FACILITIES
UNIVERSITY of WASHINGTON

UNIVERSITY OF WASHINGTON
Agency 360

2025-2027
CAPITAL BUDGET REQUEST

September 10, 2024

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FACILITIES
UNIVERSITY of WASHINGTON

2025-2027 Capital Budget Request and 2025-2035 Ten-Year Capital Plan
TABLE OF CONTENTS

Shaded projects are not new capital requests but rather reappropriation requests

TAB A - INTRODUCTION **1**

UW 2025-2027 Capital Budget Introduction 3
UW 2025-2027 State Capital Budget Request and Ten-Year Plan 7
Ten-Year Capital Plan by Project Class - Report (CBS001) 9
Department of Archaeology and Historic Preservation Review Correspondence 15
Capital FTE Summary - Report (CBS004) 23
UW Deferred Maintenance Backlog Reduction Plan 25

TAB B – PRESERVATION PROJECTS **35**

UW Preservation Projects - Request Summaries 37
Capital Project Requests - Reports (CBS002, C-100's, Combined Attachment, Appendices)
- Clean Energy Transformation 25-27 41
- Infrastructure Renewal 25-27 393
- UW Tacoma Electrical Repair - Phase 3 449
- UW Bothell - Asset Preservation (Minor Works) 25-27 – Group 1 467
- UW Bothell - Asset Preservation (Minor Works) 25-27 – Group 2 473
- UW Seattle - Asset Preservation (Minor Works) 25-27 479
- UW Tacoma - Asset Preservation (Minor Works) 25-27 – Group 1 495
- UW Tacoma - Asset Preservation (Minor Works) 25-27 – Group 2 501
- UW Major Infrastructure (Seismic Improvements) 507
- UW Tacoma Campus Soil Remediation 509
- FY24 Energy Renewal Program 513
- Infrastructure Renewal 531
- Anderson Hall Renovation 535
- Magnuson Health Sciences Phase II – Renovation/Replacement 537
- UW Seattle - Asset Preservation (Minor Works) 23-25 539
- UW Bothell - Asset Preservation (Minor Works) 23-25 541
- UW Tacoma - Asset Preservation (Minor Works) 23-25 543
- *Campus Asset Renewal Program FUTURE* 545
- *Clean Energy Transformation FUTURE* 547
- *Infrastructure Renewal FUTURE* 549
- *Asset Preservation (Minor Works) FUTURE* 551

TAB C – PROGRAMMATIC PROJECTS **553**

UW Programmatic Projects - Request Summaries 555
Capital Projects Requests - Reports (CBS002, C-100's, Combined Attachment, Appendices)
- Chemical Sciences & Bagley Hall 557
- Intellectual House – Phase 2 583
- UW Tacoma – Land Acquisition 587
- UWMC NW – Campus Behavioral Health Renovation 589
- Ctr. for Advanced Materials and Clean Energy Research Test Beds (Site W27) 591
- Clean Energy Test Beds 595

TAB D – GRANT & LOAN PROGRAMS (NO REQUESTS) **597**

TAB E – COP FORMS (NO REQUESTS) **599**

TAB F – DIRECT PAY FORM **601**

FACILITIES
UNIVERSITY of WASHINGTON

TAB A
INTRODUCTION

Introduction

UW 2025-2027 Capital Budget Introduction

UW 2025 -2027 State Capital Budget Request and Ten-Year Plan

10 Year Capital Plan by Project Class – Report (CBS001)

Department of Archaeology and Historic Preservation Review Correspondence

Capital FTE Summary – Report (CBS004)

UW Deferred Maintenance Backlog Reduction Plan

Campus Building Condition Maps

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University of Washington
2025-2027 Capital Budget Introduction

INSTITUTIONAL BACKGROUND

As the state's flagship university, the University of Washington (UW) serves more students than any institution in the Northwest – more than 60,000 annually, including a mix of both undergraduate (71%) and graduate/professional (29%) students. Founded in 1861, the UW is one of the oldest state-supported institutions of higher education on the West Coast. The UW is deeply committed to upholding the responsibility that comes with that legacy; being public has always meant being accessible. Anyone can enjoy and be enriched by all the UW has to offer, including world-class libraries, art, music, drama, sports, and the highest quality medical care in the state of Washington. Being public also means being engaged with our communities, and through knowledge and discovery, we elevate the quality of lives of others.

Between the three campuses, the University offers 473 programs and 846 degree options. Eighty-three percent of incoming first-year students graduate within six years. The University takes pride in that 28% of these first-year students are first-generation four-year degree-seeking students.

THE CAMPUSES

The **UW Seattle** campus comprises 18 colleges and schools whose faculty offer educational opportunities to just under 50,000 students, ranging from first-year undergraduates to doctoral-level candidates. The 639-acre campus is considered one of the nation's most beautiful, including the historic Liberal Arts Quad(rangle) lined with its historic Collegiate Gothic buildings. While serving the educational needs of the local student population, its reach is worldwide.

With their continual growth and diverse undergraduate and graduate programs, the Bothell and Tacoma campuses offer access to higher education and employment programs uniquely tailored to the needs of their students and local communities.

UW Bothell, founded in 1990, enjoys a 128-acre campus with over 6,000 students enrolled in five schools offering over 55 undergraduate and graduate degree programs. It is unique as it is the only four-year institution in Washington that shares a campus with a two-year institution, Cascadia College. UW Bothell holds the student-faculty relationship paramount, providing access to excellence in higher education through innovative and creative curricula, interdisciplinary teaching and research, and a dynamic multicultural learning community.

UW Tacoma, also founded in 1990, has just over 5,000 students in eight schools with over 50 undergraduate and 15 graduate degree programs. The school's 46-acre downtown campus, crafted from updated and restored historic buildings in Tacoma's Warehouse District, has won national recognition. UW Tacoma is an urban-serving university that provides students with access in a way that transforms families and communities and impacts and informs economic development through community engagement.

MISSION STATEMENT

The primary mission of the UW is the preservation, advancement, and dissemination of knowledge. The University preserves knowledge through its libraries and collections, its courses, and the scholarship of its faculty. It advances new knowledge through many forms of research inquiry, and discussion, and disseminates it through the classroom, the laboratory, scholarly exchanges, creative practice, international education, and public service. As one of the nation's outstanding teaching and research institutions, the University is committed to maintaining an environment for objectivity and imaginative inquiry and for the original scholarship and research that ensure the production of new knowledge in the free exchange of facts, theories, and ideas.

VISION STATEMENT

The UW educates a diverse student body to become responsible global citizens and future leaders through a challenging learning environment informed by cutting-edge scholarship.

Discovery is at the heart of our university.

We discover timely solutions to the world's most complex problems and enrich people's lives throughout our community, the state of Washington, the nation, and the world.

STRATEGIC PRIORITIES

- **UW standard of excellence:** We recruit the best, most diverse, and innovative faculty and staff from around the world, encouraging a vibrant intellectual community for our students. We link academic excellence to cutting-edge research through scholarly exploration and intellectual rigor. We hold ourselves to the highest standards of ethics, as a beacon for our community and the world.
- **Academic community:** We are educators and learners. We promote access to excellence and strive to inspire through education that emphasizes the power of discovery and the foundation of critical and analytic thinking. We foster creativity, challenge the boundaries of knowledge, and cultivate independence of mind through unique interdisciplinary partnerships.
- **World leaders in research:** We have grown into the most successful public research university in the nation in attracting support for our research. Ours is a proud culture of innovation, collaboration and discovery that has transformational impact.
- **Celebrating place:** The natural beauty of the Pacific Northwest envelops us. This is an important element of who we are, for this awe-inspiring place not only anchors us, it reaffirms our desire to effect positive change in the world around us. We accept gratefully our role in preserving and enhancing Washington: the place, the people, our home.
- **Spirit of innovation:** As Washingtonians, we are profoundly optimistic about our future. Based on our past and present, we find inspiration for the future. Ours is a culture with a determined persistence that engenders innovation and a belief that our goals can be realized.
- **World citizens:** We are compassionate and committed to the active pursuit of global engagement and connectedness. We assume leadership roles to make the world a better place through education and research. We embrace our role to foster engaged and responsible citizenship as part of the learning experience of our students, faculty, and staff.

- **Being public:** As a public university we are deeply committed to serving all our citizens. We collaborate with partners from around the world to bring knowledge and discovery home to elevate the quality of lives of Washingtonians. This measure of public trust and shared responsibility guides our decision-making as well as our aspirations and vision for the future**.**

2025-2027 CAPITAL BUDGET REQUEST & TEN-YEAR PLAN

The UW's 2025-2027 Capital Budget Request and Ten-Year Capital Plan represent the University's planned stewardship of our existing facilities and space resources and new investments required to maintain our stature as a significant public resource for our region, nation, and world.

The UW's Capital Budget Request is the result of multiple planning efforts with institutional partners carefully integrated with the UW's key strategies mentioned above to meet future challenges. The process is mission-driven, requires an objective search for needs that support key strategies, focuses heavily on efficient utilization of existing resources, and proposes accelerated care for those facilities and infrastructure systems that require the most attention.

The projects identified in the University of Washington 2025-2027 State Capital Budget Request, and in the Ten-Year Capital Plan, are not just important, but necessary to sustain the mission of the University of Washington on the Bothell, Seattle, and Tacoma campuses.

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2025-2027 State Capital Budget Request and Ten-Year Plan

PROPOSED PROJECTS *Funding in $1,000's*	Phase(s)	Total Project Budget	2025-2027 State Funds	2025-2027 UW Bldg. Account	2027-2029 State Funds	2027-2029 UW Bldg. Account	2029-2031 State Funds	2029-2031 UW Bldg. Account	2031-2033 State Funds	2031-2033 UW Bldg. Account	2033-2035 State Funds	2033-2035 UW Bldg. Account	Total State Funds	Total UW BA Funds
STATE 057 BUILDING CONSTRUCTION ACCOUNT REQUESTS														
Chemical Sciences & Bagley Hall	C	291,000	**125,000**	-	-	-	-	-	-	-	-	-	**125,000**	-
UW Tacoma Electrical Repair - Phase 3	C	3,900	**3,900**	-	-	-	-	-	-	-	-	-	**3,900**	-
Campus Asset Renewal Program **FUTURE**	D/C	TBD	-	-	130,000	-	140,000	-	150,000	-	160,000	-	**580,000**	-
	TOTALS	**294,900**	**128,900**	-	**130,000**	-	**140,000**	-	**150,000**	-	**160,000**	-	**708,900**	-
CLIMATE COMMITMENT ACCOUNT 26-C														
Clean Energy Transformation 25-27	D/C	292,600	**292,600**	-	-	-	-	-	-	-	-	-	**292,600**	-
Clean Energy Transformation **FUTURE**	D/C	689,600	-	-	190,200	-	176,800	-	162,600	-	160,000	-	**689,600**	-
	TOTALS	**982,200**	**292,600**	-	**190,200**	-	**176,800**	-	**162,600**	-	**160,000**	-	**982,200**	-
MODEL TOXICS CONTROL CAPITAL ACCOUNT 23-N														
UW Tacoma - Soil Remediation	D/C	Ongoing	**2,000**	-	2,000	-	2,000	-	2,000	-	2,000	-	**10,000**	-
	TOTALS	-	**2,000**	-	**2,000**	-	**2,000**	-	**2,000**	-	**2,000**	-	**10,000**	-
UW 064 BUILDING ACCOUNT														
Infrastructure Renewal 25-27	D/C	50,700	-	**50,700**	-	-	-	-	-	-	-	-	-	**50,700**
Asset Preservation (Minor Works) - 25-27	C	36,500	-	**36,500**	-	-	-	-	-	-	-	-	-	**36,500**
Major Infrastructure (Seismic Improvements)	D/C	109,400	-	**10,300**	-	12,300	-	11,500	-	8,100	-	10,400	-	**52,600**
Infrastructure Renewal **FUTURE**	D/C	200,000	-	-	-	50,000	-	50,000	-	50,000	-	50,000	-	**200,000**
Asset Preservation (Minor Works) - 25-27 **FUTURE**	D/C	172,700	-	-	-	37,650	-	40,950	-	46,900	-	47,200	-	**172,700**
	TOTALS	**569,300**	-	**97,500**	-	**99,950**	-	**102,450**	-	**105,000**	-	**107,600**	-	**512,500**
REAPPROPRIATIONS														
Anderson Hall	C	40,800	**23,455**	-	-	-	-	-	-	-	-	-	23,455	-
Center for Advanced Materials and Clean Energy Technologies (Site W27)	D/E/C	292,100	**11,693**	-	-	-	-	-	-	-	-	-	11,693	-
Chemical Sciences & Bagley Hall	D	291,000	**5,000**	-	-	-	-	-	-	-	-	-	5,000	-
College of Engineering Interdisciplinary/Education Research Ctr.	C	102,205	**4,329**	-	-	-	-	-	-	-	-	-	4,329	-
Energy Renewal FY24	D/C	38,900	**38,900**	-	-	-	-	-	-	-	-	-	38,900	-
Infrastructure Renewal	D/C	24,175	**9,082**	**12,342**	-	-	-	-	-	-	-	-	9,082	12,342
Intellectual House - Phase 2	D/C	15,300	**9,000**	-	-	-	-	-	-	-	-	-	9,000	-
Major Infrastructure (Seismic Improvements)	C	109,400	**238**	**7,325**	-	-	-	-	-	-	-	-	238	7,325
Magnuson Health Sciences Phase II - Renovation/Replacement	D/C	66,100	**48,436**	-									48,436	-
UW Clean Energy Testbeds	C	7,500	**5,936**	-	-	-	-	-	-	-	-	-	5,936	-
UW Seattle - Asset Preservation (Minor Works) 23-25	D/C	37,396		**27,887**									-	27,887
UW Bothell - Asset Preservation (Minor Works) 23-25	D/C	3,895		**3,345**									-	3,345
UW Tacoma - Asset Preservation (Minor Works) 23-25	D/C	3,234		**1,571**									-	1,571
UW Tacoma - Soil Remediation	D/C	Ongoing	**3,957**	-	-	-	-	-	-	-	-	-	3,957	-
UW Tacoma - Land Acquisition	E	Ongoing	**7,700**	-	-	-	-	-	-	-	-	-	7,700	-
UWMC NW - Campus Behavioral Health Renovation	C	15,000	**12,039**	-	-	-	-	-	-	-	-	-	12,039	-
	TOTALS	**1,047,005**	**179,765**	**52,470**	-	-	-	-	-	-	-	-	**179,765**	**52,470**

Phase Key:
Acq. = Acquisition
C = Construction
D = Design
E = Enabling Projects
PD = Predesign

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Ten Year Capital Plan by Project Class
2025-27 Biennium
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Version: 02 25-27 Capital Budget FINAL

Report Number: CBS001
Date Run: 9/6/2024 9:15AM

Project Class: Preservation

Agency Priority	Project by Account-EA Type	Estimated Total	Prior Expenditures	Current Expenditures	Reapprop 2025-27	New Approp 2025-27	Estimated 2027-29	Estimated 2029-31	Estimated 2031-33	Estimated 2033-35
1	**40000148 Clean Energy Transformation 25-27**									
	26C-1 Climate Commit Accou-State	292,600,000				292,600,000				
2	**40000159 Infrastructure Renewal 25-27**									
	064-1 UW Building Account-State	50,700,000				50,700,000				
3	**40000160 UW Tacoma - Campus Power Repairs (Phase 3)**									
	057-1 State Bldg Constr-State	3,900,000				3,900,000				
4	**40000161 UW Bothell - Asset Preservation (Minor Works) 25-27 Group 1**									
	064-1 UW Building Account-State	4,530,000				4,530,000				
4	**40000162 UW Bothell - Asset Preservation (Minor Works) 25-27 Group 2**									
	064-1 UW Building Account-State	2,040,000				2,040,000				
4	**40000163 UW Seattle - Asset Preservation (Minor Works) 25-27**									
	064-1 UW Building Account-State	22,080,000				22,080,000				
4	**40000164 UW Tacoma - Asset Preservation (Minor Works) 25-27 Group 1**									
	064-1 UW Building Account-State	5,415,000				5,415,000				
4	**40000165 UW Tacoma - Asset Preservation (Minor Works) 25-27 Group 2**									
	064-1 UW Building Account-State	2,435,000				2,435,000				
5	**30000808 UW Major Infrastructure**									
	057-1 State Bldg Constr-State	2,000,000	544,000	1,218,000	238,000					
	064-1 UW Building Account-State	107,400,000	40,043,000	7,432,000	7,325,000	10,300,000	12,300,000	11,500,000	8,100,000	10,400,000
	Project Total:	**109,400,000**	**40,587,000**	**8,650,000**	**7,563,000**	**10,300,000**	**12,300,000**	**11,500,000**	**8,100,000**	**10,400,000**
6	**92000002 UW Tacoma Campus Soil Remediation**									

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Ten Year Capital Plan by Project Class
2025-27 Biennium
*

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Report Number: CBS001
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Project Class: Preservation

Agency Priority	Project by Account-EA Type	Estimated Total	Prior Expenditures	Current Expenditures	Reapprop 2025-27	New Approp 2025-27	Estimated 2027-29	Estimated 2029-31	Estimated 2031-33	Estimated 2033-35
6	**92000002 UW Tacoma Campus Soil Remediation**									
	057-1 State Bldg Constr-State	4,300,000	4,300,000							
	173-1 State Toxics Control-State	2,158,000	2,158,000							
	23N-1 MTC Capital Account-State	15,786,000	1,786,000	43,000	3,957,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
	Project Total:	**22,244,000**	**8,244,000**	**43,000**	**3,957,000**	**2,000,000**	**2,000,000**	**2,000,000**	**2,000,000**	**2,000,000**
7	**40000147 FY24 Energy Renewal Program**									
	26C-1 Climate Commit Accou-State	38,900,000			38,900,000					
8	**40000132 Infrastructure Renewal**									
	064-1 UW Building Account-State	9,175,000		93,000	9,082,000					
	26C-1 Climate Commit Accou-State	15,000,000		2,658,000	12,342,000					
	Project Total:	**24,175,000**		**2,751,000**	**21,424,000**					
9	**20091002 Anderson Hall Renovation**									
	057-1 State Bldg Constr-State	28,850,000	200,000	5,195,000	23,455,000					
	148-6 HE - Dedicated Locl-Non-Appropriated	11,950,000				11,950,000				
	Project Total:	**40,800,000**	**200,000**	**5,195,000**	**23,455,000**	**11,950,000**				
10	**40000049 Magnuson Health Sciences Phase II- Renovation/Replacement**									
	057-1 State Bldg Constr-State	64,000,000	2,989,000	12,575,000	48,436,000					
	148-6 HE - Dedicated Locl-Non-Appropriated	2,100,000				2,100,000				
	Project Total:	**66,100,000**	**2,989,000**	**12,575,000**	**48,436,000**	**2,100,000**				
11	**40000103 UW Seattle - Asset Preservation (Minor Works) 23-25**									

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Ten Year Capital Plan by Project Class
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Project Class: Preservation

Agency Priority	Project by Account-EA Type	Estimated Total	Prior Expenditures	Current Expenditures	Reapprop 2025-27	New Approp 2025-27	Estimated 2027-29	Estimated 2029-31	Estimated 2031-33	Estimated 2033-35
11	**40000103 UW Seattle - Asset Preservation (Minor Works) 23-25**									
	064-1 UW Building Account-State	37,396,000		9,509,000	27,887,000					
12	**40000129 UW Bothell - Asset Preservation (Minor Works) 23-25**									
	064-1 UW Building Account-State	3,895,000		550,000	3,345,000					
13	**40000131 UW Tacoma - Asset Preservation (Minor Works) 23-25**									
	064-1 UW Building Account-State	3,234,000		1,663,000	1,571,000					
14	**40000210 Campus Asset Renewal Program FUTURE**									
	057-1 State Bldg Constr-State	580,000,000					130,000,000	140,000,000	150,000,000	160,000,000
15	**40000207 Clean Energy Transformation FUTURE**									
	26C-1 Climate Commit Accou-State	689,600,000					190,200,000	176,800,000	162,600,000	160,000,000
16	**40000208 Infrastructure Renewal FUTURE**									
	064-1 UW Building Account-State	200,000,000					50,000,000	50,000,000	50,000,000	50,000,000
17	**40000209 Asset Preservation (Minor Works) FUTURE**									
	064-1 UW Building Account-State	172,700,000					37,650,000	40,950,000	46,900,000	47,200,000
	Total: Preservation	**2,372,144,000**	**52,020,000**	**40,936,000**	**176,538,000**	**410,050,000**	**422,150,000**	**421,250,000**	**419,600,000**	**429,600,000**

Project Class: Program

Agency Priority	Project by Account-EA Type	Estimated Total	Prior Expenditures	Current Expenditures	Reapprop 2025-27	New Approp 2025-27	Estimated 2027-29	Estimated 2029-31	Estimated 2031-33	Estimated 2033-35
1	**40000146 Chemical Sciences & Bagley Hall**									

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Ten Year Capital Plan by Project Class
2025-27 Biennium
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Project Class: Program

Agency Priority	Project by Account-EA Type	Estimated Total	Prior Expenditures	Current Expenditures	Reapprop 2025-27	New Approp 2025-27	Estimated 2027-29	Estimated 2029-31	Estimated 2031-33	Estimated 2033-35
1	**40000146 Chemical Sciences & Bagley Hall**									
	057-1 State Bldg Constr-State	130,000,000			5,000,000	125,000,000				
	148-6 HE - Dedicated Locl-Non-Appropriated	161,000,000				61,000,000	50,000,000	50,000,000		
	Project Total:	**291,000,000**			**5,000,000**	**186,000,000**	**50,000,000**	**50,000,000**		
2	**40000100 Intellectual House - Phase 2**									
	057-1 State Bldg Constr-State	9,000,000			9,000,000					
	148-6 HE - Dedicated Locl-Non-Appropriated	6,300,000				6,300,000				
	Project Total:	**15,300,000**			**9,000,000**	**6,300,000**				
3	**40000101 UW Tacoma - Land Acquisition**									
	057-1 State Bldg Constr-State	7,700,000			7,700,000					
4	**91000027 UWMC NW - Campus Behavioral Health Renovation**									
	057-1 State Bldg Constr-State	15,000,000	1,408,000	1,553,000	12,039,000					
5	**91000016 Ctr for Advanced Materials and Clean Energy Research Test Beds**									
	057-1 State Bldg Constr-State	29,000,000	16,463,000	844,000	11,693,000					
	148-6 HE - Dedicated Locl-Non-Appropriated	263,100,000				263,100,000				
	Project Total:	**292,100,000**	**16,463,000**	**844,000**	**11,693,000**	**263,100,000**				
6	**40000098 UW Clean Energy Testbeds**									
	001-2 General Fund-Federal									
	26C-1 Climate Commit Accou-State	7,500,000		1,564,000	5,936,000					
	Project Total:	**7,500,000**		**1,564,000**	**5,936,000**					

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Ten Year Capital Plan by Project Class
2025-27 Biennium
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Report Number: CBS001
Date Run: 9/6/2024 9:15AM

Total: Program	**628,600,000**	**17,871,000**	**3,961,000**	**51,368,000**	**455,400,000**	**50,000,000**	**50,000,000**		

Total Account Summary

Account-Expenditure Authority Type	Estimated Total	Prior Expenditures	Current Expenditures	Reapprop 2025-27	New Approp 2025-27	Estimated 2027-29	Estimated 2029-31	Estimated 2031-33	Estimated 2033-35
001-2 General Fund-Federal									
057-1 State Bldg Constr-State	873,750,000	25,904,000	21,385,000	117,561,000	128,900,000	130,000,000	140,000,000	150,000,000	160,000,000
064-1 UW Building Account-State	621,000,000	40,043,000	19,247,000	49,210,000	97,500,000	99,950,000	102,450,000	105,000,000	107,600,000
148-6 HE - Dedicated Locl-Non-Appropriated	444,450,000				344,450,000	50,000,000	50,000,000		
173-1 State Toxics Control-State	2,158,000	2,158,000							
23N-1 MTC Capital Account-State	15,786,000	1,786,000	43,000	3,957,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
26C-1 Climate Commit Accou-State	1,043,600,000		4,222,000	57,178,000	292,600,000	190,200,000	176,800,000	162,600,000	160,000,000
Total	**3,000,744,000**	**69,891,000**	**44,897,000**	**227,906,000**	**865,450,000**	**472,150,000**	**471,250,000**	**419,600,000**	**429,600,000**

Ten Year Capital Plan by Project Class

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Report Number: CBS001
Date Run: 9/6/2024 9:15AM

Parameter	Entered As	Interpreted As
Biennium	2025-27	2025-27
Functional Area	*	All Functional Areas
Agency	360	360
Version	02-A	02-A
Project Classification	*	All Project Classifications
Include Enacted	No	No
Sort Order	Project Class	Project Class
Include Page Numbers	Y	Yes
For Word or Excel	N	N
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION REVIEW

Correspondence	
9-5-2024	DAHP Compliance Letter to UW
8-30-2024	UW Request Letter to DAHP

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Allyson Brooks Ph.D., Director
State Historic Preservation Officer

September 5, 2024

Julie Blakeslee, AICP
University Environmental and Land Use Planner
Campus Architecture & Planning; UW Facilities, Asset Management

In future correspondence please refer to:
Project Tracking Code: 2024-09-06328
Property: University of Washington Preliminary 2025-2027 Biennium Budget Review
Re: Preliminary Review of Biennium Projects

Dear Julie:

Thank you for contacting the Washington State Department of Archaeology and Historic Preservation (DAHP). The above-referenced project has been reviewed on behalf of the State Historic Preservation Officer (SHPO) under provisions of Governor's Executive Order 21-02 (GEO 21-02). We have reviewed the materials you provided for the University of Washington Projects for the 2025-2027 Biennium.

