447
D40 - Fire Protection	Wet Standpipe System	143,663
D40 - Fire Protection	Fire Extinguishers - Dry Chem w/Cabinet	3,159
D5010 - Electrical Service and Distribution	Main Emergency Electrical Service	65,218

Asset Detail Report
By Asset Name

System	System Name	Cost
D5011 - High Tension Service and Dist.	Main Normal Unit Substation - 208Y/120V	882,439
D5012 - Low Tension Service and Dist.	Distribution Equipment - 2000A 208Y/120V	506,537
D5020 - Lighting and Branch Wiring	Lighting - Exterior	3,366
D5021 - Branch Wiring Devices	Branch Wiring	320,600
D5022 - Lighting Equipment	Lighting - Interior	455,593
D5037 - Fire Alarm Systems	Fire Alarm System	472,772
D50392 - LAN Network - Wired	LAN System	299,777
D5092 - Emergency Light and Power Systems	Exit Signs	71,792
E - Equipment and Furnishings	Laboratory Casework	281,850
E - Equipment and Furnishings	Casework Cabinets	117,844
E10 - Equipment	Steel Crane	41,233
Subtotal		**17,594,161**

Overhead Costs

Description	Cost
	0

Total Replacement Value Based on System Cost with Overheads **17,594,161**

APPENDIX C

AVAILABILITY OF SPACE

Project Name: STEM/Student Success (Dana)

Campus location: WSU Pullman Campus

REQUIRED FOR ALL CATEOGRIES EXCEPT ACQUISITION AND INFRASTRUCTURE

Identify the average number of hours per week each (a) classroom seat and (b) classroom lab is expected to be utilized in Fall 2018 on the proposed project's campus. Please fill in the gold shaded cells for the **campus** where the project is located.

(a) General University Classroom Utilization	
Fall 2017 Weekly Contact Hours	213,271
Multiply by % FTE Increase Budgeted	0%
Expected Fall 2018 Contact Hours	213,271
Expected Fall 2018 Contact Seats	10,566
Expected Hours per week Utilization	**20.2**
HECB GUC Utilization Standard	22
Difference in Utilization Standard	-8%

(b) General University Lab Utilization	
Fall 2017 Weekly Contact Hours	42,569
Multiply by % FTE Increase Budgeted	0%
Expected Fall 2018 Contact Hours	42,569
Expected Fall 2018 Class Lab Seats	3,003
Expected Hours per Week Utilization	**14.2**
HECB GUL Utilization Standard	16
Difference in Utilization Standard	-11%

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 that level of utilization.

As reflected above, usage of campus classrooms and labs nearly meet the HECB standards. In fact, if all the classes and labs scheduled after hours were included, overall usage of those spaces is above the HECB standard. The HECB formula counts usage within a nine-hour contiguous block of time. While the majority (93%) of scheduled classroom use occurs between 8:00 a.m. and 5:00 p.m., (the hour block used for this calculation), 7% of classroom time is scheduled outside this timeframe. If included, those additional contact hours of usage put the classroom space use above the current standard. While the majority (87%) of scheduled lab use occurs between 9:00 a.m. and 6:00 p.m. (the block used for this calculation), 13% of the teaching lab use is outside this time range. If included, those additional contact hours of usage put the lab space use above the current standard.
This renovation will not add traditional classroom or laboratory space but will greatly improve efficiency of instructional support space use. This will be accomplished by relocating Voiland College of Engineering & Architecture tutoring, academic advising and other student support functions from scattered Pullman campus locations into one easily accessible and modernized location in Dana Hall.