Should projects become obligated with Washington State Capital Funding and include ground-disturbing activities and/or alterations to the interior or exterior of buildings or structures 45 years of age or older, we will request consultation with DAHP under GEO 21-02. If neither ground-disturbing activities nor alterations to a building or structure over 45 years old are related to a project, consultation with DAHP is not required. Any projects with a federal nexus and determined to be an undertaking subject to Section 106 of the National Historic Preservation Act of 1966 and its implementing regulations 36 CFR 800 will not require 21-02 consultation.

These comments are based on the information available at the time of this review and on behalf of the SHPO in conformance with GEO 21-02. Should additional information become available, our assessment may be revised.

Thank you for the opportunity to review and comment. If you have any questions, please feel free to contact me.

Sincerely,

Maddie Levesque, M.A
Architectural Historian
(360) 819-7203
Maddie.Levesque@dahp.wa.gov

FACILITIES
UNIVERSITY of WASHINGTON
Campus Architecture & Planning

Transmittal

Date: August 30, 2024

To: Preservation Design Reviewer (via online submittal)
Department of Archaeology & Historic Preservation
PO Box 48343
Olympia, WA 98504-8348

From: Julie Blakeslee
University Environmental & Land Use Planner

Subject: Executive Order 21-02 Review in Support of State Budget Request

In accordance with Executive Order 21-02 directing agencies to consult with the Department of Archaeology and Historic Preservation (DAHP) on all capital construction projects to be considered for state funding or for pre-design reports, the University of Washington is hereby seeking exemptions for and providing information on proposed projects described below.

We would appreciate a letter from you confirming receipt of this information in support of our 25-27 Capital Budget Request. The projects include:

CLEAN ENERGY TRANSFORMATION - Clean Energy Transformation 25-27 is seeking funding for design and construction for the initial phases of our Energy Renewal Program on the Seattle Campus. The proposed projects include chilled water thermal energy storage, power plant boiler removal, micro-district West Campus, micro-district South of Pacific Avenue (South Campus), sewer heat recovery site piping WCUP heating system improvements West Receiving Station electrical infrastructure upgrade, chiller installation, district energy standards/basis of design, and lake interface advancement.

INFRASTRUCTURE RENEWAL – The UW, through our Building Account, is seeking funding to design and construct various projects for campus infrastructure renewal. The components include:

- Energy modernization – infrastructure to help utility metering, HVAC control systems, advanced monitoring technologies to reduce energy consumption.
- Equity/Inclusion Accessibility improvements – remove barriers to program access by remediating pathways to/from dial-a-ride stops, transit stops, Skagit Lane access improvements, and accessible parking; classroom access updates; and add or renovate building elevators.
- Fire/Life Safety – improvements to building fire/life safety systems
- Building envelope – improvements to building envelopes to protect the structure and extend facility life (e.g. foundation, roof, drainage, masonry forensics), including Suzzallo Library masonry restoration.
- Classroom infrastructure – architectural, mechanical, electrical, and audiovisual systems updates

The University of Washington 2025-2027 State Capital Budget Request includes construction funding for the following projects that have previously received DAHP review at the pre-design and/or design phase:

CHEMICAL SCIENCES & BAGLEY HALL – The UW is seeking construction funding for a new Chemical Sciences Building. This is anticipated to be a multi-phased interdisciplinary project, co-locating research

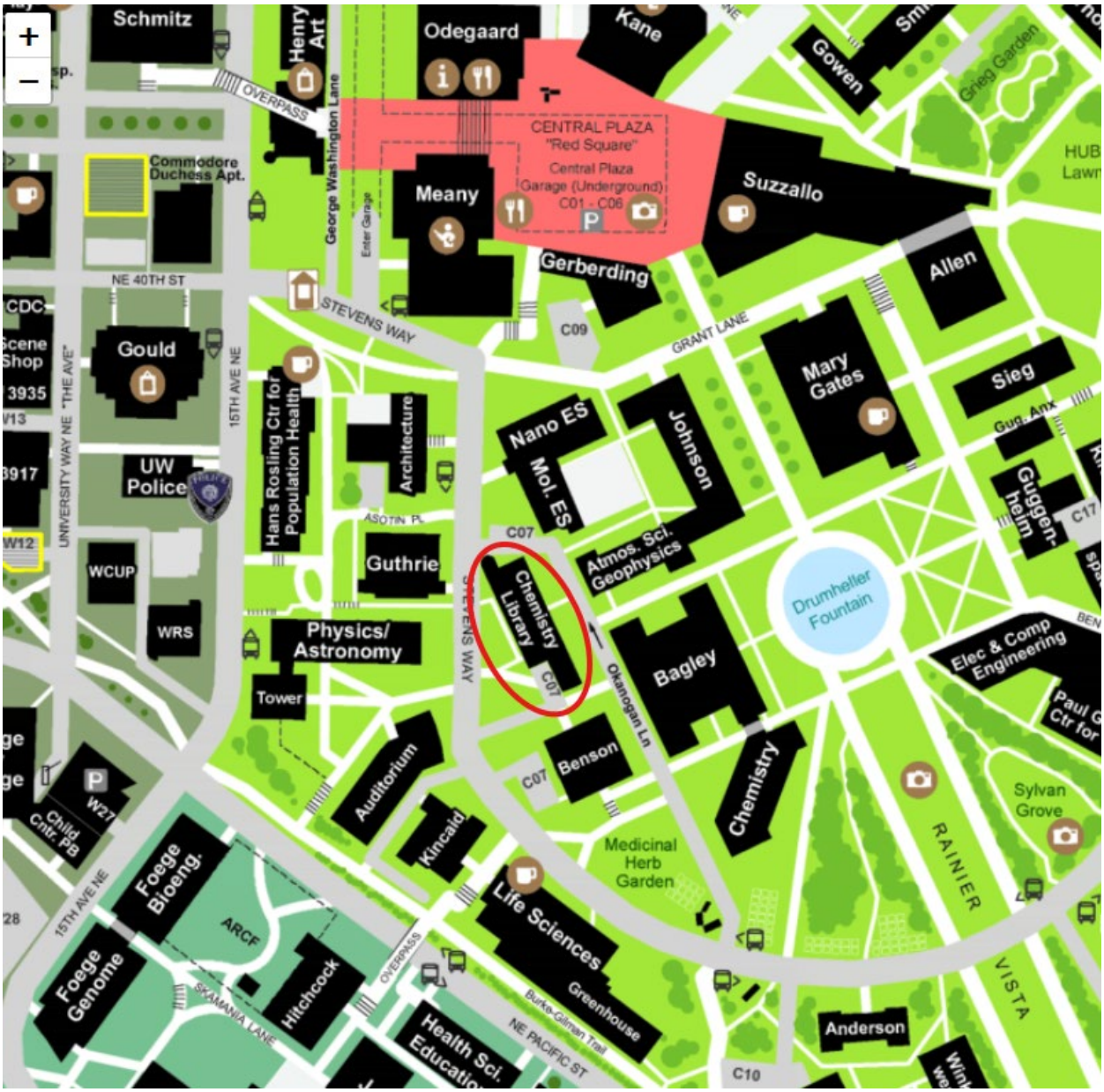
faculty members from Chemistry, Materials Science and Chemical Engineering departments. The site is identified as C17 in the 2019 Seattle Campus Mater Plan. This is the site of the existing Chemistry Library Building. (DAHP project code 2022-09-05906 for additional information.)

MAJOR INFRASTRUCTURE (SEISMIC IMPROVEMENTS) – The UW requests funds for phase 5 of our ongoing seismic improvements project to upgrade unreinforced masonry (URM) buildings on the Seattle campus. Sixteen buildings are identified that require URM/façade upgrades. The UW has a number of buildings constructed with URM from the late 19th century to the mid-20th century. Twenty-five buildings are identified that require parapet bracing. UW has identified the work needed to: improve life safety; minimize structural failure; preserve historic structures; and reduce adverse effects on UW operations in the event of an earthquake. The work of this capital program plans for nine phases, depending on funding. Significant coordination with the Seattle Department of Construction & Inspections structural engineering group and Seattle Department of Neighborhoods Landmarks group has occurred during the planning of this work, including design review. (DAHP project codes 2022-09-05906, 2020-09-05864, and 2018-09-07191; also called URM Improvements and UW Major Infrastructure in the past).

Attachments:

1. Chemical Sciences Building – map of site and 2019 Seattle Campus Master Plan development site. (pp. 3-4)
2. Seismic Improvements – list of potential seismic/URM building work (p. 5)

Chemical Sciences Building location noted on UW Seattle Campus Map:



Chemical Sciences Building development site as noted on UW Seattle 2019 Campus Master Plan:

University of Washington Master Seismic Mitigation Program
Unreinforced Masonry (URM)

Building*	URM Bearing Wall	URM Non-Bearing Wall	URM Appendages	Implementation Year (blank if in scoping)
Eagleson Hall	X		X	2021
Lewis Hall	X			2019
Hutchinson Hall	X	X	X	2023
Art Building	X	X	X	In design for 2025
Music Building	X	X	X	2019
Plant Operations Building	X		X	
Jacobsen Observatory	X		X	
Anderson Hall		X	X	Anticipate 2025
Gowen Hall		X	X	2019
Harris Hydraulics Laboratory		X	X	
Miller Hall		X	X	
Raitt Hall		X	X	
Smith Hall		X	X	2019
Communications Building			X	2019
Hec Edmundson Pavilion			X	
Hall Health Center			X	
Johnson Hall			X	2021
Mary Gates Hall			X	2021
Oceanography Building			X	
Pavilion Pool			X	2024 (demolished)
Portage Bay Building			X	2022
Power Plant			X	2022
Savery Hall			X	2019
Suzzallo Library			X	In design for 2025
Thomson Hall			X	2019

**The order of the work is dependent on funding.*

OFM

360 - University of Washington
Capital FTE Summary
2025-27 Biennium
*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS004
Date Run: 9/5/2024 1:26PM

FTEs by Job Classification

	Authorized Budget 2023-25 Biennium		2025-27 Biennium	
Job Class	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**
Accountant			7.0	7.0
Accounting Manager			2.0	2.0
Administrative Assistants			4.0	4.0
Assistant Directors			7.0	7.0
Construction Managers			13.0	13.0
Director			2.0	2.0
Program Support			5.0	5.0
Programmers			5.0	5.0
Project Integrators			9.0	9.0
Project Managers			20.0	20.0
Total FTEs			**74.0**	**74.0**

Account

	Authorized Budget 2023-25 Biennium		2025-27 Biennium	
Account - Expenditure Authority Type	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**
057-1 State Bldg Constr-State			3,897,669	4,034,095
064-1 UW Building Account-State			5,846,503	6,051,143
Total Funding			**9,744,172**	**10,085,238**

Narrative

This would be the capital staffing required if all of our 25-27 funding requests were appropriated.

OFM

Capital FTE Summary

2025-27 Biennium

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Report Number: CBS004
Date Run: 9/5/2024 1:26PM

Parameter	Entered As	Interpreted As
Biennium	2025-27	2025-27
Agency	360	360
Version	02-A	02-A
Include Page Numbers	Y	Yes
For Word or Excel	N	N
User Group	Agency Budget	Agency Budget

University of Washington
Deferred Maintenance Backlog Reduction Plan

The University of Washington's Deferred Maintenance Backlog Reduction Plan is prepared and presented as part of the 2025-2027 Capital Budget Request to meet the requirements of RCW 43.88.030 (5d): "A strategic plan for reducing backlogs of maintenance and repair projects. The plan shall include a prioritized list of specific facility deficiencies and capital projects to address the deficiencies for each agency, cost estimates for each project, a schedule for completing projects over a reasonable period of time, and identification of normal maintenance activities to reduce future backlogs;"

BACKGROUND

The leading institutional risk for the University remains the continued growth of the deferred maintenance backlog. The most recent estimates suggest that the deferred maintenance backlog in education and general administration (E&G) facilities on the Seattle Campus alone is $2.6 billion, with a projected renewal need growing by approximately $100 million per year (see table below). The backlog at UW Bothell and UW Tacoma is substantially less, but it still warrants increased attention.

2024 Estimated Deferred Maintenance Backlog[1]

Facility Type	UW Bothell	UW Seattle	UW Tacoma	UWMC
E&G Facilities	**$41.4M** (increasing @ $4.5M/yr.)	**$2.6B** (increasing @ $100M/yr.)	**$60.9M** (increasing @ $8.2M/yr.)	**TBD**

In light of this issue, the University developed a set of Long-Term Capital Plan (LTCP) strategies in late 2019 - early 2020 by a broad constituency of campus leadership to create a framework to guide the overall allocations of the primary capital fund sources (state, debt, gift, and equity) to institutional demand categories (clinical, growth, renewal, and strategic). These strategies were mapped to the projected capital funding sources to ensure that year-by-year decisions are aligned with these guidelines and emphasize the following:

- Increased capital investment in renovation or replacement of existing buildings (i.e., facilities "renewal") to avoid further growth of the deferred maintenance backlog
- This includes prioritizing renewal investments to accommodate program growth and limiting the total new square footage facilities growth rate of the campuses
- Providing ongoing access to capital for the clinical enterprise
- Leveraging partnerships with external entities where industry capabilities can serve to further the UW mission

When it was initially developed, the LTCP excluded utilities and infrastructure needs from the renewal demand category. In response to that issue, the original strategies have evolved over the past several years to include more nuanced approaches that support the institution's need to more directly address deferred maintenance, infrastructure, and energy renewal (decarbonization) without sacrificing the need to support the clinical enterprise.

With those issues at the forefront, the refined principles outlined below were shared with the Regents in the fall of 2023 and focus more discretely on renewal and managing growth:

[1] Per the FY25 Annual Capital Budget approved by the Board of Regents in June 2024.

- 100% of UW Building Account funds should be utilized for renewal of existing facilities;
- Seek to leverage almost all of state capital funding to be appropriated for renovation/replacement projects;
- Explore opportunities to attract new sources of philanthropy to help address renewal needs, i.e., sustainability investments;
- Seek to accommodate program growth within our existing facilities footprint wherever feasible,
- Fully fund annual Maintenance & Operations + Renewal (M&O+R) for any projects resulting in facility footprint growth; and
- Continue to provide access to capital via debt to support the clinical enterprise strategic initiatives

Through sustained adherence to these strategies that emphasize additional investment in renewal projects beyond the current level, the University believes this will improve the quality of the campus, reduce the risk of catastrophic failures, extend the life of the buildings, enhance health and safety, contribute to meeting sustainability goals, and increase the academic quality through the modernization of deteriorating facilities.

FOCUS OF PLAN

Although the University of Washington owns over 30 million square feet across our entire facility portfolio, the main focus of our deferred maintenance backlog reduction plan is the approximately 14 million square feet of state-supported Education and General (E&G) facilities on the Seattle campus due to the age and condition of the Seattle portfolio. These facilities are critical to the core mission of our institution, and a targeted approach is needed to keep these buildings as functional as possible. However, it is also essential that we continue to address the deferred maintenance issues at both UW Bothell and UW Tacoma as those newer campuses continue to age.

LTCP STRATEGIES IN ACTION

As previously mentioned, the LTCP strategies endorsed by the Board of Regents are intended to be a realistic and sustainable model that will allow the University to slow the growth of deferred maintenance and gradually reduce the backlog to a manageable level. Progress is being made across the board, but several specific areas to highlight include:

1. **Seek to leverage almost all of state capital funding to be appropriated for renovation/replacement projects.** Historically, the University has focused significantly less of its total capital expenditures on renewal and replacement projects than on new construction. The more recent shift of this focus towards renewal will help the University to reach its goal of increasing the amount of reinvestment in existing facilities at roughly the same rate as they are deteriorating and, at the same time, reduce the rate at which we are adding to the ever-increasing deferred maintenance backlog.

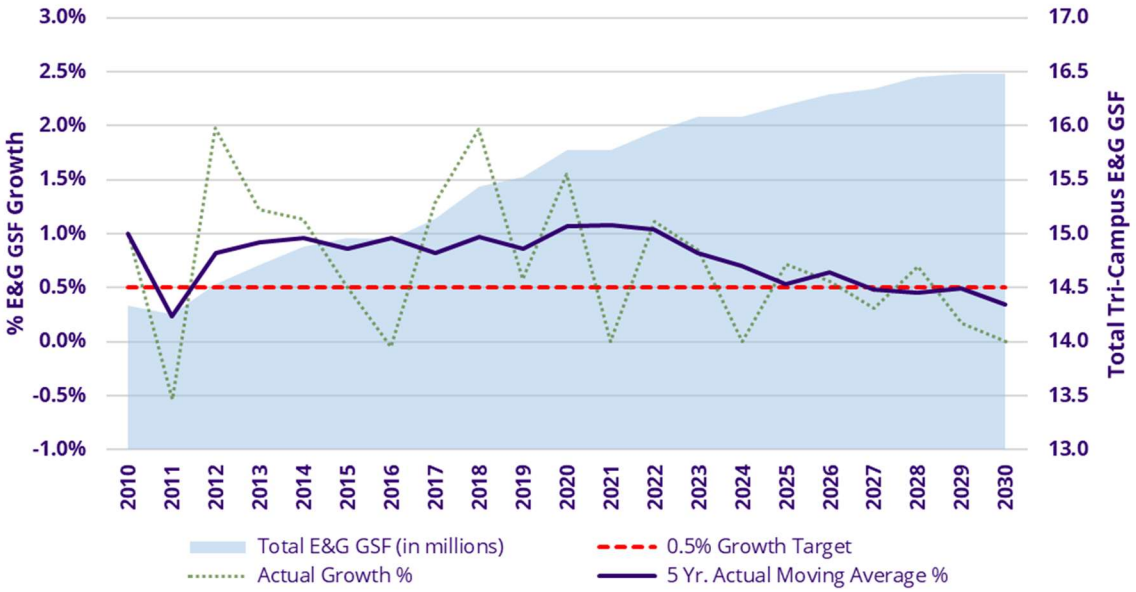
   Our 2025-2027 Capital Budget Request does include a request for the construction phase of the new Chemical Sciences Building (part of the Chemical Sciences & Bagley Hall project). Still, the remainder of our request is intentionally focused on immediate emergent needs, decarbonization/energy renewal initiatives, and facility renewal. We also continue to leverage our UW Building Account to address issues related to the Clean Buildings Performance Standard and other tri-campus infrastructure needs.

2. **Seek to accommodate program growth within our existing facilities footprint wherever feasible.** One foundational strategy to maximize renewal investments is to

accommodate any necessary program growth within the existing facility footprint and limit the amount of new space created. To support this effort, program growth that can be effectively housed in an existing facility renovated to suit the new use and concurrently address deferred maintenance should be considered the first and most important option. This approach instills confidence in our strategy.

The chart below shows the progress made over the last several years to limit the growth of new E&G space across the institution. The chart also includes projects that are still under construction (or have yet to begin), and these projects create a trend line that starts to parallel the 0.5% target value for space growth in future years. Continued diligence in project selection will be required to maintain this positive trend.

EDUCATION & GENERAL FACILITY GROWTH RATE VS. 0.5% TARGET



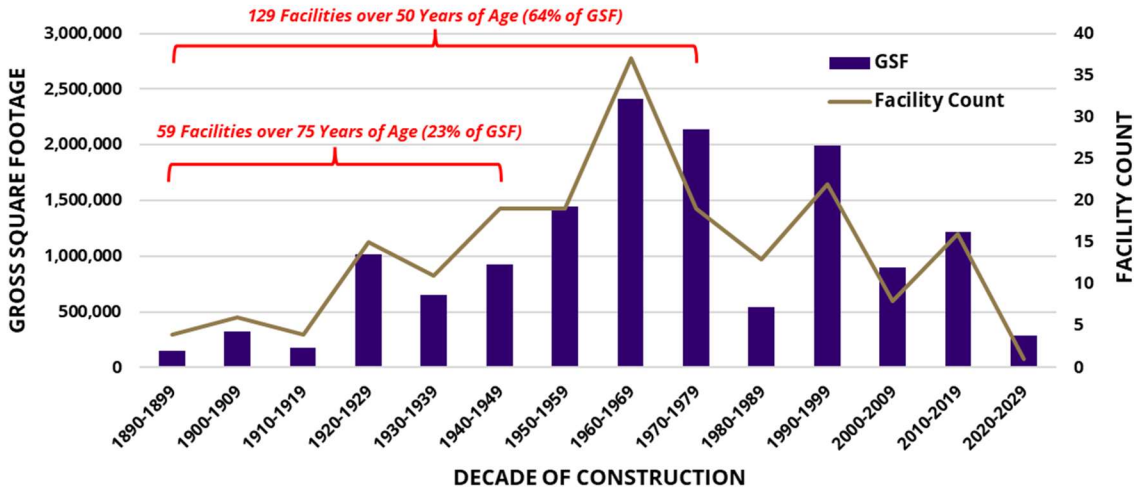
3. **Fully fund annual Maintenance & Operations + Renewal (M&O+R) for any projects resulting in facility footprint growth.** When new incremental (net-new) space is added to the tri-campus facility inventory, overall maintenance, operation, and renewal costs (M&O+R) increase accordingly. These costs are estimated during the planning process, and fund sources must be committed before final project approval. Multiple fund sources may be utilized to provide this funding (e.g., state funds, unit funds, operating revenue, building endowments, etc.).

   Since state support is not always guaranteed, the Capital Funding Guidelines now require that full funding for annual M&O+R be committed before initiating any new building project. Projects relying on state funding to meet these requirements must secure a secondary funding source or 'backstop' commitment before approval. This 'backstop' commitment plays a crucial role in financial planning and risk management, and has, in some instances, involved incremental funding from individual units.

4. **Increase preventive maintenance.** Due to the nature of our backlog, the University is forced to spend most of its available resources on corrective maintenance and emergency replacements as building components fail. This type of “just in time” maintenance is inherently less efficient than addressing maintenance issues in a planned fashion and results in accelerated deterioration of our most important buildings.

On the Seattle campus, the impact of this phenomenon is particularly severe due to the age profile of our E&G buildings (see figure below). A staggering 67% of our buildings (129) are more than 50 years old, with 59 of that total over 75 years old. This is well beyond the normal life expectancy for most major building systems, which is approximately 25-30 years. The gravity of this situation cannot be overstated, as we are dealing with numerous building systems that are well beyond their expected service life.

SEATTLE CAMPUS EDUCATION & GENERAL FACILITY AGE

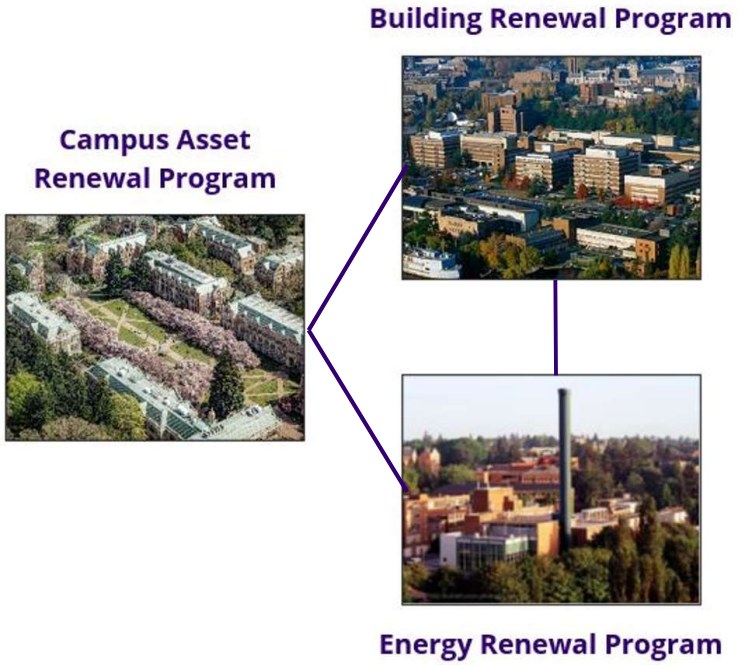


Based on information compiled from internal building condition reviews and detailed facility condition assessments performed by an outside consultant (Intelligent Systems and Engineering Solutions (ISES) Corporation) completed in 2023, the University has developed a prioritized list of the most critical deferred maintenance issues that we will utilize to determine the most appropriate projects in which to invest to reach a manageable backlog over the next several decades. This information is also being integrated into our facilities management software (AssetWorks) to guide preventive maintenance efforts and work order management processes.

CURRENT INITIATIVES

The cornerstone of the deferred maintenance backlog reduction plan is access and use of reliable and fully integrated information about our facilities. Several initiatives highlighted below are well underway to maximize the University's use of it to make data-informed decisions:

- The **Campus Asset Renewal Program** (CARP) was established in the Summer of 2023 to combine complementary initiatives that are underway related to our ongoing deferred maintenance issues (Building Renewal Program) while incorporating the objectives of the Clean Energy Strategy (Energy Renewal Program). The governance of these two major initiatives under the CARP umbrella is a singular effort to realize implementation efficiencies, significant financial economies of scale, and long-term reductions in annual operating costs.



- *Consultant hired in May 2023*
- *Incorporates data from recent Facility Condition Assessment by ISES*
- *Will develop "tools" to determine the highest investment priorities at the facility level (similar to the "Restore the Core" program)*
- *Initial three to four projects to be defined by mid-2024*

- *Consultant hired in August 2023*
- *"Top Priority" for UW!*
- *Addresses 93% of UW Scope 1 GHG emissions*
- *State provided $3M to support development of this Clean Energy Implementation Plan via the Climate Commitment Account*
- *Implementation Plan due in August 2024*

- The **Building Renewal Program** (BRP) is similar in concept to the Building Restoration & Renewal Prioritization Study (June 2004), which served as the basis for the University's "Restore the Core" Program several decades ago. That study identified 15 mission-critical buildings with a backlog of renewal needs, which, if done incrementally, would exceed the building's replacement value. This new program will provide information to support prioritization at a facility level and is envisioned to provide a variety of "tools" that will allow a finite evaluation of the assets and systems within a facility for potential targeted investments. The recent Facility Condition Assessments performed by Intelligent Systems & Engineering Services provide the foundation for this work. Another main difference is that the BRP will assess all the Seattle E&G facilities, not just a subset.

- The **Energy Renewal Program** (ERP) is developing an implementation plan, funded by Climate Commitment Account proceeds, to support our five-part Clean Energy Strategy. An energy services partner (Affiliated Engineers, Inc.) has been retained to conduct the detailed engineering analyses necessary to refine the strategy. These analyses include the various energy project timelines, refined cost estimates, and overall coordination to turn this strategy into an implementation plan aligned with other University strategic initiatives. This consultant agreement includes expertise in seeking potential funding sources and identifying projects that have the best probability for federal support.

- **Monitoring Based Commissioning (MBCx).** The University implemented an initial phase of "smart meters" between 2010 – 2015, and continues to expand this program more broadly across campus. Our Monitoring Based Commissioning program takes ongoing facility commissioning to the next level by using software to collect, analyze, and report data to optimize building energy performance and efficiency. As this program evolves and matures, it will allow us to utilize data analytics to drive actions. This will help us establish an effective predictive maintenance program, an even more efficient way to service our buildings, freeing up resources to address components nearing the end of their service life.

- **Portfolio Dashboards.** The University has developed and continues to refine real-time portfolio dashboards that allow us to better prioritize projects with up-to-date information about each facility's condition, performance, and productivity, maximizing the value of our investments.

PROJECT IDENTIFICATION & PRIORITIZATION

The capital budget process begins with the visions of the President and Provost, and an alignment of the needs assessment of the Chancellors in Bothell and Tacoma, the Deans of each school and college, the Clinical Enterprise leadership, and auxiliaries' leadership. UW Facilities Account Managers work closely with the leadership of these units to identify priorities and look for opportunities where facility conditions can be improved, as well as fund sources leveraged to achieve programmatic goals. With ongoing counsel from the Capital Planning Advisory Team (CPAT), projects are created with specific objectives, budgets, and funding strategies, and then funding feasibility is evaluated with Advancement; Government Relations; and Finance, Planning & Budgeting. Each project is scored based on a multi-criteria scoring process that allows projects to be ranked and adjusted as external conditions change, providing a flexible and adaptable approach to future planning.

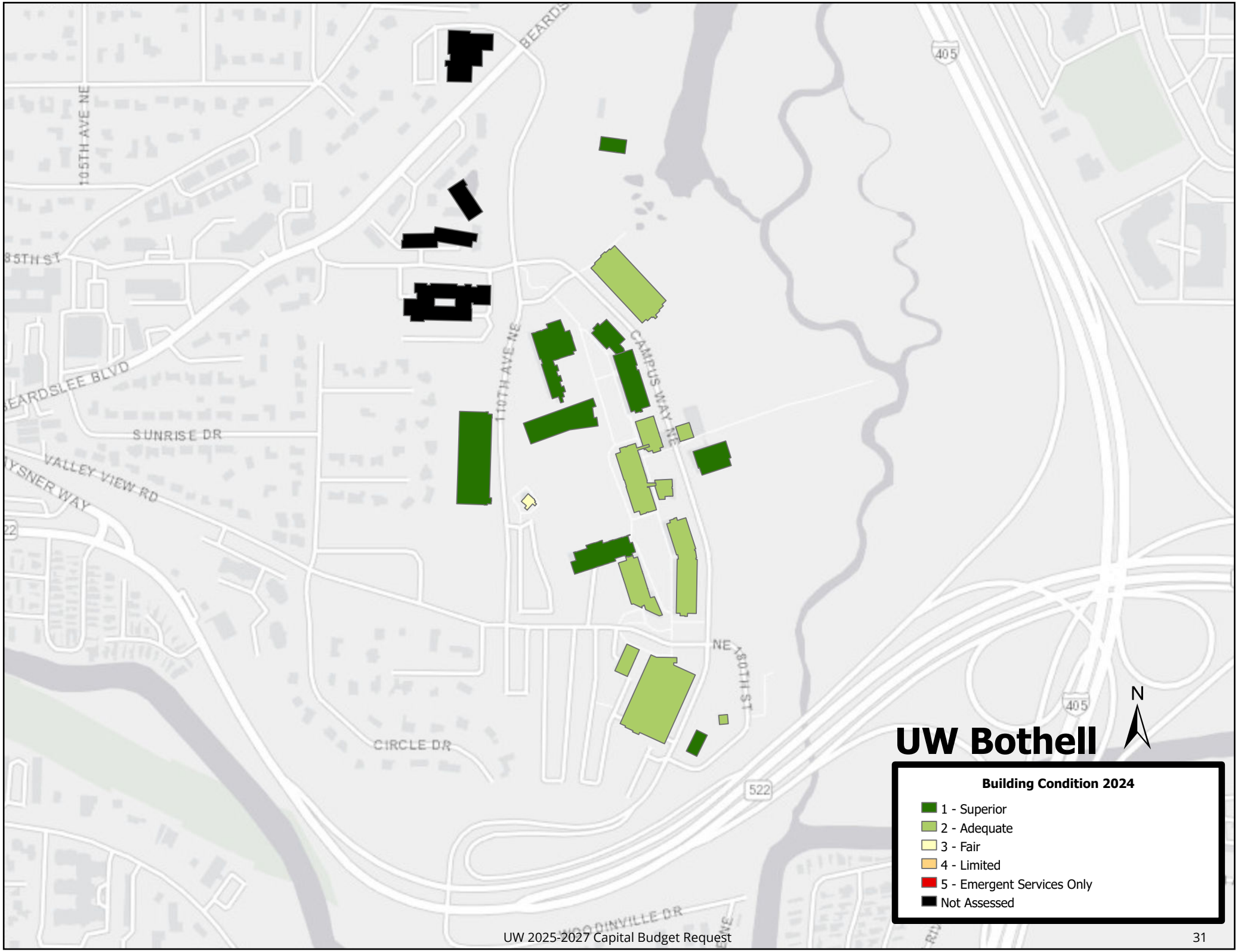
The process for identifying clinical investments is similar and is based on UW Medicine's capital planning efforts, which the UW Medicine Advisory Board regularly reviews. As specific investments are identified, each is scoped and scored using a similar multi-criteria prioritization system, with fine-tuning to match the needs of the Clinical Enterprise.

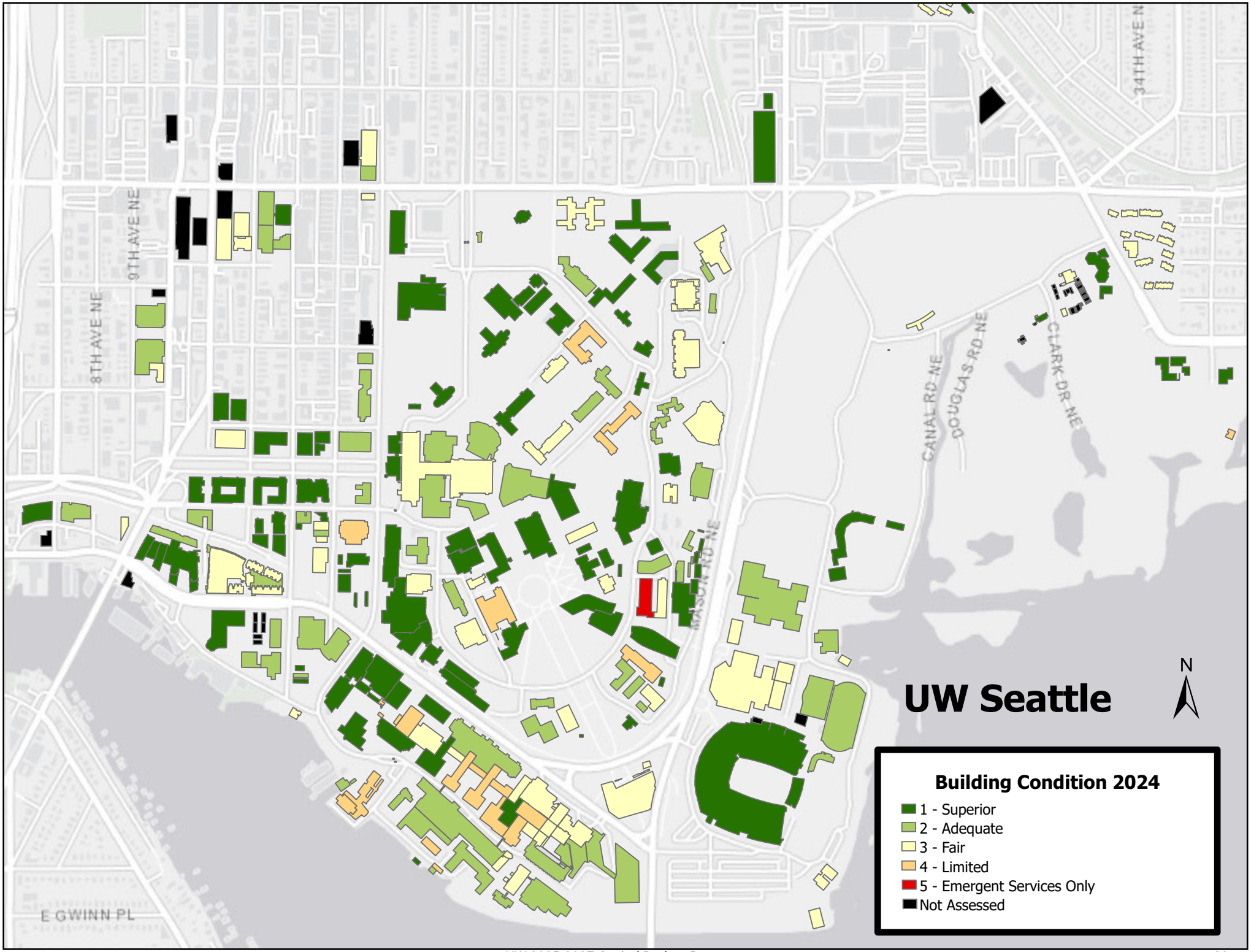
To be considered for the Annual Capital Budget (which informs the biennial State Capital Request), all projects must meet firm criteria to move forward realistically within the next five years. Project goals must be well established, in addition to a defined project scope, a target budget based on selected benchmarks, a feasible funding plan, and an identified source for ongoing maintenance, operations, and renewal costs.

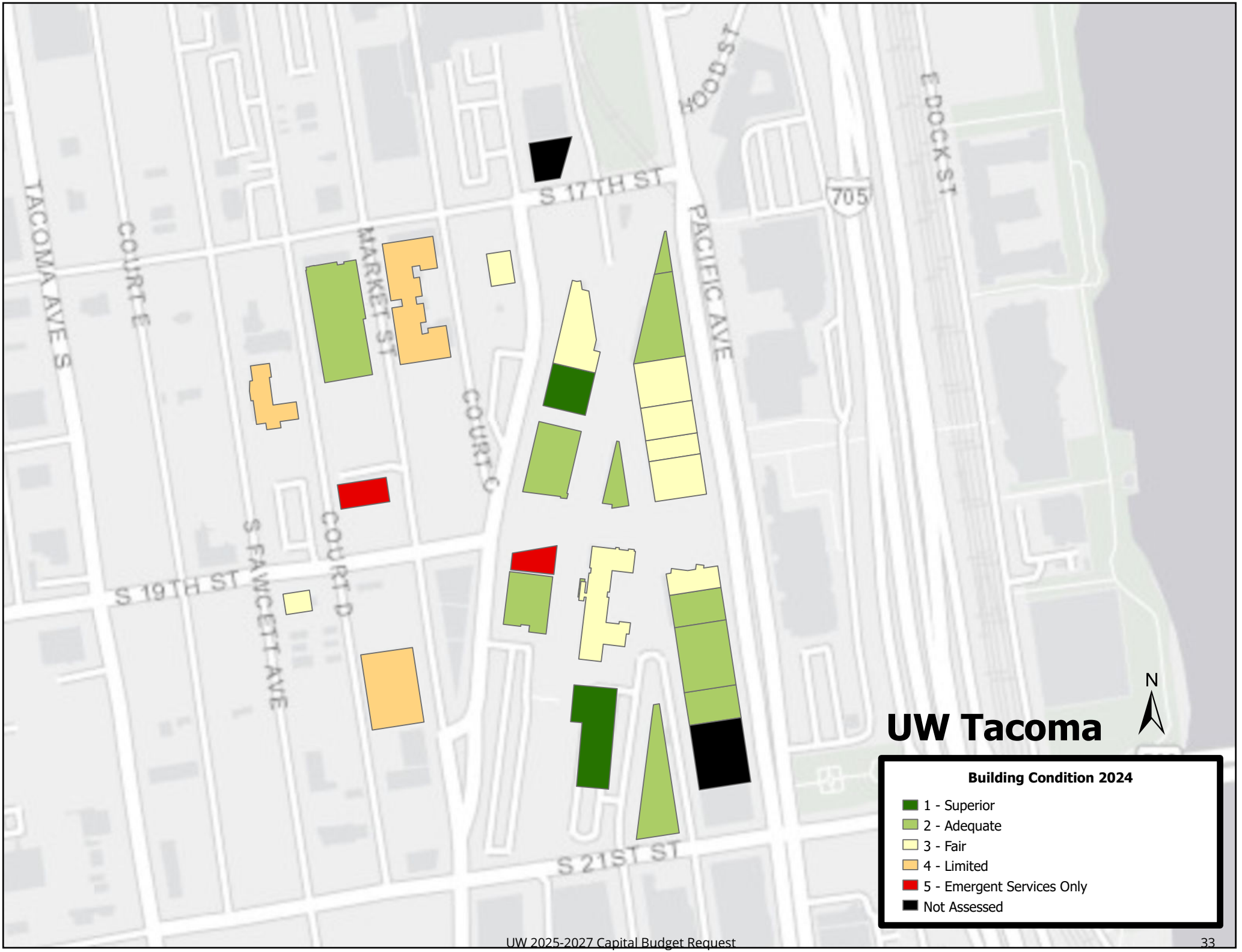
SUMMARY

The University of Washington’s 2025-2027 Capital Budget Request prioritizes investment in projects that will help stem the tide of deferred maintenance, advance decarbonization efforts, and support the continued preservation of the public’s assets, directly supporting UW’s educational mission.

Our request for capital support Chemical Sciences and Bagley Hall ($125M) and UW Tacoma Emergency Power ($3.9M) from the State 057 Building Construction Account for as well as proceeds from the Climate Commitment Account 26-C for Energy Transformation ($292.6M), and appropriations from the UW 064 Building Account for Seismic Improvements ($10.3M), Infrastructure Renewal ($50.7M), and Asset Preservation ($28.6M) will allow us to continue to focus on both facility and infrastructure preservation and renewal. The University believes these specific investments provide the public with the biggest return for each dollar committed.


UW Bothell
N
Building Condition 2024
1 - Superior
2 - Adequate
3 - Fair
4 - Limited
5 - Emergent Services Only
Not Assessed
BEARDSLEE BLVD
105TH AVE NE
110TH AVE NE
CAMPUS WAY NE
SUNRISE DR
VALLEY VIEW RD
CIRCLE DR
NE 180TH ST
405
522


UW Seattle
N
Building Condition 2024
1 - Superior
2 - Adequate
3 - Fair
4 - Limited
5 - Emergent Services Only
Not Assessed
8TH AVE NE
9TH AVE NE
34TH AVE NE
CANAL RD NE
DOUGLAS RD NE
CLARK DR NE
MASON RD NE
E GWINN PL


TACOMA AVE S
COURT E
MARKET ST
S 17TH ST
COURT C
HOOD ST
PACIFIC AVE
705
E DOCK ST
S 19TH ST
S FAWCETT AVE
COURT D
S 21ST ST
N
UW Tacoma
Building Condition 2024
1 - Superior
2 - Adequate
3 - Fair
4 - Limited
5 - Emergent Services Only
Not Assessed

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TAB B
PRESERVATION PROJECTS

New Requests	
40000148	Clean Energy Transformation 25-27
40000159	Infrastructure Renewal 25-27
40000160	UW Tacoma – Campus Power Repairs (Phase 3)
40000161	UW Bothell – Asset Preservation (Minor Works) 25-27 Group 1
40000162	UW Bothell – Asset Preservation (Minor Works) 25-27 Group 2
40000163	UW Seattle – Asset Preservation (Minor Works) 25-27
40000164	UW Tacoma – Asset Preservation (Minor Works) 25-27 Group 1
40000165	UW Tacoma – Asset Preservation (Minor Works) 25-27 Group 2
30000808	UW Major Infrastructure (Seismic Improvements)
92000002	UW Tacoma Campus Soil Remediation
Reappropriations	
40000147	FY24 Energy Renewal Program
40000132	Infrastructure Renewal
20091002	Anderson Hall Renovation
40000049	Magnuson Health Sciences Phase II – Renovation/Replacement
40000103	UW Seattle - Asset Preservation (Minor Works) 23-25
40000129	UW Bothell - Asset Preservation (Minor Works) 23-25
40000131	UW Tacoma - Asset Preservation (Minor Works) 23-25
Future	
40000210	Campus Asset Renewal Program FUTURE
40000207	Clean Energy Transformation FUTURE
40000208	Infrastructure Renewal FUTURE
40000209	Asset Preservation (Minor Works) FUTURE

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UW PRESERVATION PROJECTS

Request Summaries

Clean Energy Transformation 25-27 – $292.6M for Design/Construction

The University of Washington is requesting a total of $292.6M from the Climate Commitment Account 26-C to support our Clean Energy Transformation efforts across the Seattle Campus. The University of Washington has developed an innovative energy transformation strategy to transition the Seattle campus energy infrastructure to 100% clean energy. This monumental undertaking will modernize our energy infrastructure and better align UW's sustainability values with daily campus operations. Reducing UW's carbon emissions and conversion to 100% clean energy is required and motivated by State and City regulations, infrastructure renewal requirements, consistency with the UW Sustainability Action Plan and new funding sources available at the State and Federal levels.

The five-part energy transformation strategy includes:

1. Energy Efficiency: expanding metering, upgrading controls, improving data analytics, and establishing a green revolving fund to channel energy savings into energy efficiency projects.
2. Convert to Hot Water: convert from steam to hot water heating to enable heat pump electrification.
3. Central Cooling: replace inefficient chillers, use lake water for cooling and add thermal storage.
4. Electrify Heating: use heat pumps to extract heat from cooling towers, sewer, and lake water.
5. Emerging technologies and renewables: continuously evaluate emerging technologies for full decarbonization.

Infrastructure Renewal 25-27 - $50.7M for Design/Construction

The University of Washington is requesting $50.7M from our 064 Building Account to support a variety of infrastructure renewal projects across the Seattle Campus. The University has a substantial backlog of deferred maintenance/renewal issues and with increasing costs and the complexity of these projects, these infrastructure projects now typically exceed the ceiling for Minor Works ($2 million or less) and therefore continue to be deferred due to funding constraints. This Infrastructure Renewal request will enable us to solve major deficiencies that cannot be solved via the Minor Works Program.

UW Tacoma – Campus Power Repairs (Phase 3) - $3.9M for Design/Construction

The University of Washington requests $3.9 million of funding appropriations from the State 057 Building Construction Account for design and construction of the UW Tacoma - Campus Power Repairs - Phase 3. The final funding makeup for the project, which could include other sources, is still under discussion and this approach/information has been shared with OFM Staff.

On July 6, 2024, a car accident destroyed the main power switch that feeds eighteen buildings on the University of Washington Tacoma (UWT) campus. The incident exposed critical vulnerabilities in the existing campus power system. The UW President declared a State of Emergency on July 9, 2024, to facilitate replacement of campus electrical equipment and infrastructure. These repairs were critical to public health, safety and the day-to-day operations of the campus and adjacent community. The University was fortunate to receive $1M in Emergency Funding from the State to help offset a portion of the costs incurred to restore temporary power to campus for the initial two repair phases.

Phase 3 will enable UWT to move back to a permanent solution and return the leased equipment to TPU. The solution will also include design and construction of a new duct bank to provide a pathway to the new switch gear and a pathway back to Main Vault 1 to connect the new equipment with the existing campus infrastructure.

UW Bothell - Asset Preservation (Minor Works) 25-27 (Groups 1 & 2) - $6.57M for Construction

The University of Washington requests $6.57 million of funding appropriations from the UW 064 Building Account to support Minor Works (projects valued at $2M or less) on the Bothell Campus. Once the capital budget is enacted, the final Minor Works project lists will be provided to OFM for review and approval, and to the House Capital Budget and Senate Ways and Means committees for review and comment.

Miscellaneous repair and renewal projects for the Bothell Campus such as (but not limited to): code and safety projects, electrical, exteriors, infrastructure, interiors, mechanical, site work and utilities. These projects support ongoing campus preservation and renewal efforts to provide the facilities required to meet the needs of increasing student enrollment, programs, and an enhanced student experience.

UW Seattle - Asset Preservation (Minor Works) 25-27 - $22.08M for Construction

The University of Washington requests $22.08 million of funding appropriations from the UW 064 Building Account to support Minor Works (projects valued at $2M or less) on the Seattle Campus. Once the capital budget is enacted, the final Minor Works project lists will be provided to OFM for review and approval, and to the House Capital Budget and Senate Ways and Means committees for review and comment.

Miscellaneous repair and renewal projects for the Seattle Campus such as (but not limited to): code and safety projects, electrical, exteriors, infrastructure, interiors, mechanical, site work and utilities. These projects support ongoing campus preservation and renewal efforts to provide the facilities required to meet the needs of increasing student enrollment, programs, and an enhanced student experience.

UW Tacoma - Asset Preservation (Minor Works) 25-27 (Groups 1 & 2) - $7.85M for Construction

The University of Washington requests $7.85 million of funding appropriations from the UW 064 Building Account in the 25-27 biennium to support Minor Works (projects valued at $2M or less) on the Tacoma Campus.

Miscellaneous repair and renewal projects for the Tacoma Campus such as (but not limited to): code and safety projects, electrical, exteriors, infrastructure, interiors, mechanical, site work and utilities. These projects support ongoing campus preservation and renewal efforts to provide the facilities required to meet the needs of increasing student enrollment, programs, and an enhanced student experience.

Major Infrastructure (Seismic Improvements) - $10.4M for Construction

The University of Washington requests $10.4 million of funding appropriations from the UW 064 Building Account to support Minor Works (projects valued at $2M or less) on the Tacoma Campus. Once the capital budget is enacted, the final Minor Works project lists will be provided to OFM for review and approval, and to the House Capital Budget and Senate Ways and Means committees for review and comment.

This ongoing project improves seismic preparedness in unreinforced masonry (URM) buildings on the Seattle campus. Twenty-five buildings have been identified to be repaired over a nine-phase biennial schedule. The work reinforces URM bearing and non-bearing walls and reinforces parapets to reduce the risk of collapse of buildings and masonry falling from buildings.

UW Tacoma Campus Soil Remediation - $2M (State Toxics Account)

The University of Washington requests $2 million of funding appropriations in the current biennium and an ongoing $2 million in future biennia for UW Tacoma Campus Soil Remediation. A request for the reappropriation of $3.957 million of previous funding is also included. The ability of the UW Tacoma to provide the capacity necessary to meet its mandate for higher education opportunity in the South Puget Sound Region is reliant on future capital investments including building renovations, new building partnerships, campus site improvements and real estate acquisitions.

FY24 Energy Renewal Program - $38.9M Reappropriations

The University of Washington requests a total of $38.9 million of funding reappropriations from the Climate Commitment Account 26-C for five specific projects that support ongoing energy renewal and decarbonization efforts across all three campuses and UW Medical Center facilities scheduled to begin in January 2025.

Infrastructure Renewal - $21.424M Reappropriations

The University of Washington requests a total of $21.424 million of funding reappropriations from the UW 064 Building Account ($9.082 million) and Climate Commitment Account 26-C ($12.342 million) to support a variety of infrastructure renewal projects across the Seattle Campus. The majority of these projects also help the University begin to address the Clean Buildings Performance Standard.

Anderson Hall Renovation - $23.455M Reappropriations

The University of Washington requests $23.455 million of funding reappropriations from the State 057 Building Construction Account for the construction phase of the Anderson Hall Renovation.

Magnuson Health Sciences Phase II – Renovation/Replacement - $48.436M Reappropriations

The University of Washington requests $48.436 million of funding reappropriations from the State 057 Building Construction Account for the construction phase of the Magnuson Health Sciences Phase II - Renovation/Replacement.

UW Seattle – Asset Preservation (Minor Works) 23-25 - $27.887M Reappropriations

The University of Washington requests $27.887 million of funding reappropriations from the UW 064 Building Account to fund Minor Works (projects valued at $2M or less) on the Seattle Campus.

UW Bothell – Asset Preservation (Minor Works) 23-25 - $3.345M Reappropriations

The University of Washington requests $3.345 million of funding reappropriations from the UW 064 Building Account to fund Minor Works (projects valued at $2M or less) on the Bothell Campus.

UW Tacoma – Asset Preservation (Minor Works) 23-25 - $1.571M Reappropriations

The University of Washington requests $1.571 million of funding reappropriations from the UW 064 Building Account to fund Minor Works (projects valued at $2M or less) on the Tacoma Campus.

Campus Asset Renewal Plan FUTURE

This is a placeholder for future Campus Asset Renewal Program projects that will likely seek funding appropriations from the State 057 Building Construction Account.

Clean Energy Transformation FUTURE

This is a placeholder for future Clean Energy Transformation projects that will likely seek funding appropriations from the Climate Commitment Account 26-C.