APPENDIX D

Efficiency of Space Allocation - Major Functions After Renovation - FEPG Comparison

STEM / Student Success (Dana)

FEPG Room Classification No.	FEPG Room Classification Type	Project ASF/Station	FEPG Standard	Meets Standard (Y/N)	Comments
311/312	Academic / Staff Advising	120-140	120-140	Yes	Meets FEPG Guidelines
110	Classroom	16-26	16-26	Yes	Meets FEPG Guidelines
350	Conference Rooms	310	310	Yes	Meets FEPG Guidelines
--	Service Rooms			N/A	Sized appropriately to serve the functions

Excerpt from FEPG Planning Guide:

Offices:

D. Project Design Standards for Office Space

1. Space requirements per full time equivalent (FTE)

The assignable square feet (ASF) numbers listed below are average numbers. Some projects may require more or less space than these averages

Office Type		ASF per FTE
312	Executive	As required
311 & 312	Vice President, Dean and Equivalent	minimum 200 ASF
311 & 312	Chairs, Directors and Equivalents	175 ASF
311	Faculty and Equivalents	140 ASF
313	Student Assistants **	140 ASF
314	Secretarial, clerical	140 ASF
316 & 317	Staff and Other	120 ASF
315	Office service, per FTE secretarial, clerical position	100 ASF

*** Assumes a minimum of two student assistants per office.***

Classrooms:

E. Design Standards for Classrooms

Table 1 below is intended for the following applications:

1. The square feet per station shown for the various types of seating can be used to determine the total assignable square feet (ASF) required within a room to achieve a desired seating capacity.
2. The square feet per station can also be used to determine the seating capacity within an existing room.
3. When doing general campus-wide classroom space projections, use 16 ASF as a space factor. See Section D (Classroom Space Required) for space calculation formula.

TABLE 1
Classroom Assignable Square Feet Per Station Criteria
(Includes Classroom Service)

Room Capacity	Movable Chairs w/Tablet Arm (TA)		Fixed Pedestal or Riser Mounted Seating w/TA	Auditorium Seating w/TA		Movable Table & Chairs	Pedestal Table and Chair
	Under 15" Arm	15-20" Arm		Folding	Non-Folding		
0 - 25	18	20	17	--	--	16 - 26	20 - 22
26 - 49	16	18	17	--	--	16 - 26	19 - 20
50 - 99	14	16	13	14	17	16 - 22	18 - 20
100 - 149	--	--	12	14	15	16 - 22	18 - 20
150 - 299	--	--	--	14	15	16 - 22	17 - 19
300+	--	--	--	14	15	16 - 22	16 - 18
Overall Average	16		14	14	15	20	18

Conference Room:

CONFERENCE ROOMS

A. Room Use Classifications and Definitions

1. **350 CONFERENCE ROOM:** A room serving an office complex and used primarily for staff meetings and departmental activities other than instructional activities.

Description: A conference room is typically equipped with tables and chairs. Normally it is used by a specific organizational unit or office area, whereas Meeting Rooms (680) are used for general purposes such as community or campus group meetings not associated with a particular department. If a room is used for both conference and meeting room functions, then the room should be classified according to its principal use. A conference room is distinguished from facilities such as seminar rooms, lecture rooms, and Classrooms (110) because it is used primarily for activities other than scheduled classes. A conference room is intended primarily for formal gatherings whereas a lounge is intended for relaxation and casual interaction. This category includes teleconference rooms.

APPENDIX E

Program-related Space Allocation
Assignable Square Feet Template

STEM / Student Success (Dana)

Input the assignable square feet for the proposed project under the appropriate space type below:

Type of Space	Points	Assignable Sqaure Feet	Percentage of Total	Score [Points X Percentage]
Instructional Space (Classroom, Lab, Library)	6	7,000	46.7%	2.8
Student Advising/Counseling	4	7,000	46.7%	1.9
Childcare	4	-	0.0%	-
Faculty Offices	4	-	0.0%	-
Administrative	2	500	3.3%	0.1
Maintenance/Central Stores/Student Center	2	500	3.3%	0.1
Total		15,000	100%	4.8

OFM

365 - Washington State University
Capital Project Request
2019-21 Biennium

Version: 10 2019-21 WSU Capital Budget Request

Report Number: CBS002
Date Run: 8/2/2018 9:55AM

Project Number: 40000008
Project Title: STEM/Student Success (Dana)