Infrastructure Renewal FUTURE

This is a placeholder for future Infrastructure Renewal projects that will likely seek funding appropriations from the UW 064 Building Account.

Asset Preservation (Minor Works) FUTURE

This is a placeholder for future Asset Preservation (Minor Works) projects that will likely seek funding appropriations from the UW 064 Building Account.

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360 - University of Washington
Capital Project Request

2025-27 Biennium

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Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:35AM

Project Number: **40000148**
Project Title: **Clean Energy Transformation 25-27**

Description

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 1

Project Summary

The University of Washington is requesting a total of $292.6M from the Climate Commitment Account 26-C to support our Clean Energy Transformation efforts across the Seattle Campus. The University of Washington has developed an innovative energy transformation strategy to transition the Seattle campus energy infrastructure to 100% clean energy. This monumental undertaking will modernize our energy infrastructure and better align UW's sustainability values with daily campus operations. Reducing UW's carbon emissions and conversion to 100% clean energy is required and motivated by State and City regulations, infrastructure renewal requirements, consistency with the UW Sustainability Action Plan and new funding sources available at the State and Federal levels. The five-part energy transformation strategy includes: 1. Energy Efficiency: expanding metering, upgrading controls, improving data analytics, and establishing a green revolving fund to channel energy savings into energy efficiency projects. 2. Convert to Hot Water: convert from steam to hot water heating to enable heat pump electrification. 3. Central Cooling: replace inefficient chillers, use lake water for cooling and add thermal storage. 4. Electrify Heating: use heat pumps to extract heat from cooling towers, sewer, and lake water. 5. Emerging technologies and renewables: continuously evaluate emerging technologies for full decarbonization.

Project Description

Please see the individual subproject question responses.

Location

City: Seattle **County:** King **Legislative District:** 043

Project Type

Infrastructure (Major Projects)

Growth Management impacts

Not applicable

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Current Biennium	2025-27 Fiscal Period Reapprops	2025-27 Fiscal Period New Approps
26C-1	Climate Commit Accou-State	292,600,000				292,600,000
	Total	**292,600,000**	**0**	**0**	**0**	**292,600,000**

Acct Code	Account Title	Future Fiscal Periods 2027-29	2029-31	2031-33	2033-35
26C-1	Climate Commit Accou-State				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

No Operating Impact

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

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Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:35AM

Project Number: **40000148**
Project Title: **Clean Energy Transformation 25-27**

SubProjects

SubProject Number: **40000149**
SubProject Title: **District Energy Standards/Basis of Design**

Project Number: 40000148
Project Title: Clean Energy Transformation 25-27

SubProjects

SubProject Number: 40000149
SubProject Title: District Energy Standards/Basis of Design

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 1

Project Summary

The University of Washington is requesting $1.9M from the Climate Commitment Account 26-C to support development of our District Energy Standards/Basis of Design. The UW Clean Energy Transformation will occur over a ten-year period and be executed by multiple design and construction teams. Updating the UW Facility Design Guidelines with district energy standards will ensure quality, consistency and efficient operation and maintenance of the system.

Project Description

1. Identify the problem or opportunity addressed. Why is the request a priority? This narrative should identify unserved/underserved people or communities, operating budget savings, public safety improvements or other backup necessary to understand the need for the request. For preservation projects, it is helpful to include information about the current condition of the facility or system.

The UW Facility Design Guidelines do not currently cover key project elements associated with clean energy district systems such as direct bury hot water piping, heat recovery chillers and thermal energy storage systems. Additionally, the energy transformation projects will be designed and executed by multiple design and construction teams over a period of ten years. It is important that UW establish standards for consistent execution and to facilitate cost effective maintenance of the systems in the future. Based on previous experience with transforming campus energy systems, having consistency is crucial for long term effectiveness.

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

The funding request is for consulting services for the development of a district energy standard and basis of design. The consultant will also act as the Owner's Engineer to review and recommend approval of design submittals. This funding request is for the first two years of service. The schedule for this request is:

TASK	***Date Range***
Funding Available	*July 2025*
Contractor Selection Process	*August 2025 – September 2025*
Basis of Design Documents	*September 2025 – April 2026*
On Going Construction Support	*September 2025– August 2027*

3. How would the request address the problem or opportunity identified in question 1? What would be the result of not acting?

UW will engage a third-party consulting engineer (Owner's Engineer) with expertise in district energy systems and civil engineering to develop a basis of design and design standards for the district energy system including hot water piping, heat exchangers, meters, and controls. To maintain the standards, the Owner's Engineer will review project designs and material submittals, review requests for deviations from the standards proposed by design-build teams and advise on approval or rejection of the deviation requests. This funding request seeks to cover the first two years of this effort.

Project Number: 40000148
Project Title: Clean Energy Transformation 25-27

SubProjects

SubProject Number: 40000149
SubProject Title: District Energy Standards/Basis of Design

4. What alternatives were explored? Why was the recommended alternative chosen? Be prepared to provide detailed cost backup. If this project has an associated predesign, please summarize the alternatives the predesign considered.

Not applicable

5. Which clientele would be impacted by the budget request? Where and how many units would be added, people or communities served, etc.

The Clean Energy Transformation 25-27 projects impact all academic units, athletics(ICA) and UW Medical Center (UWMC) of the Seattle campus of the University of Washington. The specific client is the Campus Energy, Utilities and Operations (CEU&O) department.

6. Does this project or program leverage non-state funding? If yes, how much by source? If the other funding source requires cost share, also include the minimum state (or other) share of project cost allowable and the supporting citation or documentation.

All 25-27 Clean Energy Transformation projects will be initially funded through the Climate Commitment Act (CCA) and the subaccount labeled the Climate Commitment Account. In the current on-going Energy Renewal Program implementation plan, the team is exploring funding options and pairing projects with the funding sources. It is unlikely this project will be eligible for IRA direct pay tax credits. However, there may be IRA funding available through the WA Department of Commerce grants or through the US Department of Energy.

7. Describe how this project supports the agency's strategic master plan or would improve agency performance. Reference feasibility studies, master plans, space programming and other analyses as appropriate.

All projects in the Clean Energy Transformation 25-27 request support the University's Energy strategy and Sustainability Action Plan to decarbonize the campus. This project aligns with all components of the UW Energy Strategy.

8. Does this decision package include funding for any Information Technology related costs including hardware, software (to include cloud-based services), contracts or staff? If the answer is yes, you will be prompted to attach a complete IT addendum. (See Chapter 10of the operating budget instructions for additional requirements.)

Not applicable

9. If the project is linked to the Puget Sound Action Agenda, describe the impacts on the Action Agenda, including expenditure and FTE detail. See Chapter 14 (Puget Sound Recovery and Governor's Salmon Strategy) in the 2025-27 Operating Budget Instructions.

Not applicable

10. How does this project contribute to meeting the greenhouse gas emissions limits established in RCW 70A.45.050,clean buildings performance standards in RCW 19.27A.210, or other statewide goals to reduce carbon pollution and/or improve energy efficiency? Please elaborate. For buildings subject to the clean buildings performance standards, describe your compliance pathway for the building, and include information about energy audits, metering, and energy benchmarking.

Project Number: 40000148
Project Title: Clean Energy Transformation 25-27

SubProjects

SubProject Number: 40000149
SubProject Title: District Energy Standards/Basis of Design

Not applicable

11. How is your proposal impacting equity in the state? Which communities are impacted by this proposal? Include both demographic and geographic communities. How are disparities in communities impacted?

The Clean Energy Transformation 25-27 projects are the first major step to reduce greenhouse gases and nitrogen dioxide (NOx) emissions from the fossil fuel fired boilers required for campus heating and process steam systems. Reducing greenhouse gas and NOx emissions through the UW decarbonization plan will improve air quality and benefit the local Seattle campus community, the Puget Sound Region, and the State. The demographics of the UW campus are highlighted in Appendix C – UW Pride Points 2023-2024. The region, as delineated by the Puget Sound Clean Air Agency, includes Snohomish, King, Pierce, and Kitsap counties, and includes 4.1 million people with diverse ethnicities and incomes. Snohomish, King, and Pierce counties include six of the sixteen communities identified as overburdened by the Department of Ecology. For information on air quality impacts to Washington overburdened communities see Dept. of Ecology report: https://apps.ecology.wa.gov/publications/UIPages/documents/2302115.pdf.

12. Is this project eligible for Direct Pay? If the answer is yes, you must include this project to the list of direct pay projects and information for submittal (see Chapter 1.7 of the capital budget instructions for additional instructions).

It is unlikely this project will be eligible for IRA direct pay tax credits. However, there may be IRA funding available through the WA Department of Commerce grants or through the US Department of Energy.

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

Please see attached Appendices.

14. Reappropriation: if the project was originally funded prior to the 2021-23 biennium, describe the project and each subproject, including the original appropriation year, status of the project and an explanation why a reappropriation is needed.

Not applicable

15. If the project is linked to the Governor's Salmon Strategy provide an explanation of how the budget request relates to a salmon strategy action, is urgent in the coming biennium to advance salmon recovery, is aligned with a federally approved salmon recovery plan, and/or advances a known tribal priority.

Not applicable

16. In the agency summary, include the statement, "Related to implementing the Governor's Salmon Strategy." See Chapter 14 in the 2025-27 operating budget instructions for more information.(Note: This question is not in CBS but does need a response if applicable).

Not applicable

Location
City: Seattle **County:** King **Legislative District:** 043

Project Type
Infrastructure (Major Projects)

360 - University of Washington
Capital Project Request

2025-27 Biennium

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Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:35AM

Project Number: 40000148
Project Title: Clean Energy Transformation 25-27

SubProjects

SubProject Number: 40000149
SubProject Title: District Energy Standards/Basis of Design

Growth Management impacts
Not applicable

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Expenditures Current Biennium	2025-27 Fiscal Period Reapprops	2025-27 Fiscal Period New Approps
26C-1	Climate Commit Accou-State	1,900,000				1,900,000
	Total	**1,900,000**	**0**	**0**	**0**	**1,900,000**

Acct Code	Account Title	Future Fiscal Periods 2027-29	2029-31	2031-33	2033-35
26C-1	Climate Commit Accou-State				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

No Operating Impact

SubProject Number: 40000150
SubProject Title: Micro District - South of Pacific

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:35AM

Project Number: 40000148
Project Title: Clean Energy Transformation 25-27

SubProjects

SubProject Number: 40000150
SubProject Title: Micro District - South of Pacific

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 1

Project Summary

The University of Washington is requesting $31.1M from the Climate Commitment Account 26-C to support design and construction work for the Micro District - South of Pacific. The Micro District - South of Pacific replaces existing inefficient steam piping system with hot water piping and enables the implementation of heat recovery systems. This area of South Campus includes research buildings with year-round heating and cooling loads, a prime source of heat recovery. The hot water system enables heat pump technologies to utilize low-grade heat sources for campus heating demands which will play a critical role in the reduction of fossil fuel use for the UW campus.

Project Description

1. Identify the problem or opportunity addressed. Why is the request a priority? This narrative should identify unserved/underserved people or communities, operating budget savings, public safety improvements or other backup necessary to understand the need for the request. For preservation projects, it is helpful to include information about the current condition of the facility or system.

The conversion from steam to hot water heating system will require new hot water piping in existing underground utility tunnels. The hot water piping systems enable heat pump technologies to utilize low-grade heat sources for campus heating demands which will play a critical role in the reduction of fossil fuel use for the UW campus.

The Power Plant & WCUP supply utilities to most of the Seattle campus buildings through an underground tunnel system. This underground distribution system was started in 1901, was extended as the campus grew and connects the central plant to the WCUP.

The tunnel system in South Campus (south of Pacific Ave NE) is a combination of free-standing utility tunnels and tunnels that are incorporated into the basement levels of buildings. This combination of construction, as well as the 24/7/365 operations in the Magnuson Health Sciences Center (MHSC) and University of Washington Medical Center (UWMC) buildings, provides unique challenges to remove steam piping and replace it with hot water piping.

The existing tunnel network has varying dimensions and densities of existing utilities. Typical dimensions are 7 to 8 ft. wide and 9 ft. to 14 ft. tall.

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

The funding request is for the design, permitting, and construction of the removal of steam piping, installation of new hot water piping and replacement of steam to hot water heat exchanges with hot water to hot water heat exchangers. The campus utility distribution scope has been broken down into five zones to facilitate logistics and coordination with power plant improvements. This project is one phase of South campus zones. A detailed cost estimate for this stage is provided in Appendix B. The schedule for this request is:

TASK	***Date Range***
Funding Available	*July 2025*

Project Number: 40000148
Project Title: Clean Energy Transformation 25-27

SubProjects

SubProject Number: 40000150
SubProject Title: Micro District - South of Pacific

Contractor Selection Process	*August 2025 – October 2025*
Design& Permitting	*October 2025 – May 2027*
Construction	*May 2027 – August 2028*
Commissioning& Startup	*August 2028 – September 2028*

3. How would the request address the problem or opportunity identified in question 1? What would be the result of not acting?

Extension of central heating utilities to buildings south of Pacific will replace existing inefficient steam piping systems with hot water piping and enable heat recovery systems to be implemented.

As the first stage of the hot water distribution system with building conversions, this project includes the initial portions of heating water distribution mains that will eventually serve buildings south of NE Pacific St.

As an enabling project, the recommended solution is to install a pathway of piping between the existing WCUP facility through the existing tunnel system, terminating at tunnel node SC6. Refer to Figure 1 for extent of piping through tunnels. This distribution will be sized to serve all facilities south of Pacific Ave NE. Future extension into the MHSC / UWMC region will be determined once the Building Renewal plans have been solidified.

The specific recommended solution is to install piping in existing utility tunnels to include:
- *Heating Water: 1,650 linear feet of 18" supply and return piping (qty 2 pipes within existing utility tunnels WT5 to SC6) and 720 linear feet of 6" supply and return piping (qty 2 pipe within existing utility tunnels SW 3 to SW 4 and Fishery Sciences).*
- *Replace existing steam to hot water heat exchangers with hot water to hot water heat exchangers at the following buildings:*
  - *Fishery Sciences*
  - *Fisheries Teaching Research*
  - *Marines Studies*
  - *Foege Bioengineering*
  - *Foege Genome Sciences*
  - *Ocean Sciences Building*
  - *K Wing (MHSC)*
- *Demolish existing high-pressure steam, low pressure steam, and condensate return piping in existing utility tunnels Fishery Sciences to SW 3 and WT5 to SC6.*
- *Temporary heating solutions will be required at each of the above buildings during the changeover period from steam to hot water.*
- *Provide stand-alone process steam generators for existing process loads (e.g. autoclaves) within buildings previously served by campus steam.*
- *Piping material to be ASTM A53 Grade B carbon steel piping with welded joints. Insulated with 2" rock wool insulation and aluminum jacket. Inline slip-type expansion joints provided every 100' for heating water piping.*
- *Piping to include tees, valves and caps for extension of hot water to future connections in the South of Pacific region. Additional information on the proposed project solution is provided in Appendix A.*

4. What alternatives were explored? Why was the recommended alternative chosen? Be prepared to provide detailed cost backup. If this project has an associated predesign, please summarize the alternatives the predesign considered.

A hot water piping distribution system is required to enable heat recovery systems. The hot water distribution system will be

SubProjects

SubProject Number: 40000150
SubProject Title: Micro District - South of Pacific

phased over ten years, coordinated with central plant improvements. UW analyzed the sequence for hot water conversion – which zone should go first, second, third, etc. The South zone includes the Magnuson Health Sciences Center and the UW Medical Center. These uses have the greatest heating and cooling loads on the campus and therefore are he largest opportunity for heat recovery. Converting South Campus buildings first provides the greatest opportunity to reduce fossil fuel use and reduce greenhouse gas emissions.

The project explored several routing options and two below grade options, 1) direct bury piping and 2) the existing tunnel system. The direct-bury alternative has lower first costs and more surface campus disruption. The tunnel system option was selected because it has lower life cycle costs, lower maintenance costs, reduces costs for future connections and increases the life of the piping systems.

5. Which clientele would be impacted by the budget request? Where and how many units would be added, people or communities served, etc.

The Clean Energy Transformation 25-27 projects impact all academic units, athletics (ICA) and UW Medical Center (UWMC) of the Seattle campus of the University of Washington. The specific client is the Campus Energy, Utilities and Operations (CEU&O) department.

6. Does this project or program leverage non-state funding? If yes, how much by source? If the other funding source requires cost share, also include the minimum state (or other) share of project cost allowable and the supporting citation or documentation.

All 25-27 Clean Energy Transformation projects will be initially funded through the Climate Commitment Act (CCA), Climate Commitment Account. As part of the 2024 Energy Renewal Program implementation plan, UW is exploring funding options and pairing projects with the funding sources. This project will seek partial cost reimbursement through federal programs via the Infrastructure Act (IIJA) and Inflation Reduction Act (IRA). UW is structuring projects to optimize federal funding reimbursement opportunities, such as the IRA direct pay provision. The application for federal cost reimbursement occurs after the project is complete and in-service.

7. Describe how this project supports the agency's strategic master plan or would improve agency performance. Reference feasibility studies, master plans, space programming and other analyses as appropriate.

All projects in the Clean Energy Transformation 25-27 request support the University's Energy strategy and Sustainability Action Plan to decarbonize the campus. The Micro-district South of Pacific project aligns with the UW Energy Strategy conversion to hot water, centralize cooling, and electrification of the heating systems.

The Micro District - South of Pacific project is consistent with Campus Master Plan (2019) and supports the future development envisioned in the master plan.

8. Does this decision package include funding for any Information Technology related costs including hardware, software (to include cloud-based services), contracts or staff? If the answer is yes, you will be prompted to attach a complete IT addendum. (See Chapter 10of the operating budget instructions for additional requirements.)

Not applicable

Project Number: 40000148
Project Title: Clean Energy Transformation 25-27

SubProjects

SubProject Number: 40000150
SubProject Title: Micro District - South of Pacific

9. If the project is linked to the Puget Sound Action Agenda, describe the impacts on the Action Agenda, including expenditure and FTE detail. See Chapter 14 (Puget Sound Recovery and Governor's Salmon Strategy) in the 2025-27 Operating Budget Instructions.

Not applicable

10. How does this project contribute to meeting the greenhouse gas emissions limits established in RCW 70A.45.050,clean buildings performance standards in RCW 19.27A.210, or other statewide goals to reduce carbon pollution and/or improve energy efficiency? Please elaborate. For buildings subject to the clean buildings performance standards, describe your compliance pathway for the building, and include information about energy audits, metering, and energy benchmarking.

In the near-term, there are minor energy savings and operational cost savings from converting from steam heating to hot water heating through the decreased heat loss comparatively between heating water piping and steam piping.

Over a longer time period, as the University continues to deploy its Energy Strategy, the heating water system piping will play a critical role in allowing the University to operate primarily on heat pumps rather than fossil-fuel boilers. Heat pumps are highly efficient compared to fossil-fuel boilers, but they are not capable of generating high temperature hot water or even steam. The new heating water system piping will allow for heat to be delivered through heat pumps rather than fossil fuel boilers.

Quantifying this individual project's contribution in the near-term is difficult, however as part of the longer-term heat pump strategy outlined above, the anticipated GHG savings for those combined projects is 71,000 MTCO2e (metric tons equivalent CO2), which represents approximately 84% of the campus's current greenhouse gas emissions.

11. How is your proposal impacting equity in the state? Which communities are impacted by this proposal? Include both demographic and geographic communities. How are disparities in communities impacted?

The Clean Energy Transformation 25-27 projects are the first major step to reduce greenhouse gases and nitrogen dioxide (NOx) emissions from the fossil fuel fired boilers required for campus heating and process steam systems. Reducing greenhouse gas and NOx emissions through the UW decarbonization plan will improve air quality and benefit the local Seattle campus community, the Puget Sound Region and the State. The demographics of the UW campus are highlighted in Appendix C – UW Pride Points 2023-2024. The region, as delineated by the Puget Sound Clean Air Agency, includes Snohomish, King, Pierce and Kitsap counties and includes 4.1 million people with diverse ethnicities and incomes. Snohomish, King and Pierce counties include six of the sixteen communities identified as overburdened by the Department of Ecology. For information on air quality impacts to Washington overburdened communities see Dept. of Ecology report: https://apps.ecology.wa.gov/publications/UIPages/documents/2302115.pdf.

12. Is this project eligible for Direct Pay? If the answer is yes, you must include this project to the list of direct pay projects and information for submittal (see Chapter 1.7 of the capital budget instructions for additional instructions).

The Micro District - South of Pacific project is potentially eligible for partial reimbursement through the IRA direct pay provision. The application for federal cost reimbursement occurs after the project is complete and in-service. Federal reimbursement, through a direct pay tax credit, will off-set future funding requests for Clean Energy Transformation projects and does not impact the initial funding required for this project. Potentially eligible projects have been added to the Direct Pay Form.

360 - University of Washington
Capital Project Request

2025-27 Biennium

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Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:35AM

Project Number: 40000148
Project Title: Clean Energy Transformation 25-27

SubProjects

SubProject Number: 40000150
SubProject Title: Micro District - South of Pacific

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

Please see attached Appendices.

14. Reappropriation: if the project was originally funded prior to the 2021-23 biennium, describe the project and each subproject, including the original appropriation year, status of the project and an explanation why a reappropriation is needed.

Not applicable

15. If the project is linked to the Governor's Salmon Strategy provide an explanation of how the budget request relates to a salmon strategy action, is urgent in the coming biennium to advance salmon recovery, is aligned with a federally approved salmon recovery plan, and/or advances a known tribal priority.

Not applicable

16. In the agency summary, include the statement, "Related to implementing the Governor's Salmon Strategy." See Chapter 14 in the 2025-27 operating budget instructions for more information. (Note: This question is not in CBS but does need a response if applicable).

Location
City: Seattle **County:** King **Legislative District:** 043

Project Type
Infrastructure (Major Projects)

Growth Management impacts
Not applicable

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Expenditures Current Biennium	2025-27 Fiscal Period Reapprops	2025-27 Fiscal Period New Approps
26C-1	Climate Commit Accou-State	31,100,000				31,100,000
	Total	**31,100,000**	**0**	**0**	**0**	**31,100,000**

Acct Code	Account Title	Future Fiscal Periods 2027-29	2029-31	2031-33	2033-35
26C-1	Climate Commit Accou-State				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

No Operating Impact

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

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Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:35AM

Project Number: **40000148**
Project Title: **Clean Energy Transformation 25-27**

SubProjects

SubProject Number: **40000151**
SubProject Title: **Chiller Installation**

Project Number: 40000148
Project Title: Clean Energy Transformation 25-27

SubProjects

SubProject Number: 40000151
SubProject Title: Chiller Installation

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 1

Project Summary

The University of Washington is requesting $13.5M from the Climate Commitment Account 26-C to support design and construction work for the Chiller Installation. Centralized cooling is a more energy efficient approach, reduces overall power consumption and provides more reliability due to centralized maintenance than stand-along chiller equipment. This project is the design and installation of Chiller #5 in the WCUP to increase centralized cooling capacity and eliminate deferred maintenance of stand-alone chiller equipment.

Project Description

1. Identify the problem or opportunity addressed. Why is the request a priority? This narrative should identify unserved/underserved people or communities, operating budget savings, public safety improvements or other backup necessary to understand the need for the request. For preservation projects, it is helpful to include information about the current condition of the facility or system.

Chiller #5 was purchased in advance of new regulations which would have prevented the use of the same type of chiller that is currently in place. The chiller itself has been purchased with separate funds and this funding request is for the design and construction of the installation including additional supporting equipment required for the function of the new chiller.

The chiller is required to address deferred maintenance of stand-alone chiller equipment as well as to enable centralizing cooling. Centralized cooling is a more energy efficient approach and provides more reliability due to centralized maintenance.

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

The funding request is for the design, permitting, installation of Chiller #5. This project cannot be phased. A C-100 form is attached and a detailed cost estimate for the scope of work is provided in Appendix B The schedule for this request is:

TASK	*Date Range*
Funding Available	*July 2025*
Contractor Selection Process	*August 2025 – November 2025*
Design & Permitting	*November 2025 – May 2026*
Construction	*December 2027 – June 2028*
Commissioning & Startup	*June 2028 – July 2028*

Note: Construction start date is being driven by the electrical unit substation procurement (assumed 18 months).

3. How would the request address the problem or opportunity identified in question 1?What would be the result of not acting?

Chiller #5 will be installed in the West Campus Utility Plant (WCUP). The project will provide the following to accommodate the new chiller:

SubProjects

SubProject Number: 40000151
SubProject Title: Chiller Installation

- *Installation of Chiller #5 (owner furnished, contractor installed)*
- *New 300 HP primary chilled water pump with VFD*
- *New 1750-ton cross flow cooling tower*
- *New 250 HP cooling tower pump with VFD*
- *New electrical substation, switchgear, relay, and meter, and feeders to new chiller, pumps, and cooling tower*
- *Extend the length of the existing 36" condenser water supply and return headers and provide future taps for connection to future cooling towers provided under SOW-P-7 WCUP HRCs and Cooling Towers*
- *Extend the length of the existing 20" CT equalizing line and provide future taps for connection to future cooling towers provided under SOW-P-7 WCUP HRCs and Cooling Towers*
- *140 ft of 12" condenser water pipe*
- *200 ft of 12" chilled water pipe*
- *Structural modifications and additions to support all new piping from foundation*
- *Controls as required for fully operational system*
- *HVAC upgrades to chiller room*
- *Electrical infrastructure for Chiller #5.*

- *Additional information on the proposed project solution is provided in Appendix A.*

Since Chiller #5 has already been purchased, the result of not acting would require the warehousing of the chiller until installation funds are provided. Additionally, stand-alone chillers that are past their lifecycle will remain in place, providing poor operation and require continuing stop-gap maintenance.

4. What alternatives were explored? Why was the recommended alternative chosen? Be prepared to provide detailed cost backup. If this project has an associated predesign, please summarize the alternatives the predesign considered.

The team assessed location options; 1) the WCUP and 2) the main power plant for physical layout, how the equipment works with other energy transformation projects and cost impacts. The WCUP location fit from a physical layout perspective and provided the most cost-efficient installation solution.

5. Which clientele would be impacted by the budget request? Where and how many units would be added, people or communities served, etc.

*The **Clean Energy Transformation 25-27** projects impact all academic units, athletics (ICA) and UW Medical Center (UWMC) of the Seattle campus of the University of Washington. The specific client is the Campus Energy, Utilities and Operations (CEU&O) department.*

6. Does this project or program leverage non-state funding? If yes, how much by source? If the other funding source requires cost share, also include the minimum state(or other) share of project cost allowable and the supporting citation or documentation.

All 25-27 Clean Energy Transformation projects will be initially funded through the Climate Commitment Act (CCA), Climate Commitment Account. As part of the 2024 Energy Renewal Program implementation plan, UW is exploring funding options and pairing projects with the funding sources. This project will seek partial cost reimbursement through federal programs via the Infrastructure Act (IIJA) and Inflation Reduction Act (IRA). UW is structuring projects to optimize federal funding

SubProjects

SubProject Number: 40000151
SubProject Title: Chiller Installation

reimbursement opportunities, such as the IRA direct pay provision. The application for federal cost reimbursement occurs after the project is complete and in-service.

The main chiller equipment was purchased with separate funds and is not eligible for direct pay provisions.

7. Describe how this project supports the agency's strategic master plan or would improve agency performance. Reference feasibility studies, master plans, space programming and other analyses as appropriate.

All projects in the Clean Energy Transformation 25-27 request support the University's Energy strategy and Sustainability Action Plan to decarbonize the campus. The Chiller #5 installation project aligns with the UW Energy Strategy for transforming the central cooling system into a reliable system suitable for uses beyond comfort cooling and to provide the reliability required of a Tier 1 research university.

The Chiller #5 installation is within the existing WCUP, consistent with Campus Master Plan (2019) and does not impact future campus growth.

8. Does this decision package include funding for any Information Technology related costs including hardware, software (to include cloud-based services), contracts or staff? If the answer is yes, you will be prompted to attach a complete IT addendum. (See Chapter 10 of the operating budget instructions for additional requirements.)

Not applicable

9. If the project is linked to the Puget Sound Action Agenda, describe the impacts on the Action Agenda, including expenditure and FTE detail. See Chapter 14 (Puget Sound Recovery and Governor's Salmon Strategy) in the 2025-27 Operating Budget Instructions.

Not applicable

10. How does this project contribute to meeting the greenhouse gas emissions limits established in RCW 70A.45.050,clean buildings performance standards in RCW 19.27A.210, or other statewide goals to reduce carbon pollution and/or improve energy efficiency? Please elaborate. For buildings subject to the clean buildings performance standards, describe your compliance pathway for the building, and include information about energy audits, metering, and energy benchmarking.

Installation of Chiller #5 will represent an increase in cooling efficiency for the buildings which have building-level chillers that will be re-served by the central chilled water system. This represents an energy improvement that will reduce campus energy use and assist in compliance with the Clean Building performance standards. The reduction of the electrical power from this cooling efficiency reduces the campus scope 2 greenhouse gas emissions.

11. How is your proposal impacting equity in the state? Which communities are impacted by this proposal? Include both demographic and geographic communities. How are disparities in communities impacted?

*The **Clean Energy Transformation 25-27** projects are the first major step to reduce greenhouse gases and nitrogen dioxide (NOx) emissions from the fossil fuel fired boilers required for campus heating and process steam systems. Reducing*

Project Number: 40000148
Project Title: Clean Energy Transformation 25-27

SubProjects

SubProject Number: 40000151
SubProject Title: Chiller Installation

greenhouse gas and NOx emissions through the UW decarbonization plan will improve air quality and benefit the local Seattle campus community, the Puget Sound Region, and the State. The demographics of the UW campus are highlighted in Appendix C – UW Pride Points 2023-2024. The region, as delineated by the Puget Sound Clean Air Agency, includes Snohomish, King, Pierce, and Kitsap counties, and includes 4.1million people with diverse ethnicities and incomes. Snohomish, King, and Pierce counties include six of the sixteen communities identified as overburdened by the Department of Ecology. For information on air quality impacts to Washington overburdened communities see Dept. of Ecology report: https://apps.ecology.wa.gov/publications/UIPages/documents/2302115.pdf.

12. Is this project eligible for Direct Pay? If the answer is yes, you must include this project to the list of direct pay projects and information for submittal (see Chapter 1.7 of the capital budget instructions for additional instructions).

The installation of Chiller #5 project is potentially eligible for partial reimbursement through the IRA direct pay provision. The application for federal cost reimbursement occurs after the project is complete and in-service. Federal reimbursement, through a direct pay tax credit, will off-set future funding requests for Clean Energy Transformation projects and does not impact the initial funding required for this project. Potentially eligible projects have been added to the Direct Pay Form.

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

Please see attached Appendices.

14. Reappropriation: if the project was originally funded prior to the 2021-23 biennium, describe the project and each subproject, including the original appropriation year, status of the project and an explanation why a reappropriation is needed.

Not applicable

15. If the project is linked to the Governor's Salmon Strategy provide an explanation of how the budget request relates to a salmon strategy action, is urgent in the coming biennium to advance salmon recovery, is aligned with a federally approved salmon recovery plan, and/or advances a known tribal priority.

Not applicable

16. In the agency summary, include the statement, "Related to implementing the Governor's Salmon Strategy." See Chapter 14 in the 2025-27 operating budget instructions for more information. (Note: This question is not in CBS but does need a response if applicable).

Not applicable

Location
City: Seattle **County:** King **Legislative District:** 043

Project Type
Infrastructure (Major Projects)

Project Number: 40000148
Project Title: Clean Energy Transformation 25-27

SubProjects

SubProject Number: 40000151
SubProject Title: Chiller Installation

Growth Management impacts
Not applicable

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Expenditures Current Biennium	2025-27 Fiscal Period Reapprops	2025-27 Fiscal Period New Approps
26C-1	Climate Commit Accou-State	13,500,000				13,500,000
	Total	**13,500,000**	**0**	**0**	**0**	**13,500,000**

Acct Code	Account Title	Future Fiscal Periods 2027-29	2029-31	2031-33	2033-35
26C-1	Climate Commit Accou-State				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

No Operating Impact

Narrative
No additional M&O required.

SubProject Number: 40000152
SubProject Title: Micro District - West Campus

Project Number: 40000148
Project Title: Clean Energy Transformation 25-27

SubProjects

SubProject Number: 40000152
SubProject Title: Micro District - West Campus

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 1

Project Summary

The University of Washington is requesting $76.4M from the Climate Commitment Account 26-C to support design and construction work for the Micro District - West Campus. The Micro District - West Campus extends the existing utility tunnel system to complete a looped system in the West Campus zone. The project replaces the existing steam piping with hot water piping and extends the chilled water system. The hot water system enables heat pump technologies to utilize low-grade heat sources for campus heating demands which will play a critical role in the reduction of fossil fuel use for the UW campus.

Project Description

1. Identify the problem or opportunity addressed. Why is the request a priority? This narrative should identify unserved/underserved people or communities, operating budget savings, public safety improvements or other backup necessary to understand the need for the request. For preservation projects, it is helpful to include information about the current condition of the facility or system.

The conversion from a steam heating system to a hot water system requires new hot water piping in existing underground utility tunnels. The hot water piping systems enable heat pump technologies to utilize low-grade heat sources for campus heating demands which will play a critical role in the reduction of fossil fuel use for the UW campus.

The Power Plant supply utilities to most of the Seattle campus buildings through an underground tunnel system. This underground distribution system was started in 1901, was extended as the campus grew and connects the buildings to the central plant and the WCUP. The utility tunnels typically include steam piping, chilled water piping, electrical, communications and IT systems.

Currently, the West Campus is partially served by two disconnected utility tunnels that dead-end. When repairs or changes to the utility systems occur at one building on the dead-end leg, it impacts all buildings on that leg. A looped system provides flexibility and resiliency to the system during maintenance and when future buildings connect to the utility systems.

The existing tunnel network has varying dimensions and densities of existing utilities. Typical dimensions are 7 to 8 ft wide and 9 ft to 14 ft tall.

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

The funding request is for the design, permitting, and construction of the utility tunnel extension, removal steam piping, installation of new hot water piping and extension of the chilled water system piping. The campus utility distribution scope has been broken down into five zones to facilitate logistics and coordination with power plant improvements. This project is the first of five campus zones. A C-100 form is attached and a detailed cost estimate for the scope of work is provided in Appendix B. The schedule for this request is:

TASK	***Date Range***
Funding Available	*July 2025*
Contractor Selection Process	*August 2025 – October 2025*

Project Number: 40000148
Project Title: Clean Energy Transformation 25-27

SubProjects

SubProject Number: 40000152
SubProject Title: Micro District - West Campus

Design & Permitting	*October 2025 – December 2027*
Construction	*December 2027 – May 2029*
Commissioning & Startup	*May 2029 – July 2029*

3. How would the request address the problem or opportunity identified in question 1? What would be the result of not acting?

This project extends the existing tunnel system by constructing two new underground tunnel segments to complete a loop in the West Campus to the WCUP. The micro-district will include hot water piping for heating and chilled water piping for mechanical cooling. The utility tunnel also includes space for distribution of electrical, communication and IT systems.

A looped system for heating hot water distribution will allow service to buildings on the west side of campus including existing connected buildings(Henderson Hall, Terry Hall, Maple Hall, Startup Hall, Lander Hall, Elm Hall, Alder Hall, Schmitz Hall, Gould Hall), and additional capacity (including valves and terminations) for future connections. The new heating water piping will create a full loop from the WCUP to the west campus, connecting the West Tunnel (WT) and Central Parkway (CP) tunnel systems. Buildings can be fed from either direction of the loop if a section of the loop is closed for maintenance, thus increasing system resilience and maintenance flexibility.

Chilled water will be extended to form a loop with capacity (including valves and terminations) for future loads based on the Campus Master Plan development sites. The new chilled water piping will connect to existing CCW in the tunnel vault at CP5 and be routed (along with heating water) back to WCUP through a new tunnel system.

The scope of work includes restoration of the surface (roads, bike paths, sidewalks, and adjacent landscape) to comply with the campus ADA master plan, City of Seattle standards, campus tree policy and adds pedestrian level lighting to improve safety.

Additional information on the proposed project solution is provided in Appendix A.

4. What alternatives were explored? Why was the recommended alternative chosen? Be prepared to provide detailed cost backup. If this project has an associated predesign, please summarize the alternatives the predesign considered.

The project explored several routing options (looped and dead-end) and two below grade options, 1) direct bury piping and 2) extension of the tunnel system with new tunnels. The dead-end alternative does not meet the resiliency requirements and increases maintenance impacts to occupied buildings. The direct-bury alternative has lower first costs, however, the tunnel system has lower lifecycle costs, lower maintenance costs, reduces costs for future connections and increases the life of the piping systems.

5. Which clientele would be impacted by the budget request? Where and how many units would be added, people or communities served, etc.

*The **Clean Energy Transformation 25-27** projects impact all academic units, athletics(ICA) and UW Medical Center (UWMC) of the Seattle campus of the University of Washington. The specific client is the Campus Energy, Utilities and Operations (CEU&O)department.*

6. Does this project or program leverage non-state funding? If yes, how much by source? If the other funding source

SubProjects

SubProject Number: 40000152
SubProject Title: Micro District - West Campus

requires cost share, also include the minimum state (or other) share of project cost allowable and the supporting citation or documentation.

All 25-27 Clean Energy Transformation projects will be initially funded through the Climate Commitment Act (CCA), Climate Commitment Account. As part of the 2024 Energy Renewal Program implementation plan, UW is exploring funding options and pairing projects with the funding sources. This project will seek partial cost reimbursement through federal programs via the Infrastructure Act (IIJA) and Inflation Reduction Act (IRA). UW is structuring projects to optimize federal funding reimbursement opportunities, such as the IRA direct pay provision. The application for federal cost reimbursement occurs after the project is complete and in-service.

7. Describe how this project supports the agency's strategic master plan or would improve agency performance. Reference feasibility studies, master plans, space programming and other analyses as appropriate.

All projects in the Clean Energy Transformation 25-27 request support the University's Energy strategy and Sustainability Action Plan to decarbonize the campus. The Micro-district West Campus project aligns with the UW Energy Strategy conversion to hot water, centralize cooling, and electrification of the heating systems.

The Micro District - West Campus project is consistent with Campus Master Plan (2019) and supports the future development envisioned in the master plan.

8. Does this decision package include funding for any Information Technology related costs including hardware, software (to include cloud-based services), contracts or staff? If the answer is yes, you will be prompted to attach a complete IT addendum. (See Chapter 10 of the operating budget instructions for additional requirements.)

Not applicable

9. If the project is linked to the Puget Sound Action Agenda, describe the impacts on the Action Agenda, including expenditure and FTE detail. See Chapter 14 (Puget Sound Recovery and Governor's Salmon Strategy) in the 2025-27 Operating Budget Instructions.

Not applicable

10. How does this project contribute to meeting the greenhouse gas emissions limits established in RCW 70A.45.050,clean buildings performance standards in RCW 19.27A.210, or other statewide goals to reduce carbon pollution and/or improve energy efficiency? Please elaborate. For buildings subject to the clean buildings performance standards, describe your compliance pathway for the building, and include information about energy audits, metering, and energy benchmarking.

In the near-term, there are minor energy savings and operational cost savings from converting from steam heating to hot water heating through the decreased heat loss comparatively between heating water piping and steam piping.

Over a longer time period, as the University continues to deploy its Energy Strategy, the heating water system piping will play a critical role in allowing the University to operate primarily on heat pumps rather than fossil-fuel boilers. Heat pumps are highly efficient compared to fossil-fuel boilers, but they are not capable of generating high temperature hot water or even

SubProjects

SubProject Number: 40000152
SubProject Title: Micro District - West Campus

steam. The new heating water system piping will allow for heat to be delivered through heat pumps rather than fossil fuel boilers.

Quantifying this individual project's contribution in the near-term is difficult, however as part of the longer-term heat pump strategy outlined above, the anticipated GHG savings for those combined projects is 71,000 MTCO2e (metric tons equivalent CO2), which represents approximately 84% of the campus's current greenhouse gas emissions.

11. How is your proposal impacting equity in the state? Which communities are impacted by this proposal? Include both demographic and geographic communities. How are disparities in communities impacted?

*The **Clean Energy Transformation 25-27** projects are the first major step to reduce greenhouse gases and nitrogen dioxide (NOx) emissions from the fossil fuel fired boilers required for campus heating and process steam systems. Reducing greenhouse gas and NOx emissions through the UW decarbonization plan will improve air quality and benefit the local Seattle campus community, the Puget Sound Region, and the State. The demographics of the UW campus are highlighted in Appendix C – UW Pride Points 2023-2024. The region, as delineated by the Puget Sound Clean Air Agency, includes Snohomish, King, Pierce, and Kitsap counties, and includes 4.1 million people with diverse ethnicities and incomes. Snohomish, King, and Pierce counties include six of the sixteen communities identified as overburdened by the Department of Ecology. For information on air quality impacts to Washington overburdened communities see Dept. of Ecology report: https://apps.ecology.wa.gov/publications/UIPages/documents/2302115.pdf.*

12. Is this project eligible for Direct Pay? If the answer is yes, you must include this project to the list of direct pay projects and information for submittal (see Chapter 1.7 of the capital budget instructions for additional instructions).

The Micro District - West Campus project is potentially eligible for partial reimbursement through the IRA direct pay provision. The application for federal cost reimbursement occurs after the project is complete and in-service. Federal reimbursement, through a direct pay tax credit, will off-set future funding requests for Clean Energy Transformation projects and does not impact the initial funding required for this project. Potentially eligible projects have been added to the Direct Pay Form.

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

Please see attached Appendices.

14. Reappropriation: if the project was originally funded prior to the 2021-23 biennium, describe the project and each subproject, including the original appropriation year, status of the project and an explanation why a reappropriation is needed.

Not applicable

15. If the project is linked to the Governor's Salmon Strategy provide an explanation of how the budget request relates to a salmon strategy action, is urgent in the coming biennium to advance salmon recovery, is aligned with a federally approved salmon recovery plan, and/or advances a known tribal priority.

Not applicable

16. In the agency summary, include the statement, "Related to implementing the Governor's Salmon Strategy." See Chapter

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:35AM

Project Number: 40000148
Project Title: Clean Energy Transformation 25-27

SubProjects

SubProject Number: 40000152
SubProject Title: Micro District - West Campus

14 in the 2025-27 operating budget instructions for more information. (Note: This question is not in CBS but does need a response if applicable).

Not applicable

Location
City: Seattle **County:** King **Legislative District:** 043

Project Type
Infrastructure (Major Projects)

Growth Management impacts
Not applicable

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Current Biennium	2025-27 Fiscal Period Reapprops	New Approps
26C-1	Climate Commit Accou-State	76,400,000				76,400,000
	Total	**76,400,000**	**0**	**0**	**0**	**76,400,000**

Acct Code	Account Title	Future Fiscal Periods 2027-29	2029-31	2031-33	2033-35
26C-1	Climate Commit Accou-State				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

No Operating Impact

SubProject Number: 40000153
SubProject Title: Sewer Heat Recovery Site Piping

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

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Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:35AM

Project Number: **40000148**
Project Title: **Clean Energy Transformation 25-27**

SubProjects

SubProject Number: **40000153**
SubProject Title: **Sewer Heat Recovery Site Piping**

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 1

Project Summary

The University of Washington is requesting $14.7M from the Climate Commitment Account 26-C to support design and construction work for Sewer Heat Recovery Site Piping. The University is fortunate to have large municipal sewer lines that run adjacent to the campus (generally along the Burke Gilman Trail) which present a large potential source for waste heat recovery. This enabling project only addresses one component of the sewer heat recovery system: the piping between the existing WCUP facility and the future heat exchanger facility near NE 40th St and 7th Ave NE. Installing the piping now coincides with other projects along the Burke Gilman Trail and provides construction efficiencies and one-time disruption to commuters along the Burke Gilman Trail.

Project Description

1. Identify the problem or opportunity addressed. Why is the request a priority? This narrative should identify unserved/underserved people or communities, operating budget savings, public safety improvements or other backup necessary to understand the need for the request. For preservation projects, it is helpful to include information about the current condition of the facility or system.

A King County main sewer line runs adjacent to the campus (generally along the Burke-Gilman trail) and provides the university with a potential source for waste heat recovery. In 2020, King County established a pilot program for three opportunities to use the King County sewer line as a source for heat transfer. Two slots remain after the first slot was used for a project in South Lake Union in 2023. Using heat from the sewer line provides a reliable energy source that does not increase UW's electrical demand.

The largest potential for heat from the sewer system exists near 7th Ave NE and NE 40thSt in the western edges of the University campus. This location is approximately 2,500 ft from the WCUP.

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

The funding request is for the design, permitting, and construction of the direct bury piping from the WCUP to the location of the future heat exchanger facility. This is the first phase of the Sewer Heat Recovery system, and future projects will include the sewer intercept, a wet well, heat exchanger facility and associated controls. A C-100 form is attached and a detailed cost estimate for the scope of work is provided in Appendix B The schedule for this request is:

TASK	***Date Range***
Funding Available	*July 2025*
Contractor Selection Process	*August 2025 – October 2025*
Design & Permitting	*October 2025 – September 2027*
Construction	*September 2027 – March 2028*
Commissioning &Startup	*March 2028 – April 2028*

3. How would the request address the problem or opportunity identified in question 1? What would be the result of not

Project Number: 40000148
Project Title: Clean Energy Transformation 25-27

SubProjects

SubProject Number: 40000153
SubProject Title: Sewer Heat Recovery Site Piping

acting?

The sewer heat recovery project includes several components: intercept of the King County sewer line, a wet well, a facility with specialized heat exchangers, and piping from this facility to the West Campus Utility Plant (WCUP). This enabling project only addresses one component: the piping between the existing WCUP facility and the future heat exchanger facility near NE 40th St and 7thAve NE. Installing the piping now coincides with other projects along the Burke-Gilman trail (Micro District - West Campus) and provides construction efficiencies and one-time disruption to commuters along the Burke-Gilman Trail. This project will include:
-1,000 linear feet of 36"direct bury heat recovery water supply and return piping (qty 2 pipes within trench)
-1,000 linear feet of 28"heat recovery water supply and return piping installed within new tunnel section (see Micro-District West Campus for details of the new tunnel)
-Direct-bury piping material to be HDPE
-Tunnel piping material to be ASTM A53 Grade B carbon steel piping with welded joints. Insulated with 2" rock wool insulation and aluminum jacket. Inline slip-type expansion joints provided every 100'.
-Pipe to be installed beneath Burke-Gilman Trail.
-Anticipated conflicts with existing utilities will require relocation of existing utilities in some instances.
-Piping will originate at the WCUP plant and terminate at the intersection described above with valves and caps, to be extended by the future sewer heat recovery facility project.
-Modifications will be required at the WCUP to accept this piping. The current WCUP facility does not have space for the routing of these new pipes. This is anticipated to be accommodated within the basement of the new WCUP Annex built-out as part of the WCUP Heating System Improvements (refer to that section).

Additional information on the proposed project solution is provided in Appendix A.

4. What alternatives were explored? Why was the recommended alternative chosen? Be prepared to provide detailed cost backup. If this project has an associated predesign, please summarize the alternatives the predesign considered.

Collaborating with King County Wastewater division, the project analyzed multiple locations along the King County sewer main line for the best location to intercept the sewer and develop a heat recovery system. The western edge of the campus provided the best location that maximized flow within the King County sewer (greater flow equals greater heat recovery potential) and had properties suitable for a specialized heat exchanger facility. The project explored several routing options and two below grade options, 1) direct bury piping and 2) an extension of the tunnel system. Where the heat recovery piping is the sole piping system, the direct bury option was selected. Where the heat recovery piping is co-located with heating & cooling systems, the piping is in the tunnel (Micro District - West Campus).

5. Which clientele would be impacted by the budget request? Where and how many units would be added, people or communities served, etc.

*The **Clean Energy Transformation 25-27** projects impact all academic units, athletics (ICA) and UW Medical Center (UWMC) of the Seattle campus of the University of Washington. The specific client is the Campus Energy, Utilities and Operations (CEU&O) department.*

6. Does this project or program leverage non-state funding? If yes, how much by source? If the other funding source requires cost share, also include the minimum state (or other) share of project cost allowable and the supporting citation or documentation.

Project Number: 40000148
Project Title: Clean Energy Transformation 25-27

SubProjects

SubProject Number: 40000153
SubProject Title: Sewer Heat Recovery Site Piping

All 25-27 Clean Energy Transformation projects will be initially funded through the Climate Commitment Act (CCA), Climate Commitment Account. As part of the 2024 Energy Renewal Program implementation plan, UW is exploring funding options and pairing projects with the funding sources. This project will seek partial cost reimbursement through federal programs via the Infrastructure Act (IIJA) and Inflation Reduction Act (IRA). UW is structuring projects to optimize federal funding reimbursement opportunities, such as the IRA direct pay provision. The application for federal cost reimbursement occurs after the project is complete and in-service.

7. Describe how this project supports the agency's strategic master plan or would improve agency performance. Reference feasibility studies, master plans, space programming and other analyses as appropriate.

All projects in the Clean Energy Transformation 25-27 request support the University's Energy strategy and Sustainability Action Plan to decarbonize the campus. The Sewer Heat Recovery Site Piping project aligns with the UW Energy Strategy conversion to hot water, centralize cooling, and electrification of the heating systems.

The Sewer Heat Recovery Site Piping project aligns with the UW Energy Strategy for electrification of heating and using emerging energy technologies.

8. Does this decision package include funding for any Information Technology related costs including hardware, software (to include cloud-based services), contracts or staff? If the answer is yes, you will be prompted to attach a complete IT addendum. (See Chapter 10of the operating budget instructions for additional requirements.)

Not applicable

9. If the project is linked to the Puget Sound Action Agenda, describe the impacts on the Action Agenda, including expenditure and FTE detail. See Chapter 14 (Puget Sound Recovery and Governor's Salmon Strategy) in the 2025-27 Operating Budget Instructions.

Not applicable

10. How does this project contribute to meeting the greenhouse gas emissions limits established in RCW 70A.45.050,clean buildings performance standards in RCW 19.27A.210, or other statewide goals to reduce carbon pollution and/or improve energy efficiency? Please elaborate. For buildings subject to the clean buildings performance standards, describe your compliance pathway for the building, and include information about energy audits, metering, and energy benchmarking.

The installation of this piping will not provide any direct energy reduction or greenhouse gas emission savings initially.

Once the Sewer Heat Recovery Facility and associated systems within the WCUP are installed (part of a future funding request), this project will play a critical role in allowing the University to operate primarily on heat pumps rather than fossil-fuel boilers.

Quantifying this individual project's contribution in the near-term is difficult, however as part of the longer-term heat pump strategy outlined above, the anticipated GHG savings for those combined projects is 20,000 MTCO2e (metric tons equivalent CO2), which represents approximately 24% of the campus's current greenhouse gas emissions.

Project Number: 40000148
Project Title: Clean Energy Transformation 25-27

SubProjects

SubProject Number: 40000153
SubProject Title: Sewer Heat Recovery Site Piping

11. How is your proposal impacting equity in the state? Which communities are impacted by this proposal? Include both demographic and geographic communities. How are disparities in communities impacted?