Description

Starting Fiscal Year: 2020
Project Class: Program
Agency Priority: 11

Project Summary

WSU requests $9.6 million for renovation of the first floor of Dana Hall and the associated building systems. Dana Hall is one of the Pullman campus buildings occupied by the College of Engineering and Architecture. There has been rapid growth, supported by state initiatives, in the number of students in high-demand STEM programs at WSU. For example, the number of engineering, architecture, and computer science students has more than doubled in the past decade with more than 4,800 undergraduates and 800 graduate students currently enrolled. WSU has many programs to support students in attaining graduation and learning outside the classroom (including tutoring centers, student clubs, academic advisors, career and employment services programs, and more). Yet, due to the limitations of the 69-year old Dana Hall in which some of these programs are housed, student support programs for engineering, architecture and computer science students are distributed in nearly a dozen buildings and in more than two dozen spaces. Centralizing these programs would help students access them and help faculty and staff promote their use. This project will significantly modernize the Dana Hall (circa 1949) first floor to support these programs and co-locate all of them in a single building. The project scope also includes renewal of the related building systems. The renovated space will more effectively support student needs and increase utilization to support student graduation and retention goals and improve student success rates.

Project Description

Identify the problem or opportunity addressed. Why is the request a priority? (Numbers not served, students without classrooms, budget savings, safety improvements, history, and other backup necessary to understand the need for the request.)

There has been rapid growth, supported by state initiatives, in the number of students in high-demand STEM programs at WSU. For example, the number of engineering, architecture, and computer science students has more than doubled in the past decade with more than 4,800 undergraduates and 800 graduate students currently enrolled. WSU has many programs to support students in attaining graduation and learning outside the classroom (including tutoring centers, student clubs, academic advisors, career and employment services programs, and more). Yet, due to the limitations of the 69-year old Dana Hall in which some of these programs are housed, student support programs for engineering, architecture and computer science students are distributed in nearly a dozen buildings and in more than two dozen spaces. Centralizing these programs would help students access them and help faculty and staff promote their use. This project will significantly modernize the Dana Hall (circa 1949) first floor to support these programs and co-locate all of them in a single building. The project scope also includes renewal of the related building systems. The renovated space will more effectively support student needs and increase utilization to support student graduation and retention goals and improve student success rates.

What will the request produce or construct (i.e., design of a building, construction of additional space, etc.)? When will the project start and complete? Identify whether the project can be phased, and if so, which phase is included in the request.

This project would remodel the first floor of Dana Hall (circa 1949) and upgrade the related building systems. It would modernize the space and WSU would collocate the vital student support functions that are currently dispersed in various buildings throughout the Voiland College of Engineering and Architecture (VCEA) and improve student success rates. If funded in the 2019-21 Capital Budget Design would begin upon release of funding and end in May 2020. Construction would being in May 2020 with an estimated end date of August 2021.

How would the request address the problem or opportunity identified in question #1? What would be the result of not taking action?

This request would centralize the many programs WSU has to support students in attaining graduation and learning outside the classroom (including a tutoring center, student clubs, academic advisors, career and employment services programs, and more). Due to the limitations of the 69-year old Dana Hall in which some of these programs are housed, student support programs for engineering, architecture and computer science students are distributed in nearly a dozen buildings and in more than two dozen spaces. Centralizing these programs would help students access them and help faculty and staff promote their use. This project will significantly modernize the Dana Hall first floor to support these programs and co-locate all of them in modernized space in a single building. The renovated space will more effectively support student needs and increase utilization to support student graduation and retention goals.

Multiple experiential learning programs are offered by the college but none have the facilities needed to meet the needs of the

Description

current student body. For example, the VCEA tutoring center is limited to supporting about 30 students at a time (less than 1% of our current student body). Enhanced and consolidated facilities will support increasing student graduation and retention. The result of not taking action would keep the old, existing building the same, with the de-centralized student support systems. Dana Hall has sufficient square footage to meet the needs of these programs and is located centrally in the core of VCEA operations, but to be effective it requires the modernization that this project will provide.

Which clientele would be impacted by the budget request? Where and how many units would be added, people or communities served, etc. Be prepared to provide detailed cost backup.

Dana Hall would house the student support and teaching activities necessary in the success of engineering students. Student support programs identified for Dana Hall include academic advisors, the engineering tutoring center, offices for the NSF-sponsored STARS and Louis Stokes Alliance for Minority Participation (WSU-LSAMP) programs, scholarship, internship and placement office, hands-on workspaces for numerous student projects and clubs, and other related student support groups. All Pullman-based engineering, computer science, and architecture students use these resources.