*The **Clean Energy Transformation 25-27** projects are the first major step to reduce greenhouse gases and nitrogen dioxide (NOx) emissions from the fossil fuel fired boilers required for campus heating and process steam systems. Reducing greenhouse gas and NOx emissions through the UW decarbonization plan will improve air quality and benefit the local Seattle campus community, the Puget Sound Region, and the State. The demographics of the UW campus are highlighted in Appendix C – UW Pride Points 2023-2024. The region, as delineated by the Puget Sound Clean Air Agency, includes Snohomish, King, Pierce, and Kitsap counties, and includes 4.1million people with diverse ethnicities and incomes. Snohomish, King, and Pierce counties include six of the sixteen communities identified as overburdened by the Department of Ecology. For information on air quality impacts to Washington overburdened communities see Dept. of Ecology report: https://apps.ecology.wa.gov/publications/UIPages/documents/2302115.pdf.*

12. Is this project eligible for Direct Pay? If the answer is yes, you must include this project to the list of direct pay projects and information for submittal (see Chapter 1.7 of the capital budget instructions for additional instructions).

The Sewer Heat Recovery Site Piping project is potentially eligible for partial reimbursement through the IRA direct pay provision. The application for federal cost reimbursement occurs after the project is complete and in-service. Federal reimbursement, through a direct pay tax credit, will off-set future funding requests for Clean Energy Transformation projects and does not impact the initial funding required for this project. Potentially eligible projects have been added to the Direct Pay Form.

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

Please see attached Appendices.

14. Reappropriation: if the project was originally funded prior to the 2021-23 biennium, describe the project and each subproject, including the original appropriation year, status of the project and an explanation why a reappropriation is needed.

Not applicable

15. If the project is linked to the Governor's Salmon Strategy provide an explanation of how the budget request relates to a salmon strategy action, is urgent in the coming biennium to advance salmon recovery, is aligned with a federally approved salmon recovery plan, and/or advances a known tribal priority.

Not applicable

16. In the agency summary, include the statement, "Related to implementing the Governor's Salmon Strategy." See Chapter 14 in the 2025-27 operating budget instructions for more information. (Note: This question is not in CBS but does need a response if applicable).

Not applicable

Location
City: Seattle **County:** King **Legislative District:** 043

Project Type

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:35AM

Project Number: 40000148
Project Title: Clean Energy Transformation 25-27

SubProjects

Project Type

SubProject Number: 40000153
SubProject Title: Sewer Heat Recovery Site Piping
Infrastructure (Major Projects)

Growth Management impacts
Not applicable

Funding

Acct Code	Account Title	Expenditures: Estimated Total	Expenditures: Prior Biennium	Expenditures: Current Biennium	2025-27 Fiscal Period: Reapprops	2025-27 Fiscal Period: New Approps
26C-1	Climate Commit Accou-State	14,700,000				14,700,000
	Total	**14,700,000**	**0**	**0**	**0**	**14,700,000**

Acct Code	Account Title	Future Fiscal Periods: 2027-29	2029-31	2031-33	2033-35
26C-1	Climate Commit Accou-State				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

No Operating Impact

SubProject Number: 40000154
SubProject Title: WCUP Heating System Improvements

Project Number: **40000148**
Project Title: **Clean Energy Transformation 25-27**

SubProjects

SubProject Number: **40000154**
SubProject Title: **WCUP Heating System Improvements**

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 1

Project Summary

The University of Washington is requesting $28.6M from the Climate Commitment Account 26-C to support design and construction work for the WCUP Heating System Improvements. As a first step towards transitioning from fossil-fuels to electrical heat sources, the West Campus Utility Plant (WCUP) will be the first stage of converting the central power plants from steam heat to hot water heat. The expansion of the facility accommodates hot water heating equipment and space for heat recovery chillers, sewer heat recovery, and electric boilers that will allow for elimination of the majority of fossil fuel use for buildings in this region of campus.

Project Description

1. Identify the problem or opportunity addressed. Why is the request a priority? This narrative should identify unserved/underserved people or communities, operating budget savings, public safety improvements or other backup necessary to understand the need for the request. For preservation projects, it is helpful to include information about the current condition of the facility or system.

The existing West Campus Utility Plant (WCUP) building does not have adequate space to house new heating equipment including heat recovery chillers, electric boilers, pumps, electrical equipment, and steam-to-hot water converters in its current configuration. While the WCUP is a relatively new facility (2017) and did anticipate future equipment installations, the original design was intended to primarily provide cooling and did not anticipate the conversion to hot water, new heat recovery chillers that take more room or new regulated refrigerant requirements for chillers that increase their size. The original assumption of remote operation has also not materialized, and on-site staff are required for central plant operations. The existing maintenance, storage, and operator space will be displaced by new equipment associated with the campus energy strategy. Therefore, the maintenance, storage and operator space square footage will need a new location, and the operator space must remain operational during the expansion of the facility.

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

The funding request is for the design, permitting, and construction of the expansion of the WCUP facility, installation mechanical and electrical equipment, and relocation of operator workstations. This project is the first stage of improvements in the WCUP for the transformation from fossil fuels to electrically powered heating and cooling systems. Additional funding requests in future biennia will complete the work in the WCUP. A C-100 form is attached and a detailed cost estimate for the scope of work is provided in Appendix B. The schedule for this request (phase 1) is:

TASK	***Date Range***
Funding Available	*July 2025*
Contractor Selection Process	*August 2025 – October 2025*
Design & Permitting	*October 2025 – May 2026*
Construction	*August 2026 – July 2027*
Commissioning &Startup	*July 2027 – November 2027*

3. How would the request address the problem or opportunity identified in question 1? What would be the result of not

Project Number: 40000148
Project Title: Clean Energy Transformation 25-27

SubProjects

SubProject Number: 40000154
SubProject Title: WCUP Heating System Improvements

acting?

This phase of the improvements to the WCUP includes the expansion of the existing facility and installation of new heating water systems to supply nearby UW facilities.
The scope of proposed project includes:
- Expand the facility by 23,600 sq ft (three story structure + basement). The new expansion is anticipated to extend from the south face of the existing WCUP facility, towards the Burke-Gilman trail. The expansion will require the relocation of existing underground utility duct banks south of the existing WCUP. The facility expansion includes the following functions per floor:
1) Basement: Campus distribution pumps and steam-to-water heat exchangers for first phase of hot water generation (covered under this project).
2) Ground level: Future heat recovery chillers, primary pumps, entrance lobby, and accommodation of existing access to fuel oil tank, electrical transformers, and facility parking stall.
3) Equipment Level: Electric boilers and electrical room.
4) Office Level: Plant operations, offices, storage and shop space, and mechanical room.
- Installation of new mechanical systems and equipment (converters, pumps, piping, and specialty equipment).
- Installation of electrical systems, equipment, and distribution to support the mechanical equipment.
- The expansion of the WCUP will also function as a necessary component of the Micro District - West Campus tunnel mining operation. The excavation associated with the WCUP expansion will act as the sending/receiving pit for the mining operation between the WCUP and west across Brooklyn Ave NE.

Additional information on the proposed project solution is provided in Appendix A.

4. What alternatives were explored? Why was the recommended alternative chosen? Be prepared to provide detailed cost backup. If this project has an associated predesign, please summarize the alternatives the predesign considered.

The team analyzed several locations for the heating equipment (heat recovery chillers, electric boilers, pumps, electrical equipment, and steam-to-hot water converters) required to transition from fossil-fuels to electrical heat sources. These alternatives included the existing WCUP and main power plant locations and adjacent properties in the West Campus. The location criteria included proximity to existing central plants to reduce piping impacts, proximity to operations staff for efficient equipment operation and maintenance, proximity to existing utility infrastructure, consistency with the Campus Master Plan, displacement of existing uses, displacement of future development sites, land ownership and size of the space required to fit the equipment and functions. The preferred location has the best proximity to the WCUP, least impact to future development sites and is a site that accommodates the equipment and functions required.

5. Which clientele would be impacted by the budget request? Where and how many units would be added, people or communities served, etc.

*The **Clean Energy Transformation 25-27** projects impact all academic units, athletics (ICA) and UW Medical Center (UWMC) of the Seattle campus of the University of Washington. The specific client is the Campus Energy, Utilities and Operations (CEU&O) department.*

6. Does this project or program leverage non-state funding? If yes, how much by source? If the other funding source requires cost share, also include the minimum state (or other) share of project cost allowable and the supporting citation or documentation.

Project Number: 40000148
Project Title: Clean Energy Transformation 25-27

SubProjects

SubProject Number: 40000154
SubProject Title: WCUP Heating System Improvements

All 25-27 Clean Energy Transformation projects will be initially funded through the Climate Commitment Act (CCA), Climate Commitment Account. As part of the 2024 Energy Renewal Program implementation plan, UW is exploring funding options and pairing projects with the funding sources. This project will seek partial cost reimbursement through federal programs via the Infrastructure Act (IIJA) and Inflation Reduction Act (IRA). UW is structuring projects to optimize federal funding reimbursement opportunities, such as the IRA direct pay provision. The application for federal cost reimbursement occurs after the project is complete and in-service.

7. Describe how this project supports the agency's strategic master plan or would improve agency performance. Reference feasibility studies, master plans, space programming and other analyses as appropriate.

All projects in the Clean Energy Transformation 25-27 request support the University's Energy strategy and Sustainability Action Plan to decarbonize the campus. The proposed project aligns with the UW Energy Strategy for transforming the central cooling system into a reliable system suitable for uses beyond comfort cooling and the electrification of heating.

The WCUP is an existing facility included in the current Campus Master plan. The land used for the WCUP expansion is not identified as a future development site. The additional square footage is accommodated within and is consistent with the future growth allocations in the west campus region.

8. Does this decision package include funding for any Information Technology related costs including hardware, software (to include cloud-based services), contracts or staff? If the answer is yes, you will be prompted to attach a complete IT addendum. (See Chapter 10of the operating budget instructions for additional requirements.)

Not applicable

9. If the project is linked to the Puget Sound Action Agenda, describe the impacts on the Action Agenda, including expenditure and FTE detail. See Chapter 14 (Puget Sound Recovery and Governor's Salmon Strategy) in the 2025-27 Operating Budget Instructions.

Not applicable

10. How does this project contribute to meeting the greenhouse gas emissions limits established in RCW 70A.45.050,clean buildings performance standards in RCW 19.27A.210, or other statewide goals to reduce carbon pollution and/or improve energy efficiency? Please elaborate. For buildings subject to the clean buildings performance standards, describe your compliance pathway for the building, and include information about energy audits, metering, and energy benchmarking.

The WCUP expansion and first phase of heating systems will not provide any direct energy, cost, or greenhouse gas savings initially.

Over a longer time period, as the University continues to deploy its Energy Strategy, real estate within the new WCUP expansion will play a critical role in allowing the University to operate primarily on heat pumps rather than fossil-fuel boilers. Heat pumps are highly efficient compared to fossil-fuel boilers but require significantly more space than the WCUP was planned for. Many essential components to the heat pump system will be able to be installed within this space including the heat pumps themselves, associated pumps, electric boilers, and backup heating systems.

Project Number: 40000148
Project Title: Clean Energy Transformation 25-27

SubProjects

SubProject Number: 40000154
SubProject Title: WCUP Heating System Improvements

11. How is your proposal impacting equity in the state? Which communities are impacted by this proposal? Include both demographic and geographic communities. How are disparities in communities impacted?

*The **Clean Energy Transformation 25-27** projects are the first major step to reduce greenhouse gases and nitrogen dioxide (NOx) emissions from the fossil fuel fired boilers required for campus heating and process steam systems. Reducing greenhouse gas and NOx emissions through the UW decarbonization plan will improve air quality and benefit the local Seattle campus community, the Puget Sound Region, and the State. The demographics of the UW campus are highlighted in Appendix C – UW Pride Points 2023-2024. The region, as delineated by the Puget Sound Clean Air Agency, includes Snohomish, King, Pierce, and Kitsap counties, and includes 4.1million people with diverse ethnicities and incomes. Snohomish, King, and Pierce counties include six of the sixteen communities identified as overburdened by the Department of Ecology. For information on air quality impacts to Washington overburdened communities see Dept. of Ecology report: https://apps.ecology.wa.gov/publications/UIPages/documents/2302115.pdf.*

12. Is this project eligible for Direct Pay? If the answer is yes, you must include this project to the list of direct pay projects and information for submittal (see Chapter 1.7 of the capital budget instructions for additional instructions).

The WCUP Heating System Improvements project is potentially eligible for partial reimbursement through the IRA direct pay provision. The application for federal cost reimbursement occurs after the project is complete and in-service. Federal reimbursement, through a direct pay tax credit, will off-set future funding requests for Clean Energy Transformation projects and does not impact the initial funding required for this project. Potentially eligible projects have been added to the Direct Pay Form.

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

Please see attached Appendices.

14. Reappropriation: if the project was originally funded prior to the 2021-23 biennium, describe the project and each subproject, including the original appropriation year, status of the project and an explanation why a reappropriation is needed.

Not applicable

15. If the project is linked to the Governor's Salmon Strategy provide an explanation of how the budget request relates to a salmon strategy action, is urgent in the coming biennium to advance salmon recovery, is aligned with a federally approved salmon recovery plan, and/or advances a known tribal priority.

Not applicable

16. In the agency summary, include the statement, "Related to implementing the Governor's Salmon Strategy." See Chapter 14 in the 2025-27 operating budget instructions for more information. (Note: This question is not in CBS but does need a response if applicable).

Not applicable

Location
City: Seattle **County:** King **Legislative District:** 043

Project Type

360 - University of Washington
Capital Project Request

2025-27 Biennium

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Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:35AM

Project Number: 40000148
Project Title: Clean Energy Transformation 25-27

SubProjects

Project Type

SubProject Number: 40000154
SubProject Title: WCUP Heating System Improvements
Infrastructure (Major Projects)

Growth Management impacts
Not applicable

Funding

Acct Code	Account Title	Expenditures: Estimated Total	Expenditures: Prior Biennium	Expenditures: Current Biennium	2025-27 Fiscal Period: Reapprops	2025-27 Fiscal Period: New Approps
26C-1	Climate Commit Accou-State	28,600,000				28,600,000
	Total	**28,600,000**	**0**	**0**	**0**	**28,600,000**

Acct Code	Account Title	Future Fiscal Periods: 2027-29	2029-31	2031-33	2033-35
26C-1	Climate Commit Accou-State				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

No Operating Impact

SubProject Number: 40000155
SubProject Title: Chilled Water Thermal Energy Storage

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360 - University of Washington
Capital Project Request

2025-27 Biennium

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Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:35AM

Project Number: **40000148**
Project Title: **Clean Energy Transformation 25-27**

SubProjects

SubProject Number: **40000155**
SubProject Title: **Chilled Water Thermal Energy Storage**

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 1

Project Summary

The University of Washington is requesting $73.3M from the Climate Commitment Account 26-C to support design and construction work for Chilled Water Thermal Energy Storage. The Chilled Water Thermal Energy Storage project provides resiliency and reliability for UW's district energy system. The thermal energy storage tank acts as a "chilled water battery" to ride out voltage sags from the Seattle City Light power system and supplies cooling during hot weather to address central plant capacity shortfalls.

Project Description

1. Identify the problem or opportunity addressed. Why is the request a priority? This narrative should identify unserved/underserved people or communities, operating budget savings, public safety improvements or other backup necessary to understand the need for the request. For preservation projects, it is helpful to include information about the current condition of the facility or system.

The campus chilled water system, at its current capacity, is unable to meet the load during the hottest parts of summer. Additionally, the Seattle City Light (SCL) electrical feed to the main Power Plant experiences voltage sags throughout the year causing campus power disruptions and specifically, interruptions to centralized chiller operations. While we are working with SCL to provide a better warning system for voltage sags, they will not go away entirely. If a voltage sag occurs causing chillers to go off-line, a manual re-start of equipment is required. On hot days, these restarts can take several hours and cause the plant to underperform for the entire day - resulting in temperatures in buildings that are above their set temperature ranges or some buildings curtailed entirely because the plant cannot supply the quantity of cooling required. In such cases, classes and research are negatively impacted.

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

The funding request is for the planning, design, permitting, demolition of existing support buildings and the first phase of the construction of the chilled water thermal energy storage (TES) system. The chilled water (TES) system includes a chilled water tank, associated piping, pumps, and controls. An additional funding request in a future biennium will complete this project and include funding for a new facilities building collocated on the TES site, a second TES tank for heating water, and retrofits of the existing plant chilled water systems to integrate the TES tank into the system. A C-100 form is attached and a detailed cost estimate for the scope of work is provided in Appendix B. The schedule for this request (phase 1) is:

TASK	*Date Range*
Funding Available	*July 2025*
Contractor Selection Process	*July 2025 – September 2025*
Design & Permitting	*October 2025 – November 2026*
Construction	*August 2026 – March 2028*
Commissioning &Startup	*October 2027 – April 2028*

3. How would the request address the problem or opportunity identified in question 1? What would be the result of not acting?

Project Number: 40000148
Project Title: Clean Energy Transformation 25-27

SubProjects

SubProject Number: 40000155
SubProject Title: Chilled Water Thermal Energy Storage

Thermal energy storage is a critical component on a district energy system with heat pump technology. The addition of a thermal energy storage (TES) tank to the campus chilled water system will address both the issue of peak load demand during the hottest days of summer as well as riding through service interruptions caused by electrical system voltage sags. The existing chillers will be able to add cold water to the tank during low-load hours (including night-time operation) when the campus cooling load is satisfied, and the electrical rates are lower. The TES provides additional capacity to allow the power plant to ride through hot summer days and chiller outages caused by voltage sags in the SCL electrical system, resulting in fewer buildings being shed from chilled water service, and an ability to provide critical cooling to more buildings on campus.

This project consists of the installation of a large, chilled water thermal energy storage (TES) tank and its associated systems as an initial step in the campus decarbonization project. Future provisions will be made for a second TES tank for the heating water system. Components of the Phase 1 project include:
✓· Demolition of facilities support buildings on the proposed site. The one-story buildings are currently occupied by CEU&O operations staff and Building & Grounds staff.
✓· Site development includes excavation & leveling to the Mason Road elevation, construction of a retaining wall and foundation for Phase1 chilled water, Phase 2 hot water TES tanks and a replacement building for displaced staff.
✓· Installation of a 4.2-million-gallon chilled water TES tank
✓· Piping to/from the tank to the central plant
✓· Building-level modifications for 11 campus buildings to accommodate changes in services pressure at building connections
Additional information on the proposed project solution is provided in Appendix A.

4. What alternatives were explored? Why was the recommended alternative chosen? Be prepared to provide detailed cost backup. If this project has an associated predesign, please summarize the alternatives the predesign considered.

The TES location criteria include proximity to the main power plant or WCUP, impacts to pipe pressure due to tank elevation, proximity to existing utility infrastructure, consistency with the Campus Master Plan, displacement of existing uses, displacement of future development sites and size of the TES tanks. The team analyzed 3possible locations on the UW campus (a parking lot near the north main entrance, Padelford parking lot and Plant Operations Annex site) and selected the location just north of the main power plant currently occupied with several Plant Operations Annex buildings as the preferred location (See Figures 1 &2). The preferred location has the best proximity to the main power plant, least impact to the campus vistas and a site that accommodates the tank diameter and height.

The team also assessed alternative energy storage options such as lithium batteries. Energy storage, in the form of water, provides the most cost-effective alternative with the lowest environmental impact.

5. Which clientele would be impacted by the budget request? Where and how many units would be added, people or communities served, etc.

*The **Clean Energy Transformation 25-27** projects impact all academic units, athletics (ICA) and UW Medical Center (UWMC) of the Seattle campus of the University of Washington. The specific client is the Campus Energy, Utilities and Operations (CEU&O) department.*

6. Does this project or program leverage non-state funding? If yes, how much by source? If the other funding source

SubProjects

SubProject Number: 40000155
SubProject Title: Chilled Water Thermal Energy Storage

requires cost share, also include the minimum state (or other) share of project cost allowable and the supporting citation or documentation.

All 25-27 Clean Energy Transformation projects will be initially funded through the Climate Commitment Act (CCA), Climate Commitment Account. As part of the 2024 Energy Renewal Program implementation plan, UW is exploring funding options and pairing projects with the funding sources. This project will seek partial cost reimbursement through federal programs via the Infrastructure Act (IIJA) and Inflation Reduction Act (IRA). UW is structuring projects to optimize federal funding reimbursement opportunities, such as the IRA direct pay provision. The application for federal cost reimbursement occurs after the project is complete and in-service.

7. Describe how this project supports the agency's strategic master plan or would improve agency performance. Reference feasibility studies, master plans, space programming and other analyses as appropriate.

All projects in the Clean Energy Transformation 25-27 request support the University's Energy strategy and Sustainability Action Plan to decarbonize the campus. The Chilled Water Thermal Energy Storage project aligns with the UW Energy Strategy for transforming the central cooling system into a reliable system suitable for uses beyond comfort cooling and to provide the reliability required of a Tier 1 research university.

The current preferred location of the Chilled Water Thermal Energy Storage tank is consistent with Campus Master Plan (2019) and does not impact future campus growth.

8. Does this decision package include funding for any Information Technology related costs including hardware, software (to include cloud-based services), contracts or staff? If the answer is yes, you will be prompted to attach a complete IT addendum. (See Chapter 10 of the operating budget instructions for additional requirements.)

Not applicable

9. If the project is linked to the Puget Sound Action Agenda, describe the impacts on the Action Agenda, including expenditure and FTE detail. See Chapter 14 (Puget Sound Recovery and Governor's Salmon Strategy) in the 2025-27 Operating Budget Instructions.

Not applicable

10. How does this project contribute to meeting the greenhouse gas emissions limits established in RCW 70A.45.050,clean buildings performance standards in RCW 19.27A.210, or other statewide goals to reduce carbon pollution and/or improve energy efficiency? Please elaborate. For buildings subject to the clean buildings performance standards, describe your compliance pathway for the building, and include information about energy audits, metering, and energy benchmarking.

The chilled water TES tank will initially provide direct energy savings through the efficiency gains of producing chilled water in off-peak periods (night) when the outdoor air temperatures are lower and chiller equipment operates at a higher efficiency. There will be operational cost savings associated with this as well.

As the University continues to deploy its Energy Strategy, this chilled water TES tank, and the future heating water TES tank,

SubProjects

SubProject Number: 40000155
SubProject Title: Chilled Water Thermal Energy Storage

will play a critical role in allowing the University to operate primarily on heat pumps rather than fossil-fuel boilers. Heat pumps are highly efficient compared to fossil-fuel boilers, but they have limited operational capabilities and TES tanks allow them to operate at their peak performance (full throttle) for longer periods of the year as the TES tanks store the excess energy created by the heat pumps during periods of lower campus heating and cooling loads.

Quantifying this individual project's contribution in the near-term is difficult, however as part of the longer-term heat pump TES strategy outlined above, the anticipated GHG savings for those combined projects is 56,500 MTCO2e (metric tons equivalent CO2), which represents approximately 65% of the campus's current greenhouse gas emissions.

11. How is your proposal impacting equity in the state? Which communities are impacted by this proposal? Include both demographic and geographic communities. How are disparities in communities impacted?

*The **Clean Energy Transformation 25-27** projects are the first major step to reduce greenhouse gases and nitrogen dioxide (NOx) emissions from the fossil fuel fired boilers required for campus heating and process steam systems. Reducing greenhouse gas and NOx emissions through the UW decarbonization plan will improve air quality and benefit the local Seattle campus community, the Puget Sound Region, and the State. The demographics of the UW campus are highlighted in Appendix C – UW Pride Points 2023-2024. The region, as delineated by the Puget Sound Clean Air Agency, includes Snohomish, King, Pierce, and Kitsap counties, and includes 4.1 million people with diverse ethnicities and incomes. Snohomish, King, and Pierce counties include six of the sixteen communities identified as overburdened by the Department of Ecology. For information on air quality impacts to Washington overburdened communities see Dept. of Ecology report: https://apps.ecology.wa.gov/publications/UIPages/documents/2302115.pdf.*

12. Is this project eligible for Direct Pay? If the answer is yes, you must include this project to the list of direct pay projects and information for submittal (see Chapter 1.7 of the capital budget instructions for additional instructions).

The Chilled Water Thermal Energy Storage project is potentially eligible for partial reimbursement through the IRA direct pay provision. The application for federal cost reimbursement occurs after the project is complete and in-service. Federal reimbursement, through a direct pay tax credit, will off-set future funding requests for Clean Energy Transformation projects and does not impact the initial funding required for this project. Potentially eligible projects have been added to the Direct Pay Form.

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

Please see attached Appendices.

14. Reappropriation: if the project was originally funded prior to the 2021-23 biennium, describe the project and each subproject, including the original appropriation year, status of the project and an explanation why a reappropriation is needed.

Not applicable

15. If the project is linked to the Governor's Salmon Strategy provide an explanation of how the budget request relates to a salmon strategy action, is urgent in the coming biennium to advance salmon recovery, is aligned with a federally approved salmon recovery plan, and/or advances a known tribal priority.

Not applicable

Project Number: 40000148
Project Title: Clean Energy Transformation 25-27

SubProjects

SubProject Number: 40000155
SubProject Title: Chilled Water Thermal Energy Storage

16. In the agency summary, include the statement, “Related to implementing the Governor’s Salmon Strategy.” See Chapter 14 in the 2025-27 operating budget instructions for more information. (Note: This question is not in CBS but does need a response if applicable).

Not applicable

Location
City: Seattle **County:** King **Legislative District:** 043

Project Type
Infrastructure (Major Projects)

Growth Management impacts
Not applicable

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Current Biennium	2025-27 Fiscal Period Reapprops	New Approps
26C-1	Climate Commit Accou-State	73,300,000				73,300,000
	Total	**73,300,000**	**0**	**0**	**0**	**73,300,000**

Acct Code	Account Title	Future Fiscal Periods 2027-29	2029-31	2031-33	2033-35
26C-1	Climate Commit Accou-State				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

No Operating Impact

SubProject Number: 40000156
SubProject Title: West Receiving Station Electrical Infrastructure Upgrades

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

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Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:35AM

Project Number: **40000148**
Project Title: **Clean Energy Transformation 25-27**

SubProjects

SubProject Number: **40000156**
SubProject Title: **West Receiving Station Electrical Infrastructure Upgrades**

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 1

Project Summary

The University of Washington is requesting $50.1M from the Climate Commitment Account 26-C to support design and construction work for the West Receiving Station Electrical Infrastructure Upgrades. The existing electrical infrastructure from Seattle City Light (SCL) does not meet the current and future demands or reliability standards of the University. Transitioning the heating load from fossil-fuel to electricity creates additional load that cannot be met with the current infrastructure. To support the energy transformation, the campus requires new transmission-level service from SCL.

Project Description

1. Identify the problem or opportunity addressed. Why is the request a priority? This narrative should identify unserved/underserved people or communities, operating budget savings, public safety improvements or other backup necessary to understand the need for the request. For preservation projects, it is helpful to include information about the current condition of the facility or system.

The Seattle campus is powered by the Seattle City Light (SCL) University District substation located by Interstate 5 (I-5) just west of the campus. This substation serves the University District neighborhood, UW, Children's Hospital and the Bryant and Laurelhurst neighborhoods. The existing electrical infrastructure from SCL does not meet the current and future demands or reliability standards of the University. The electrical service from SCL has known issues addressing the campus demand in peak events and meeting the campus reliability standards during normal operating conditions. The existing issues include a lack of reliability, insufficient redundancy, and frequent voltage sags that negatively impact mechanical, research and medical equipment. UW recorded 30 voltage sags in the last 18 months with varying degrees of equipment disruption.

The Energy Renewal Program (ERP) will remove carbon creating sources of energy from the campus and transfer the heating loads to the electrical system. Electrifying the heating load of the campus creates a new additional load that the electrical system must support. These new electrical loads exceed the recommended level of spare capacity which limits the connection of future loads or future expansion and removes redundancy, a crucial element for reliable power to a tier 1 research facility and leading medical center. The unreliable and insufficient electrical infrastructure presents a significant obstacle to the campus's ability to achieve its decarbonization goals and maintain operational stability. To support the ERP, the campus needs a new transmission-level service from SCL.

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

The funding request is for the partnering with SCL, design, permitting, and construction of the new UW substation, underground transmission lines, secondary distribution line and improvements of the West Receiving Station. A C-100 form is attached and a detailed cost estimate for the scope of work is provided in Appendix B. The schedule for this request is:

TASK	*Date Range*
Funding Available	*July 2025*
Contractor Selection Process	*September 2025 – November 2025*
Design & Permitting	*November 2025 – March 2028*
Construction	*September 2028 – January 2030*

Project Number: 40000148
Project Title: Clean Energy Transformation 25-27

SubProjects

SubProject Number: 40000156
SubProject Title: West Receiving Station Electrical Infrastructure Upgrades
Commissioning & Startup *January 2030 – June 2030*

3. How would the request address the problem or opportunity identified in question 1? What would be the result of not acting?

To address the identified problems and create a reliable electrical system that supports the campus goals, UW is working with Seattle City Light (SCL) who supplies power to the campus. Based on previous studies by SCL and analysis of the current University District substation, the recommended solution is to design and construct new transmission lines from the SCL primary distribution system to a new substation(UW Substation) which will resupply the existing West Receiving Station (WRS).The new UW Substation will be located at the existing Northlake Building site, located at 814 NE Northlake Pl.

The new substation brings substantial resiliency and redundancy to the campus. The intent is that the University will be the only customer served by the new SCL transmission lines (aka feeders) and it will not serve other customers who could introduce voltage sags or maintenance interruptions on the service. The conductors would be installed underground where they have significant protection from physical damage including downed trees and vehicle traffic interruptions. The project introduces reliable N+1 redundancy to the campus such that power is not limited or interrupted even during peak demand events.

The project includes an extension of 115kV transmission lines from SCL's primary network, and new two-level substation with gas insulated switchgear, underground secondary distribution lines to the UW West Receiving Station and upgrades within the West Receiving Station.

Additional information on the proposed project solution is provided in Appendix A.

4. What alternatives were explored? Why was the recommended alternative chosen? Be prepared to provide detailed cost backup. If this project has an associated predesign, please summarize the alternatives the predesign considered.

The team analyzed twelve (12) locations for the new UW Station between the existing SCL University District substation nd the UW West Receiving Station. The site selection criteria included parcel size, proximity to the SCL substation and WRS, service truck access, capacity for underground infrastructure improvements, existing structures, occupants, parking and hazardous materials, security, entitlements, impacts for the Campus Master Plan and impacts to campus life.

The site that best meets the selection criteria is the site located at 814 NE Northlake Pl, the Northlake Building site. This property is currently owned by UW and the 20,077 GSF building, originally built in 1928, is used for storage by the Drama department and Building services (custodial). The site is the appropriate size for a two level with gas insulated switchgear substation layout, has good service truck access and the least impact to future campus growth per the Campus Master Plan.

5. Which clientele would be impacted by the budget request? Where and how many units would be added, people or communities served, etc.

*The **Clean Energy Transformation 25-27** projects impact all academic units, athletics (ICA) and UW Medical Center (UWMC) of the Seattle campus of the University of Washington. The specific client is the Campus Energy, Utilities and Operations (CEU&O) department.*

6. Does this project or program leverage non-state funding? If yes, how much by source? If the other funding source

SubProjects

SubProject Number: 40000156
SubProject Title: West Receiving Station Electrical Infrastructure Upgrades

requires cost share, also include the minimum state (or other) share of project cost allowable and the supporting citation or documentation.

All 25-27 Clean Energy Transformation projects will be initially funded through the Climate Commitment Act (CCA) and the subaccount labeled the Climate Commitment Account. In the current on-going Energy Renewal Program implementation plan, the team is exploring funding options and pairing projects with the funding sources. We are also structuring projects to optimize federal funding reimbursement opportunities. This project will seek partial cost reimbursement through federal programs via the Infrastructure Act and Inflation Reduction Act where applicable. Since this project partners with Seattle City Light (SCL), SCL, as a public utility, may be eligible for funding from the Infrastructure Act and Inflation Reduction Act that UW cannot access.

7. Describe how this project supports the agency's strategic master plan or would improve agency performance. Reference feasibility studies, master plans, space programming and other analyses as appropriate.

All projects in the Clean Energy Transformation 25-27 request support the University's Energy strategy and Sustainability Action Plan to decarbonize the campus. The proposed project aligns with the UW Energy Strategy for the electrification of heating and cooling.

A new electrical substation was not anticipated when the Campus Master Plan was published in 2019. The proposed location in west campus will displace a potential development site that could accommodate future campus growth. The proposed location is well situated between the existing SCL University District substation and UW's West Receiving Station with good service truck access and elevation change that can accommodate a single level or double level substation layout. The proposed site receives significant car/street noise from the I-5and University Street bridges which makes the site more suitable for utility infrastructure rather than a future academic building

8. Does this decision package include funding for any Information Technology related costs including hardware, software (to include cloud-based services), contracts or staff? If the answer is yes, you will be prompted to attach a complete IT addendum. (See Chapter 10 of the operating budget instructions for additional requirements.)

Not applicable

9. If the project is linked to the Puget Sound Action Agenda, describe the impacts on the Action Agenda, including expenditure and FTE detail. See Chapter 14 (Puget Sound Recovery and Governor's Salmon Strategy) in the 2025-27 Operating Budget Instructions.

Not applicable

10. How does this project contribute to meeting the greenhouse gas emissions limits established in RCW 70A.45.050,clean buildings performance standards in RCW 19.27A.210, or other statewide goals to reduce carbon pollution and/or improve energy efficiency? Please elaborate. For buildings subject to the clean buildings performance standards, describe your compliance pathway for the building, and include information about energy audits, metering, and energy benchmarking.

The West Receiving Station Electrical Infrastructure Upgrade will not provide any direct energy, cost, or greenhouse gas savings initially.

Project Number: 40000148
Project Title: Clean Energy Transformation 25-27

SubProjects

SubProject Number: 40000156
SubProject Title: West Receiving Station Electrical Infrastructure Upgrades

Over a longer time period, as the University continues to deploy its Energy Strategy, the increased electrical capacity and reliability of the system will play a critical role in allowing the University to operate primarily on heat pumps rather than fossil-fuel boilers as well as maintaining the quality and service required of a Tier 1 research university and leading regional medical center. Electrified heating sources (heat pumps, electric boilers) are essential to reducing the University's use of fossil-fuels but require significantly more electrical capacity than the current SCL system can deliver.

Quantifying this individual project's contribution in the near-term is difficult, however as part of the longer-term heat pump strategy outlined above, the anticipated GHG savings for those combined projects is 71,600 MTCO2e (metric tons equivalent CO2), which represents approximately 84% of the campus's current greenhouse gas emissions.

11. How is your proposal impacting equity in the state? Which communities are impacted by this proposal? Include both demographic and geographic communities. How are disparities in communities impacted?

*The **Clean Energy Transformation 25-27** projects are the first major step to reduce greenhouse gases and nitrogen dioxide (NOx) emissions from the fossil fuel fired boilers required for campus heating and process steam systems. Reducing greenhouse gas and NOx emissions through the UW decarbonization plan will improve air quality and benefit the local Seattle campus community, the Puget Sound Region, and the State. The demographics of the UW campus are highlighted in Appendix C – UW Pride Points 2023-2024. The region, as delineated by the Puget Sound Clean Air Agency, includes Snohomish, King, Pierce, and Kitsap counties, and includes 4.1million people with diverse ethnicities and incomes. Snohomish, King, and Pierce counties include six of the sixteen communities identified as overburdened by the Department of Ecology. For information on air quality impacts to Washington overburdened communities see Dept. of Ecology report: https://apps.ecology.wa.gov/publications/UIPages/documents/2302115.pdf.*

12. Is this project eligible for Direct Pay? If the answer is yes, you must include this project to the list of direct pay projects and information for submittal (see Chapter 1.7 of the capital budget instructions for additional instructions).

The West Receiving Station Electrical Infrastructure Upgrade project is potentially eligible for partial reimbursement through the IRA direct pay provision. Since this project partners with Seattle City Light (SCL), SCL, as a public utility, may be eligible for funding from the Infrastructure Act and Inflation Reduction Act that UW cannot access.

The application for federal cost reimbursement occurs after the project is complete and in-service. Federal reimbursement, through a direct pay tax credit, will off-set future funding requests for Clean Energy Transformation projects and does not impact the initial funding required for this project. Potentially eligible projects have been added to the Direct Pay Form.

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

Please see attached Appendices.

14. Reappropriation: if the project was originally funded prior to the 2021-23 biennium, describe the project and each subproject, including the original appropriation year, status of the project and an explanation why a reappropriation is needed.

Not applicable

15. If the project is linked to the Governor's Salmon Strategy provide an explanation of how the budget request relates to a salmon strategy action, is urgent in the coming biennium to advance salmon recovery, is aligned with a federally approved

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:35AM

Project Number: 40000148
Project Title: Clean Energy Transformation 25-27

SubProjects

SubProject Number: 40000156
SubProject Title: West Receiving Station Electrical Infrastructure Upgrades

salmon recovery plan, and/or advances a known tribal priority.

Not applicable

16. In the agency summary, include the statement, “Related to implementing the Governor’s Salmon Strategy.” See Chapter 14 in the 2025-27 operating budget instructions for more information. (Note: This question is not in CBS but does need a response if applicable).

Not applicable

Location
City: Seattle **County:** King **Legislative District:** 043

Project Type
Infrastructure (Major Projects)

Growth Management impacts
Not applicable

Funding

Acct Code	Account Title	Expenditures Estimated Total	Prior Biennium	Current Biennium	2025-27 Fiscal Period Reapprops	New Approps
26C-1	Climate Commit Accou-State	50,100,000				50,100,000
	Total	**50,100,000**	**0**	**0**	**0**	**50,100,000**

Acct Code	Account Title	Future Fiscal Periods 2027-29	2029-31	2031-33	2033-35
26C-1	Climate Commit Accou-State				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

No Operating Impact

SubProject Number: 40000157
SubProject Title: Lake Interface Advancement

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

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Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:35AM

Project Number: **40000148**
Project Title: **Clean Energy Transformation 25-27**

SubProjects

SubProject Number: **40000157**
SubProject Title: **Lake Interface Advancement**

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 1

Project Summary

The University of Washington is requesting $1M from the Climate Commitment Account 26-C to support design work associated with the Lake Interface Advancement. The UW Seattle campus is uniquely situated adjacent to Lake Washington, Lake Washington Ship Canal, and Portage Bay. Water from Lake Washington is a potential source of energy that UW, using heat pump technology, can heat and cool the campus buildings. This non-consumptive use of lake water may also have the benefit of discharging cold water where temperatures current impact salmon eco-systems. This project has the potential to support the Governor's Salmon Strategy.

Project Description

1. Identify the problem or opportunity addressed. Why is the request a priority? This narrative should identify unserved/underserved people or communities, operating budget savings, public safety improvements or other backup necessary to understand the need for the request. For preservation projects, it is helpful to include information about the current condition of the facility or system.

The Lake Interface project proposes to use cold water from Lake Washington from depths below 25 meters as a source of energy transfer for heating and cooling. The Lake Interface project will extract surface water approximately one (1) mile offshore in Lake Washington, pipe the water to an onshore heat exchanger and discharge the water in/near the Lake Washington Ship Canal or Portage Bay. Using heat pump technology, the University will then heat or cool buildings, depending on the time of the year. The Lake Interface project ideally, will contribute to mitigation of temperature-impacted water in Lake Washington Ship Canal in regard to salmon eco-systems.

Any interface with Lake Washington requires extensive permits and engagement with a broad range of internal and external stakeholders. The permitting and stakeholder engagement process, identified in the current implementation plan, will continue over multiple biennia.

To continue making progress on regulatory approvals for the non-consumptive use of lake water, consulting support will be required beyond the duration of the current Energy Renewal Implementation Plan effort.

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

The funding request is for consulting services for advancement of the Lake Interface project. This biennium request is the first phase of what is likely a multiple phase project. A C-100 form is attached. The schedule for this request is:

TASK	***Date Range***
Funding Available	*July 2025*
Contractor Selection Process	*August 2025 – September 2025*
Agency Coordination & Permitting	*September 2025 – August 2027*

3. How would the request address the problem or opportunity identified in question 1?What would be the result of not

SubProjects

SubProject Number: 40000157
SubProject Title: Lake Interface Advancement

acting?

UW Facilities will engage a consultant team to continue project definition, conceptual engineering for permits, coordination of environmental studies, coordination with Authority Having Jurisdiction (AHJ's), stakeholder and community engagement.

The third-party consultant will advance the design of the lake interface systems and lead the effort in establishing permitting requirements and timelines for federal, state, and local permits/approvals, including local critical areas and shoreline permits, SEPA/NEPA, WDFW Hydraulic Project Approval, Section 10 and Section 404 Corps permits, 401 Water Quality Certification, and Section 7 Endangered Species Act consultations.

The consultant team will have expertise in environmental consulting, permitting, and past installations of deep lake water cooling, campus infrastructure planning, water resources, environmental consulting, permitting construction-related and operation of surface water withdrawals/diversions and in-water utilities, and regulatory review.

See Appendix D – Lake Interface for a more in-depth discussion of entitlements, permitting requirements, stakeholder, and community engagement.

4. What alternatives were explored? Why was the recommended alternative chosen? Be prepared to provide detailed cost backup. If this project has an associated predesign, please summarize the alternatives the predesign considered.

Through the Energy Renewal Implementation Plan, the project team has identified the amount of heating and cooling the Lake Interface project will provide. While the technology to use lake water is straight forward and low risk, this project presents the highest execution risk given the unique permitting, entitlement, and stakeholder engagement. Therefore, the team has also explored the surface area required and cost for alternatives such as air source heat pumps and on-site solar panels. The life cycle cost analysis of the alternatives is in process.

5. Which clientele would be impacted by the budget request? Where and how many units would be added, people or communities served, etc.

*The **Clean Energy Transformation 25-27** projects impact all academic units, athletics (ICA) and UW Medical Center (UWMC) of the Seattle campus of the University of Washington. The specific client is the Campus Energy, Utilities and Operations (CEU&O) department.*

6. Does this project or program leverage non-state funding? If yes, how much by source? If the other funding source requires cost share, also include the minimum state(or other) share of project cost allowable and the supporting citation or documentation.

All 25-27 Clean Energy Transformation projects will be initially funded through the Climate Commitment Act (CCA) and the subaccount labeled the Climate Commitment Account. In the current on-going Energy Renewal Program implementation plan, the team is exploring funding options and pairing projects with the funding sources. It is unlikely this project will be eligible for IRA direct pay tax credits. However, there may be IRA funding available through the WA Department of Commerce grants or through the US Department of Energy.

7. Describe how this project supports the agency's strategic master plan or would improve agency performance. Reference feasibility studies, master plans, space programming and other analyses as appropriate.

Project Number: 40000148
Project Title: Clean Energy Transformation 25-27

SubProjects

SubProject Number: 40000157
SubProject Title: Lake Interface Advancement

All projects in the Clean Energy Transformation 25-27 request support the University's Energy strategy and Sustainability Action Plan to decarbonize the campus. This project aligns with the central cooling and emerging technology components of the UW Energy Strategy.

8. Does this decision package include funding for any Information Technology related costs including hardware, software (to include cloud-based services), contracts or staff? If the answer is yes, you will be prompted to attach a complete IT addendum. (See Chapter 10 of the operating budget instructions for additional requirements.)

Not applicable

9. If the project is linked to the Puget Sound Action Agenda, describe the impacts on the Action Agenda, including expenditure and FTE detail. See Chapter 14 (Puget Sound Recovery and Governor's Salmon Strategy) in the 2025-27 Operating Budget Instructions.

The Lake Interface project has the potential to benefit salmon eco-systems. The Lake Interface project extracts lake water at a depth of 25 meters below the surface where water temperatures are consistently 45-50 degrees F. After extracting the energy from the water with heat exchangers, the water is still colder than the receiving water in the Washington Ship Canal and Portage Bay. WRIA 8 reports have noted that high water temperatures in the Washington Ship canal can be a threat to salmon migration. UW has started discussions with the fish biologist for the Muckleshoot Nation about the potential benefits for discharging water in location(s) to support salmon eco-systems. This request helps UW continue these discussions and identify studies required to understand what provides the most benefit.

10. How does this project contribute to meeting the greenhouse gas emissions limits established in RCW 70A.45.050,clean buildings performance standards in RCW 19.27A.210, or other statewide goals to reduce carbon pollution and/or improve energy efficiency? Please elaborate. For buildings subject to the clean buildings performance standards, describe your compliance pathway for the building, and include information about energy audits, metering, and energy benchmarking.

While this consulting service does not immediately contribute to near-term GHG savings, it is integral to the long-term strategy to use lake water as an energy source for campus heating and cooling. The Lake Interface project has an anticipated GHG savings of 16,000 MTCO2e (metric tons equivalent CO2), which represents approximately 19% of the campus's current greenhouse gas emissions.

11. How is your proposal impacting equity in the state? Which communities are impacted by this proposal? Include both demographic and geographic communities. How are disparities in communities impacted?

*The **Clean Energy Transformation 25-27** projects are the first major step to reduce greenhouse gases and nitrogen dioxide (NOx)emissions from the fossil fuel fired boilers required for campus heating and process steam systems. Reducing greenhouse gas and NOx emissions through the UW decarbonization plan will improve air quality and benefit the local Seattle campus community, the Puget Sound Region, and the State. The demographics of the UW campus are highlighted in Appendix C – UW Pride Points 2023-2024. The region, as delineated by the Puget Sound Clean Air Agency, includes Snohomish, King, Pierce, and Kitsap counties, and includes 4.1 million people with diverse ethnicities and incomes. Snohomish, King, and Pierce counties include six of the sixteen communities identified as overburdened by the Department of Ecology. For information on air quality impacts to Washington overburdened communities see Dept. of Ecology report: https://apps.ecology.wa.gov/publications/UIPages/documents/2302115.pdf.*

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

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Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:35AM

Project Number: **40000148**
Project Title: **Clean Energy Transformation 25-27**

SubProjects

SubProject Number: **40000157**
SubProject Title: **Lake Interface Advancement**

12. Is this project eligible for Direct Pay? If the answer is yes, you must include this project to the list of direct pay projects and information for submittal (see Chapter 1.7 of the capital budget instructions for additional instructions).

It is unlikely this project will be eligible for IRA direct pay tax credits. However, there may be IRA funding available through the WA Department of Commerce grants or through the US Department of Energy.

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

Please see attached Appendices.

14. Reappropriation: if the project was originally funded prior to the 2021-23 biennium, describe the project and each subproject, including the original appropriation year, status of the project and an explanation why a reappropriation is needed.

Not applicable

15. If the project is linked to the Governor's Salmon Strategy provide an explanation of how the budget request relates to a salmon strategy action, is urgent in the coming biennium to advance salmon recovery, is aligned with a federally approved salmon recovery plan, and/or advances a known tribal priority.

The Lake Interface project has the potential to benefit salmon eco-systems. The Lake Interface project extracts lake water at a depth of 25 meters below the surface where water temperatures are consistently 45-50 degrees F. After extracting the energy from the water with heat exchangers, the water is still colder than the receiving water in the Washington Ship Canal and Portage Bay. WRIA 8 reports have noted that high water temperatures in the Washington Ship canal can be a threat to salmon migration. UW has started discussions with the fish biologist for the Muckleshoot Nation about the potential benefits for discharging water in location(s) to support salmon eco-systems. This request helps UW continue these discussions and identify studies required to understand what provides the most benefit.

16. In the agency summary, include the statement, "Related to implementing the Governor's Salmon Strategy." See Chapter 14 in the 2025-27 operating budget instructions for more information.(Note: This question is not in CBS but does need a response if applicable).

Not applicable

Location
City: Seattle **County:** King **Legislative District:** 043

Project Type
Infrastructure (Major Projects)

Growth Management impacts
Not applicable

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:35AM

Project Number: 40000148
Project Title: Clean Energy Transformation 25-27

SubProjects

SubProject Number: 40000157
SubProject Title: Lake Interface Advancement

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Expenditures Current Biennium	2025-27 Fiscal Period Reapprops	2025-27 Fiscal Period New Approps
26C-1	Climate Commit Accou-State	1,000,000				1,000,000
	Total	**1,000,000**	**0**	**0**	**0**	**1,000,000**

		Future Fiscal Periods 2027-29	2029-31	2031-33	2033-35
26C-1	Climate Commit Accou-State				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

No Operating Impact

SubProject Number: 40000158
SubProject Title: Power Plant Boiler Removal

360 - University of Washington
Capital Project Request

2025-27 Biennium

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Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:35AM

Project Number: **40000148**
Project Title: **Clean Energy Transformation 25-27**

SubProjects

SubProject Number: **40000158**
SubProject Title: **Power Plant Boiler Removal**

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 1

Project Summary

The University of Washington is requesting $2M from the Climate Commitment Account 26-C to support design and construction work for the Power Plant Boiler Removal. This make-ready project will create space at the Central Utility Plant for new low-carbon heating and cooling equipment that will replace the existing fossil-fuel fired equipment. The project consists of demolition and removal of one large steam boiler and associated systems, which are near the end of their useful life.

Project Description

1. Identify the problem or opportunity addressed. Why is the request a priority? This narrative should identify unserved/underserved people or communities, operating budget savings, public safety improvements or other backup necessary to understand the need for the request. For preservation projects, it is helpful to include information about the current condition of the facility or system.

In the Central Utility Plant, Boiler #3 (installed in 1948) and Boiler #5 (installed in 1958) are the smallest and oldest boilers that are part of the current set of five natural gas steam boilers serving the distributed campus steam system. Each of the natural gas steam boilers will be replaced as part of the energy transformation process in a coordinated process as new heat sources are provided. Removal of one of these boilers will still allow the plant to serve the campus with steam at an N+1 capacity during the interim until the new hot water heating system is operational. Evaluation of which boiler should be first will be taken into consideration during the project definition phase of the design-build process.

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

The funding request is for the design, permitting, and demolition of a boiler. This project cannot be phased. A C-100 form is attached and a detailed cost estimate for the scope of work is provided in Appendix B. The schedule for this request is:

TASK	***Date Range***
Funding Available	*July 2025*
Contractor Selection Process	*September 2025 – November 2025*
Design & Permitting	*November 2025 – June 2026*
Construction	*June 2026 – September 2026*
Closeout	*September 2026 – October 2026*

3. How would the request address the problem or opportunity identified in question 1?What would be the result of not acting?

This make-ready project will create space at the Central Utility Plant for new low-carbon heating and cooling equipment that will replace the existing fossil-fuel fired equipment. The project consists of demolition and removal of one large steam boiler and associated systems, which are near the end of its useful life. The removal of Boiler #3 or Boiler #5 will create 5,000-6,500 square feet of space and accelerate the schedule of the future installation of the electric heat recovery chillers.

The demolition of this steam boiler system includes removal and modification of existing mechanical, electrical, and piping

SubProjects

SubProject Number: 40000158
SubProject Title: Power Plant Boiler Removal

(MEP) systems, in addition to architectural and structural conditions infrastructure at the facility.

4. What alternatives were explored? Why was the recommended alternative chosen? Be prepared to provide detailed cost backup. If this project has an associated predesign, please summarize the alternatives the predesign considered.