Undergraduate and graduate students studying in the fields of mechanical-, electrical-, chemical-, biological-, materials-, civil-, and environmental engineering; computer science, architecture, landscape architecture, interior design, and construction management would be supported and trained in the building each semester.

Does the request include IT-related costs? (See the IT Appendix for guidance, and follow directions to meet the OCIO review requirement.) What alternatives were explored? Why was the recommended alternative chosen?

This request does not include funding for any IT-related costs.

Will non-state funds be used to complete the project? How much, what fund source, and could the request result in matching federal, state, local, or private funds?

Non-state funds will not be used to complete the project. None have been identified.

Describe how the project supports the agency's strategic/master plans, contributes to statewide goal, or enables the agency to perform better. Reference feasibility studies, master plans, space programming, and other analyses as appropriate.

The project aligns with WSU's Strategic Plan, specifically related to providing a "Transformative Student Experience." This includes three main goals; namely, to 1) provide an excellent teaching and learning opportunity to a larger and more diverse student population, 2) provide a university experience centered on student engagement, development, and success, which prepares graduates to lead and excel in a diverse United States and global society, and 3) improve curricular and student support infrastructure to enhance access, educational quality, and student success in a growing institution. Renovating for student collaborative space in Dana Hall will positively impact the students' educational experience and directly ties to the stated university and state strategic goals.

The university has a strategic goal of achieving high first-year retention rates and 6-year graduation rates. The STEM fields of engineering, computer science, and architecture that have historically suffered from a high first-year dropout rate. This project provides an opportunity for intervention. Remodeling outdated facilities to foster small-group collaborations and modern audio-visual tools will expand the university's teaching capabilities and improve instructor-student and student-student communications. Pedagogical research also shows that the more time a student participates in extracurricular learning programs offered by the college, the better their performance (as measured by GPA) and the higher their retention rates. Modernization of the facilities to promote interdisciplinary teaming, peer-to-peer mentoring, experiential learning, and strong industrial engagement will increase students' collaborative critical-thinking skills and workforce readiness. Success in this initiative will not only advance the university's strategic goals but also produce desperately needed STEM talent for the state of Washington.

The project aligns with Results Washington Goal 1: World-Class Education. Specifically Goal 1.3.f is to increase the number of students enrolled in STEM and identified high-demand employment programs in public 4-year colleges. The remodel of the first floor of Dana Hall and upgrade of the related building systems would modernize the space, and WSU would collocate the vital student support functions that are currently dispersed in various buildings throughout the Voiland College of Engineering and Architecture (VCEA). The renovated space will more effectively support student needs, increase utilization to support student graduation and retention goals, and improve student success rates.

For projects linked to the Puget Sound Action Agenda, describe the impacts on the Action Agenda. See Chapter 14.4 in the 2017-19 Operating Budget Instructions

This project is not linked to the Puget Sound Action Agenda.

Is there additional information you would like decision makers to know when evaluating this request?

Location

City: Pullman **County:** Whitman **Legislative District:** 009

OFM

365 - Washington State University
Capital Project Request
2019-21 Biennium

*

Version: 10 2019-21 WSU Capital Budget Request

Report Number: CBS002
Date Run: 8/2/2018 9:55AM

Project Number: 40000008
Project Title: STEM/Student Success (Dana)

Description

Project Type

Remodel/Renovate/Modernize (Major Projects)

Growth Management impacts

WSU Pullman's physical planning policies are coordinated with many agencies and government units. The Growth Management Act and its companion Traffic Demand Management legislation and the State Environmental Policy Act, however, are applicable to WSU's physical facilities and programs. Growth Management Act (GMA)-WSU will coordinate with Counties and Municipalities throughout the State to ensure compliance with GMA. WSU will avoid construction or activities which would permanently impair "critical" areas on its campuses as they are defined in the GMA. Transportation Demand Management-A companion piece of legislation sets forth a policy for Transportation Demand Management in which the State of Washington will provide leadership. The Director of the State of Washington Department of General Administration (DGA) is required to develop a commute trip reduction plan for state agencies which are Phase I major employers WSU will conform to the plans developed by DGA. State Environmental Policy Act (SEPA)-WSU has adopted procedures set forth in the State Environmental Policy Act Handbook December 1988 and the State Environmental Policy Act Rules Chapter 197-11 Washington Administrative Code Effective April 4, 1984. Adherence to these procedures will be one of the principal means by which WSU coordinates its compliance with Growth Management requirements.

New Facility: No

How does this fit in master plan

See http://facilitiesservices.wsu.edu/resouorces/pdf/masterplan/Pullman_masterplan.pdf

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Expenditures Current Biennium	2019-21 Fiscal Period Reapprops	2019-21 Fiscal Period New Approps
057-1	State Bldg Constr-State	45,600,000				9,600,000
	Total	**45,600,000**	**0**	**0**	**0**	**9,600,000**

		Future Fiscal Periods 2021-23	2023-25	2025-27	2027-29
057-1	State Bldg Constr-State	9,000,000	9,000,000	9,000,000	9,000,000
	Total	**9,000,000**	**9,000,000**	**9,000,000**	**9,000,000**

Schedule and Statistics

Start Date	End Date

OFM

365 - Washington State University
Capital Project Request
2019-21 Biennium

Version: 10 2019-21 WSU Capital Budget Request

Report Number: CBS002
Date Run: 8/2/2018 9:55AM

Project Number: 40000008
Project Title: STEM/Student Success (Dana)

Schedule and Statistics

	Start Date	End Date
Predesign		
Design	6/1/2019	5/1/2020
Construction	5/1/2020	8/1/2021

	Total
Gross Square Feet:	16,000
Usable Square Feet:	15,000
Efficiency:	93.8%
Escalated MACC Cost per Sq. Ft.:	367
Construction Type:	College Classroom Facilities
Is this a remodel?	Yes
A/E Fee Class:	B
A/E Fee Percentage:	11.60%

Cost Summary

		Escalated Cost	% of Project
Acquisition Costs Total		**0**	**0.0%**
Consultant Services			
Pre-Schematic Design Services		0	0.0%
Construction Documents		499,515	5.2%
Extra Services		179,878	1.9%
Other Services		253,664	2.6%
Design Services Contingency		95,612	1.0%
Consultant Services Total		**1,028,668**	**10.7%**
Maximum Allowable Construction Cost(MACC)	**5,866,053**		
Site work		0	0.0%
Related Project Costs		0	0.0%
Facility Construction		5,866,053	61.1%
GCCM Risk Contingency		0	0.0%
GCCM or Design Build Costs		324,390	3.4%
Construction Contingencies		586,605	6.1%
Non Taxable Items		0	0.0%
Sales Tax		528,609	5.5%
Construction Contracts Total		**7,305,657**	**76.1%**
Equipment			
Equipment		694,195	7.2%
Non Taxable Items		0	0.0%
Sales Tax		54,147	0.6%

OFM

365 - Washington State University
Capital Project Request
2019-21 Biennium

Version: 10 2019-21 WSU Capital Budget Request

Report Number: CBS002
Date Run: 8/2/2018 9:55AM

Project Number: 40000008
Project Title: STEM/Student Success (Dana)

Cost Summary

	Escalated Cost	% of Project
Equipment Total	748,342	7.8%
Art Work Total	29,330	0.3%
Other Costs Total	106,070	1.1%
Project Management Total	382,074	4.0%
Grand Total Escalated Costs	9,600,141	
Rounded Grand Total Escalated Costs	9,600,000	

Operating Impacts

No Operating Impact

Narrative
Renovation of existing facility.

OFM

Capital Project Request

2019-21 Biennium

*

Parameter	Entered As	Interpreted As
Biennium	2019-21	2019-21
Agency	365	365
Version	10-A	10-A
Project Classification	*	All Project Classifications
Capital Project Number	40000008	40000008
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

Agency	Washington State University
Project Name	STEM/Student Success (Dana)
OFM Project Number	40000008

Contact Information	
Name	Kelly Keane
Phone Number	509-335-8153
Email	kelly.keane@wsu.edu

Statistics			
Gross Square Feet	16,000	MACC per Square Foot	$339
Usable Square Feet	15,000	Escalated MACC per Square Foot	$367
Space Efficiency	93.8%	A/E Fee Class	B
Construction Type	College classroom facilit	A/E Fee Percentage	11.60%
Remodel	Yes	Projected Life of Asset (Years)	25
Additional Project Details			
Alternative Public Works Project	Yes	Art Requirement Applies	Yes
Inflation Rate	3.12%	Higher Ed Institution	Yes
Sales Tax Rate %	7.80%	Location Used for Tax Rate	3812
Contingency Rate	10%		
Base Month	June-18		
Project Administered By	Agency		

Schedule			
Predesign Start		Predesign End	
Design Start	June-19	Design End	May-20
Construction Start	May-20	Construction End	August-21
Construction Duration	15 Months		

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Project Cost Estimate

Total Project	$8,903,771	Total Project Escalated	$9,600,146
		Rounded Escalated Total	$9,600,000

STATE OF WASHINGTON

AGENCY / INSTITUTION PROJECT COST SUMMARY

Agency	Washington State University
Project Name	STEM/Student Success (Dana)
OFM Project Number	40000008

Cost Estimate Summary

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

Consultant Services			
Predesign Services	$0		
A/E Basic Design Services	$477,639		
Extra Services	$172,000		
Other Services	$234,591		
Design Services Contingency	$88,423		
Consultant Services Subtotal	**$972,653**	**Consultant Services Subtotal Escalated**	**$1,028,669**

Construction			
GC/CM Risk Contingency	$0		
GC/CM or D/B Costs	$300,000		
Construction Contingencies	$542,500	Construction Contingencies Escalated	$586,606
Maximum Allowable Construction Cost (MACC)	$5,425,000	Maximum Allowable Construction Cost (MACC) Escalated	$5,866,053
Sales Tax	$488,865	Sales Tax Escalated	$528,610
Construction Subtotal	**$6,756,365**	**Construction Subtotal Escalated**	**$7,305,659**

Equipment			
Equipment	$642,000		
Sales Tax	$50,076		
Non-Taxable Items	$0		
Equipment Subtotal	**$692,076**	**Equipment Subtotal Escalated**	**$748,343**

Artwork			
Artwork Subtotal	**$29,330**	**Artwork Subtotal Escalated**	**$29,330**

Agency Project Administration			
Agency Project Administration Subtotal	$323,847		
DES Additional Services Subtotal	$0		
Other Project Admin Costs	$0		
Project Administration Subtotal	**$353,347**	**Project Administation Subtotal Escalated**	**$382,075**

Other Costs			
Other Costs Subtotal	**$100,000**	**Other Costs Subtotal Escalated**	**$106,070**

Project Cost Estimate

Total Project	**$8,903,771**	Total Project Escalated	**$9,600,146**
		Rounded Escalated Total	**$9,600,000**

Cost Estimate Details

Acquisition Costs				
Item	Base Amount	Escalation Factor	Escalated Cost	Notes
Purchase/Lease	$0			
Appraisal and Closing	$0			
Right of Way	$0			
Demolition	$0			
Pre-Site Development	$0			
	$0			
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**	**1.0312**	**$0**	Escalated to Design Start
2) Construction Documents				
A/E Basic Design Services	$477,639			69% of A/E Basic Services
Other				
Insert Row Here				
Sub TOTAL	**$477,639**	**1.0458**	**$499,515**	Escalated to Mid-Design
3) Extra Services				
Civil Design (Above Basic Svcs)				
Geotechnical Investigation				
Commissioning	$20,000			
Site Survey	$87,000			
Testing	$35,000			
LEED Services				
Voice/Data Consultant				
Value Engineering				
Constructability Review	$5,000			
Environmental Mitigation (EIS)				
Landscape Consultant				
Interior Design	$25,000			
Insert Row Here				
Sub TOTAL	**$172,000**	**1.0458**	**$179,878**	Escalated to Mid-Design
4) Other Services				
Bid/Construction/Closeout	$214,591			31% of A/E Basic Services
HVAC Balancing	$20,000			
Staffing				
Other				
Insert Row Here				
Sub TOTAL	**$234,591**	**1.0813**	**$253,664**	Escalated to Mid-Const.
5) Design Services Contingency				
Design Services Contingency	$88,423			
Other				
Insert Row Here				
Sub TOTAL	**$88,423**	**1.0813**	**$95,612**	Escalated to Mid-Const.
CONSULTANT SERVICES TOTAL	**$972,653**		**$1,028,669**	

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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	1.0607	$0	
2) Related Project Costs				
Offsite Improvements				
City Utilities Relocation	$0			
Parking Mitigation	$0			
Stormwater Retention/Detention	$0			
Other				
Insert Row Here				
Sub TOTAL	$0	1.0607	$0	
3) Facility Construction				
A10 - Foundations				
A20 - Basement Construction				
B10 - Superstructure				
B20 - Exterior Closure	$150,000			
B30 - Roofing				
C10 - Interior Construction	$100,000			
C20 - Stairs	$50,000			
C30 - Interior Finishes	$500,000			
D10 - Conveying	$175,000			
D20 - Plumbing Systems	$800,000			
D30 - HVAC Systems	$1,800,000			
D40 - Fire Protection Systems	$300,000			
D50 - Electrical Systems	$750,000			
F10 - Special Construction				
F20 - Selective Demolition	$200,000			
General Conditions	$600,000			
Other				
Insert Row Here				
Sub TOTAL	$5,425,000	1.0813	$5,866,053	
4) Maximum Allowable Construction Cost				
MACC Sub TOTAL	$5,425,000		$5,866,053	

5) GCCM Risk Contingency				
GCCM Risk Contingency				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.0813**	**$0**	
6) GCCM or Design Build Costs				
GCCM Fee	$300,000			
Bid General Conditions				
GCCM Preconstruction Services				
Other				
Insert Row Here				
Sub TOTAL	**$300,000**	**1.0813**	**$324,390**	
7) Construction Contingency				
Allowance for Change Orders	$542,500			
Other				
Insert Row Here				
Sub TOTAL	**$542,500**	**1.0813**	**$586,606**	
8) Non-Taxable Items				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.0813**	**$0**	
Sales Tax				
Sub TOTAL	**$488,865**		**$528,610**	
CONSTRUCTION CONTRACTS TOTAL	**$6,756,365**		**$7,305,659**	

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Cost Estimate Details

Equipment				
Item	Base Amount	Escalation Factor	Escalated Cost	Notes
E10 - Equipment	$142,000			
E20 - Furnishings	$500,000			
F10 - Special Construction				
Other				
Insert Row Here				
Sub TOTAL	**$642,000**	**1.0813**	**$694,195**	
1) Non Taxable Items				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.0813**	**$0**	
Sales Tax				
Sub TOTAL	**$50,076**		**$54,148**	
EQUIPMENT TOTAL	**$692,076**		**$748,343**	

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Cost Estimate Details

Artwork				
Item	Base Amount	Escalation Factor	Escalated Cost	Notes
Project Artwork	$0			0.5% of Escalated MACC for new construction
Higher Ed Artwork	$29,330			0.5% of Escalated MACC for new and renewal construction
Other				
Insert Row Here				
ARTWORK TOTAL	**$29,330**	**NA**	**$29,330**	

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Cost Estimate Details

Project Management				
Item	Base Amount	Escalation Factor	Escalated Cost	Notes
Agency Project Management	$323,847			
Additional Services				
Onsite Supervision	$29,500			
Insert Row Here				
PROJECT MANAGEMENT TOTAL	**$353,347**	**1.0813**	**$382,075**	

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Cost Estimate Details

Other Costs				
Item	Base Amount	Escalation Factor	Escalated Cost	Notes
Mitigation Costs				
Hazardous Material Remediation/Removal	$50,000			
Historic and Archeological Mitigation				
Waste Mangement	$15,000			
Builders Risk	$10,000			
Admin Costs	$10,000			
Facilities Support	$15,000			
OTHER COSTS TOTAL	$100,000	1.0607	$106,070	

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C-100(2018)
Additional Notes

Tab A. Acquisition
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Tab B. Consultant Services
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Tab C. Construction Contracts
Insert Row Here

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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