There are no alternatives since the fossil fuel fired boilers will need to be removed in order to install heat recovery chiller in the future.

5. Which clientele would be impacted by the budget request? Where and how many units would be added, people or communities served, etc.

*The **Clean Energy Transformation 25-27** projects impact all academic units, athletics (ICA) and UW Medical Center (UWMC) of the Seattle campus of the University of Washington. The specific client is the Campus Energy, Utilities and Operations (CEU&O) department.*

6. Does this project or program leverage non-state funding? If yes, how much by source? If the other funding source requires cost share, also include the minimum state(or other) share of project cost allowable and the supporting citation or documentation.

All 25-27 Clean Energy Transformation projects will be initially funded through the Climate Commitment Act (CCA), Climate Commitment Account. As part of the 2024 Energy Renewal Program implementation plan, UW is exploring funding options and pairing projects with the funding sources. It is unlikely that this project will be eligible for partial cost reimbursement through federal programs via the Infrastructure Act and Inflation Reduction Act.

7. Describe how this project supports the agency's strategic master plan or would improve agency performance. Reference feasibility studies, master plans, space programming and other analyses as appropriate.

All projects in the Clean Energy Transformation 25-27 request support the University's Energy strategy and Sustainability Action Plan to decarbonize the campus. The Power Plant Boiler Removal project aligns with the UW Energy Strategy for transforming the fossil fuel fired boilers to electric powered heat recovery chillers.

The Power Plant Boiler Removal is within the existing main power plant, consistent with Campus Master Plan (2019) and does not impact future campus growth.

8. Does this decision package include funding for any Information Technology related costs including hardware, software (to include cloud-based services), contracts or staff? If the answer is yes, you will be prompted to attach a complete IT addendum. (See Chapter 10 of the operating budget instructions for additional requirements.)

Not applicable

9. If the project is linked to the Puget Sound Action Agenda, describe the impacts on the Action Agenda, including expenditure and FTE detail. See Chapter 14 (Puget Sound Recovery and Governor's Salmon Strategy) in the 2025-27 Operating Budget Instructions.

SubProjects

SubProject Number: 40000158
SubProject Title: Power Plant Boiler Removal

Not applicable

10. How does this project contribute to meeting the greenhouse gas emissions limits established in RCW 70A.45.050,clean buildings performance standards in RCW 19.27A.210, or other statewide goals to reduce carbon pollution and/or improve energy efficiency? Please elaborate. For buildings subject to the clean buildings performance standards, describe your compliance pathway for the building, and include information about energy audits, metering, and energy benchmarking.

The demolition and removal of this boiler will not provide any direct energy, cost, or greenhouse gas savings initially.

Over a longer time period, as the University continues to deploy its Energy Strategy, real estate within the existing Power Plant freed up by this project will play a critical role in allowing the University to operate primarily on heat pumps rather than fossil-fuel boilers. Heat pumps are highly efficient compared to fossil-fuel boilers and are more space efficient. Many essential components to the heat pump system will be able to be installed within this space after the boiler is removed, including the heat pumps themselves, associated pumps, electric boilers, and backup heating systems.

Quantifying this individual project's contribution in the near-term is difficult, however as part of the longer-term heat pump strategy outlined above, the anticipated GHG savings for those combined projects is 56,500 MTCO2e (metric tons equivalent CO2), which represents approximately 65% of the campus's current greenhouse gas emissions.

11. How is your proposal impacting equity in the state? Which communities are impacted by this proposal? Include both demographic and geographic communities. How are disparities in communities impacted?

*The **Clean Energy Transformation 25-27** projects are the first major step to reduce greenhouse gases and nitrogen dioxide (NOx)emissions from the fossil fuel fired boilers required for campus heating and process steam systems. Reducing greenhouse gas and NOx emissions through the UW decarbonization plan will improve air quality and benefit the local Seattle campus community, the Puget Sound Region, and the State. The demographics of the UW campus are highlighted in Appendix C – UW Pride Points 2023-2024. The region, as delineated by the Puget Sound Clean Air Agency, includes Snohomish, King, Pierce, and Kitsap counties, and includes 4.1 million people with diverse ethnicities and incomes. Snohomish, King, and Pierce counties include six of the sixteen communities identified as overburdened by the Department of Ecology. For information on air quality impacts to Washington overburdened communities see Dept. of Ecology report: https://apps.ecology.wa.gov/publications/UIPages/documents/2302115.pdf.*

12. Is this project eligible for Direct Pay? If the answer is yes, you must include this project to the list of direct pay projects and information for submittal (see Chapter 1.7 of the capital budget instructions for additional instructions).

It is unlikely that this project will be eligible for partial cost reimbursement through federal programs via the Infrastructure Act and Inflation Reduction Act.

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

Please see attached Appendices.

14. Reappropriation: if the project was originally funded prior to the 2021-23 biennium, describe the project and each subproject, including the original appropriation year, status of the project and an explanation why a reappropriation is needed.

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:35AM

Project Number: 40000148
Project Title: Clean Energy Transformation 25-27

SubProjects

SubProject Number: 40000158
SubProject Title: Power Plant Boiler Removal

Not applicable

15. If the project is linked to the Governor's Salmon Strategy provide an explanation of how the budget request relates to a salmon strategy action, is urgent in the coming biennium to advance salmon recovery, is aligned with a federally approved salmon recovery plan, and/or advances a known tribal priority.

Not applicable

16. In the agency summary, include the statement, "Related to implementing the Governor's Salmon Strategy." See Chapter 14 in the 2025-27 operating budget instructions for more information. (Note: This question is not in CBS but does need a response if applicable).

Not applicable

Location
City: Seattle **County:** King **Legislative District:** 043

Project Type
Infrastructure (Major Projects)

Growth Management impacts
Not applicable

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Current Biennium	2025-27 Fiscal Period Reapprops	New Approps
26C-1	Climate Commit Accou-State	2,000,000				2,000,000
	Total	**2,000,000**	**0**	**0**	**0**	**2,000,000**

Acct Code	Account Title	Future Fiscal Periods 2027-29	2029-31	2031-33	2033-35
26C-1	Climate Commit Accou-State				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

No Operating Impact

OFM

Capital Project Request

2025-27 Biennium

*

Parameter	Entered As	Interpreted As
Biennium	2025-27	2025-27
Agency	360	360
Version	02-A	02-A
Project Classification	*	All Project Classifications
Capital Project Number	40000148	40000148
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 2024

Agency	University of Washington	
Project Name	District Energy Standards/Basis of Design	
OFM Project Number	40000149	

Contact Information		
Name	John Wetzel	
Phone Number	(206) 616-5924	
Email	wetzej@uw.edu	

Statistics			
Gross Square Feet	N/A	MACC per Gross Square Foot	
Usable Square Feet	N/A	Escalated MACC per Gross Square Foot	
Alt Gross Unit of Measure			
Space Efficiency		A/E Fee Class	B
Construction Type	Other Sch. B Projects	A/E Fee Percentage	14.08%
Remodel	No	Projected Life of Asset (Years)	
Additional Project Details			
Procurement Approach	DBB	Art Requirement Applies	No
Inflation Rate	3.33%	Higher Ed Institution	Yes
Sales Tax Rate %	10.35%	Location Used for Tax Rate	Seattle
Contingency Rate	5%		
Base Month (Estimate Date)	July-24	OFM UFI# (from FPMT, if available)	
Project Administered By	Agency		

Schedule			
Predesign Start	July-25	Predesign End	July-25
Design Start	August-25	Design End	June-27
Construction Start	June-27	Construction End	June-27
Construction Duration	0 Months		

Green cells must be filled in by user

Project Cost Summary

Total Project	$1,816,713	Total Project Escalated	$1,899,851
		Rounded Escalated Total	$1,900,000

Amount funded in Prior Biennia	**$0**
Amount in current Biennium	**$1,900,000**
Next Biennium	**$0**
Out Years	**$0**

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

Consultant Services			
Predesign Services	$1,480,000		
Design Phase Services	$0		
Extra Services	$0		
Other Services	$0		
Design Services Contingency	$74,000		
Consultant Services Subtotal	**$1,554,000**	**Consultant Services Subtotal Escalated**	**$1,611,417**

Construction			
Maximum Allowable Construction Cost (MACC)	$0	Maximum Allowable Construction Cost (MACC) Escalated	$0
DBB Risk Contingencies	$0		
DBB Management	$0		
Owner Construction Contingency	$0		$0
Non-Taxable Items	$0		$0
Sales Tax	$0	Sales Tax Escalated	$0
Construction Subtotal	**$0**	**Construction Subtotal Escalated**	**$0**

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	$181,213		
DES Additional Services Subtotal	$0		
Other Project Admin Costs	$0		
Project Administration Subtotal	**$181,213**	**Project Administration Subtotal Escalated**	**$198,955**

Other Costs			
Other Costs Subtotal	**$81,500**	**Other Costs Subtotal Escalated**	**$89,479**

Project Cost Estimate			
Total Project	**$1,816,713**	Total Project Escalated	**$1,899,851**
		Rounded Escalated Total	**$1,900,000**

Funding Summary

	Project Cost (Escalated)	Funded in Prior Biennia	Current Biennium 2025-2027	2027-2029	Out Years
Acquisition					
Acquisition Subtotal	$0				**$0**
Consultant Services					
Consultant Services Subtotal	$1,611,417		$1,611,417		**$0**
Construction					
Construction Subtotal	$0		$0		**$0**
Equipment					
Equipment Subtotal	$0		$0		**$0**
Artwork					
Artwork Subtotal	$0		$0		**$0**
Agency Project Administration					
Project Administration Subtotal	$198,955		$198,955		**$0**
Other Costs					
Other Costs Subtotal	$89,479		$89,479		**$0**
Project Cost Estimate					
Total Project	**$1,899,851**	**$0**	**$1,899,851**	**$0**	**$0**
	$1,900,000	**$0**	**$1,900,000**	**$0**	**$0**
	Percentage requested as a new appropriation		**100%**		

What is planned for the requested new appropriation? (*Ex. Acquisition and design, phase 1 construction, etc.*)
Updating the UW Facility Design Guidelines with district energy standards to ensure quality, consistency and efficient operation and maintenance of the district energy system. Services include a basis of design for the system and review of project documents (by others) for adherance to the standards.
Insert Row Here

What has been completed or is underway with a previous appropriation?
None
Insert Row Here

What is planned with a future appropriation?
Insert Row Here

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				
District Energy Standards	$1,250,000			
Owner's Engineer (2 years)	$230,000			
Sub TOTAL	**$1,480,000**	**1.0339**	**$1,530,172**	Escalated to Design Start
2) Construction Documents				
A/E Basic Design Services	$0			69% of A/E Basic Services
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.0655**	**$0**	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				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.0655**	**$0**	Escalated to Mid-Design
4) Other Services				
Bid/Construction/Closeout	$0			31% of A/E Basic Services
HVAC Balancing				
Staffing				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.0979**	**$0**	Escalated to Mid-Const.
5) Design Services Contingency				
Design Services Contingency	$74,000			
Other				
Insert Row Here				
Sub TOTAL	**$74,000**	**1.0979**	**$81,245**	Escalated to Mid-Const.

CONSULTANT SERVICES TOTAL	**$1,554,000**		**$1,611,417**	

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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**		**1.0979**	**$0**	
2) Related Project Costs					
Offsite Improvements					
City Utilities Relocation					
Parking Mitigation					
Stormwater Retention/Detention					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.0979**	**$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					
D80 Integrated Automation					
Z10 - General Requirements					
Z20-Design Contingency					
Z20- Insurance & Bonds					
Z30 - General Contractor Fee					
Z30 - WA B&O Tax					

Sub TOTAL	**$0**	**1.0979**	**$0**	
4) Maximum Allowable Construction Cost				
MACC Sub TOTAL	**$0**		**$0**	
	NA		*NA per GSF*	
This Section is Intentionally Left Blank				
7) Owner Construction Contingency				
Allowance for Change Orders	$0			
Construction Contingency				
Insert Row Here				
Sub TOTAL	**$0**	**1.0979**	**$0**	
8) Non-Taxable Items				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.0979**	**$0**	
9) Sales Tax				
Sub TOTAL	**$0**		**$0**	
CONSTRUCTION CONTRACTS TOTAL	**$0**		**$0**	

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Cost Estimate Details

Equipment					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Equipment					
E10 - Equipment					
E20 - Furnishings					
F10 - Special Construction					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.0979**	**$0**	
2) Non Taxable Items					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.0979**	**$0**	
3) Sales Tax					
Sub TOTAL	**$0**			**$0**	
EQUIPMENT TOTAL	**$0**			**$0**	

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Cost Estimate Details

Artwork					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Artwork					
Project Artwork	$0				0.5% of total project cost for new construction
Higher Ed Artwork	$9,499				0.5% of total project cost for new and renewal construction
Other	-$9,499				consultant services only
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**
1) Agency Project Management					
Agency Project Management	$181,213				
Additional Services					Balance of UW PDG fees
Other					
Insert Row Here					
Subtotal of Other	*$0*				
PROJECT MANAGEMENT TOTAL	**$181,213**		**1.0979**	**$198,955**	

Green cells must be filled in by user

Cost Estimate Details

Other Costs					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
Mitigation Costs					
Hazardous Material Remediation/Removal					
Historic and Archeological Mitigation					
Permits					
In-Plant Services	$75,000				UW Engineering Services
EH&S	$6,500				UW EH&S support
Security & Traffic Control					UW staff
Builder's Risk Insurance					UW places policy
OTHER COSTS TOTAL	**$81,500**		**1.0979**	**$89,479**	

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STATE OF WASHINGTON
AGENCY / INSTITUTION PROJECT COST SUMMARY

Updated June 2024

Agency	University of Washington	
Project Name	Micro-District South of Pacific	
OFM Project Number	40000150	

Contact Information		
Name	John Wetzel	
Phone Number	(206) 616-5924	
Email	wetzej@uw.edu	

Statistics			
Gross Square Feet	N/A	MACC per Gross Square Foot	
Usable Square Feet	N/A	Escalated MACC per Gross Square Foot	
Alt Gross Unit of Measure			
Space Efficiency		A/E Fee Class	B
Construction Type	Other Sch. B Projects	A/E Fee Percentage	7.64%
Remodel	No	Projected Life of Asset (Years)	
Additional Project Details			
Procurement Approach	DB-Progressive	Art Requirement Applies	No
Inflation Rate	3.33%	Higher Ed Institution	Yes
Sales Tax Rate %	10.35%	Location Used for Tax Rate	Seattle
Contingency Rate	5%		
Base Month (Estimate Date)	July-24	OFM UFI# (from FPMT, if available)	
Project Administered By	Agency		

Schedule			
Predesign Start	July-25	Predesign End	July-25
Design Start	October-25	Design End	April-26
Construction Start	May-27	Construction End	August-28
Construction Duration	15 Months		

Green cells must be filled in by user

Project Cost Summary

Total Project	$28,149,325	Total Project Escalated	$31,099,869
		Rounded Escalated Total	$31,100,000

Amount funded in Prior Biennia	**$0**
Amount in current Biennium	**$31,100,000**
Next Biennium	**$0**
Out Years	**$0**

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

Consultant Services			
Predesign Services	$250,986		
Design Phase Services	$1,158,256		
Extra Services	$199,715		
Other Services	$520,376		
Design Services Contingency	$106,467		
Consultant Services Subtotal	**$2,235,800**	**Consultant Services Subtotal Escalated**	**$2,388,520**

Construction			
Maximum Allowable Construction Cost (MACC)	$20,925,355	Maximum Allowable Construction Cost (MACC) Escalated	$23,163,929
DB-Progressive Risk Contingencies	$0		
DB-Progressive Management	$0		
Owner Construction Contingency	$1,046,268		$1,169,832
Non-Taxable Items	$0		$0
Sales Tax	$2,274,063	Sales Tax Escalated	$2,518,544
Construction Subtotal	**$24,245,686**	**Construction Subtotal Escalated**	**$26,852,305**

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

Artwork			
Artwork Subtotal	**-$659**	**Artwork Subtotal Escalated**	**-$659**

Agency Project Administration			
Agency Project Administration Subtotal	$1,135,072		
DES Additional Services Subtotal	$278,098		
Other Project Admin Costs	$0		
Project Administration Subtotal	**$1,413,170**	**Project Administration Subtotal Escalated**	**$1,580,066**

Other Costs			
Other Costs Subtotal	**$255,329**	**Other Costs Subtotal Escalated**	**$279,637**

Project Cost Estimate			
Total Project	**$28,149,325**	Total Project Escalated	**$31,099,869**
		Rounded Escalated Total	**$31,100,000**

Funding Summary

	Project Cost (Escalated)	Funded in Prior Biennia	Current Biennium 2025-2027	2027-2029	Out Years
Acquisition					
Acquisition Subtotal	$0				**$0**
Consultant Services					
Consultant Services Subtotal	$2,388,520		$2,388,520		**$0**
Construction					
Construction Subtotal	$26,852,305		$26,852,305		**$0**
Equipment					
Equipment Subtotal	$0		$0		**$0**
Artwork					
Artwork Subtotal	-$659		-$659		**$0**
Agency Project Administration					
Project Administration Subtotal	$1,580,066		$1,580,066		**$0**
Other Costs					
Other Costs Subtotal	$279,637		$279,637		**$0**
Project Cost Estimate					
Total Project	**$31,099,869**	**$0**	**$31,099,869**	**$0**	**$0**
	$31,100,000	**$0**	**$31,100,000**	**$0**	**$0**
	Percentage requested as a new appropriation		**100%**		

What is planned for the requested new appropriation? (*Ex. Acquisition and design, phase 1 construction, etc.*)
Design, permitting and construction of the underground mirco-district in South distict (South of Pacific Ave).
Most of the work is in the existing utility tunnel system.
Insert Row Here

What has been completed or is underway with a previous appropriation?
None
Insert Row Here

What is planned with a future appropriation?
Insert Row Here

Cost Estimate Details

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

Green cells must be filled in by user

Cost Estimate Details

Consultant Services				
Item	**Base Amount**	**Escalation Factor**	**Escalated Cost**	**Notes**
1) Pre-Schematic Design Services				
Programming/Site Analysis	$250,986			
Environmental Analysis				
Predesign Study				
Other				
Insert Row Here				
Sub TOTAL	**$250,986**	**1.0419**	**$261,503**	Escalated to Design Start
2) Construction Documents				
A/E Basic Design Services	$1,158,256			69% of A/E Basic Services
Other				Balance of design fees
Insert Row Here				
Sub TOTAL	**$1,158,256**	**1.0502**	**$1,216,401**	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				
Other	$199,715			WSST on design services
Insert Row Here				
Sub TOTAL	**$199,715**	**1.0502**	**$209,742**	Escalated to Mid-Design
4) Other Services				
Bid/Construction/Closeout	$520,376			31% of A/E Basic Services
HVAC Balancing				
Staffing				
Other				
Insert Row Here				
Sub TOTAL	**$520,376**	**1.1181**	**$581,833**	Escalated to Mid-Const.
5) Design Services Contingency				
Design Services Contingency	$106,467			
Other				
Insert Row Here				
Sub TOTAL	**$106,467**	**1.1181**	**$119,041**	Escalated to Mid-Const.

CONSULTANT SERVICES TOTAL	**$2,235,800**		**$2,388,520**	

Green cells must be filled in by user

Cost Estimate Details

Construction Contracts					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Site Work					
G10 - Site Preparation					
G20 - Site Improvements					
G30 - Site Mechanical Utilities	$8,642,078				
G40 - Site Electrical Utilities	$1,520,000				
G60 - Other Site Construction					
Other					
Insert Row Here					
Sub TOTAL	**$10,162,078**		**1.0952**	**$11,129,508**	
2) Related Project Costs					
Offsite Improvements					
City Utilities Relocation					
Parking Mitigation					
Stormwater Retention/Detention					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.0952**	**$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	$1,817,240				
D40 - Fire Protection Systems					
D50 - Electrical Systems					
F10 - Special Construction					
F20 - Selective Demolition	$200,000				
General Conditions	$2,969,277				
D80 Integrated Automation	$370,000				
Z10 - General Requirements	$1,599,167				
Z20-Design Contingency	$1,340,228				
Z20- Insurance & Bonds	$660,324				
Z30 - General Contractor Fee	$1,622,782				
Z30 - WA B&O Tax	$184,259				

Sub TOTAL	**$10,763,277**	**1.1181**	**$12,034,421**	
4) Maximum Allowable Construction Cost				
MACC Sub TOTAL	**$20,925,355**		**$23,163,929**	
	NA			*NA per GSF*
This Section is Intentionally Left Blank				
7) Owner Construction Contingency				
Allowance for Change Orders	$1,046,268			
Insert Row Here				
Sub TOTAL	**$1,046,268**	**1.1181**	**$1,169,832**	
8) Non-Taxable Items				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.1181**	**$0**	
9) Sales Tax				
Sub TOTAL	**$2,274,063**		**$2,518,544**	
CONSTRUCTION CONTRACTS TOTAL	**$24,245,686**		**$26,852,305**	

Green cells must be filled in by user

Cost Estimate Details

Equipment					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Equipment					
E10 - Equipment					
E20 - Furnishings					
F10 - Special Construction					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.1181**	**$0**	
2) Non Taxable Items					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.1181**	**$0**	
3) Sales Tax					
Sub TOTAL	**$0**			**$0**	
EQUIPMENT TOTAL	**$0**			**$0**	

Green cells must be filled in by user

Cost Estimate Details

Artwork					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Artwork					
Project Artwork	$0				0.5% of total project cost for new construction
Higher Ed Artwork	$155,503				0.5% of total project cost for new and renewal construction
Other	-$156,162				undergound utility project
Insert Row Here					
ARTWORK TOTAL	**-$659**		**NA**	**-$659**	

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Cost Estimate Details

Project Management					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Agency Project Management					
Agency Project Management	$1,135,072				
Additional Services	$278,098				Balance of UW PDG fees
Other					
Insert Row Here					
Subtotal of Other	*$0*				
PROJECT MANAGEMENT TOTAL	**$1,413,170**		**1.1181**	**$1,580,066**	

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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				
Permits	$116,562			
In-Plant Services	$59,050			UW Engineering Services
EH&S	$5,905			UW EH&S support
Security & Traffic Control	$0			UW staff
Builder's Risk Insurance	$73,812			UW places policy
OTHER COSTS TOTAL	**$255,329**	**1.0952**	**$279,637**	

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STATE OF WASHINGTON
AGENCY / INSTITUTION PROJECT COST SUMMARY

Updated June 2024

Agency	University of Washington	
Project Name	Chiller Installation	
OFM Project Number	40000151	

Contact Information		
Name	John Wetzel	
Phone Number	(206) 616-5924	
Email	wetzej@uw.edu	

Statistics			
Gross Square Feet	N/A	MACC per Gross Square Foot	
Usable Square Feet	N/A	Escalated MACC per Gross Square Foot	
Alt Gross Unit of Measure			
Space Efficiency		A/E Fee Class	B
Construction Type	Other Sch. B Projects	A/E Fee Percentage	8.60%
Remodel	No	Projected Life of Asset (Years)	
Additional Project Details			
Procurement Approach	DB-Progressive	Art Requirement Applies	No
Inflation Rate	3.33%	Higher Ed Institution	Yes
Sales Tax Rate %	10.35%	Location Used for Tax Rate	Seattle
Contingency Rate	5%		
Base Month (Estimate Date)	July-24	OFM UFI# (from FPMT, if available)	
Project Administered By	Agency		

Schedule			
Predesign Start	July-25	Predesign End	July-25
Design Start	November-25	Design End	May-26
Construction Start	December-27	Construction End	June-28
Construction Duration	6 Months		

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Project Cost Summary

Total Project	$12,039,052	Total Project Escalated	$13,499,700
		Rounded Escalated Total	$13,500,000

Amount funded in Prior Biennia	**$0**
Amount in current Biennium	**$13,500,000**
Next Biennium	**$0**
Out Years	**$0**

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

Consultant Services			
Predesign Services	$120,388		
Design Phase Services	$551,046		
Extra Services	$95,117		
Other Services	$247,571		
Design Services Contingency	$50,706		
Consultant Services Subtotal	**$1,064,828**	**Consultant Services Subtotal Escalated**	**$1,142,113**

Construction			
Maximum Allowable Construction Cost (MACC)	$8,844,039	Maximum Allowable Construction Cost (MACC) Escalated	$9,959,920
DB-Progressive Risk Contingencies	$0		
DB-Progressive Management	$0		
Owner Construction Contingency	$442,202		$498,008
Non-Taxable Items	$0		$0
Sales Tax	$961,126	Sales Tax Escalated	$1,082,396
Construction Subtotal	**$10,247,367**	**Construction Subtotal Escalated**	**$11,540,324**

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	$587,466		
DES Additional Services Subtotal	$0		
Other Project Admin Costs	$0		
Project Administration Subtotal	**$587,466**	**Project Administration Subtotal Escalated**	**$661,604**

Other Costs			
Other Costs Subtotal	**$139,392**	**Other Costs Subtotal Escalated**	**$155,660**

Project Cost Estimate			
Total Project	**$12,039,052**	Total Project Escalated	**$13,499,700**
		Rounded Escalated Total	**$13,500,000**

Funding Summary

	Project Cost (Escalated)	Funded in Prior Biennia	Current Biennium 2025-2027	2027-2029	Out Years
Acquisition					
Acquisition Subtotal	$0				**$0**
Consultant Services					
Consultant Services Subtotal	$1,142,113		$1,142,113		**$0**
Construction					
Construction Subtotal	$11,540,324		$11,540,324		**$0**
Equipment					
Equipment Subtotal	$0		$0		**$0**
Artwork					
Artwork Subtotal	$0		$0		**$0**
Agency Project Administration					
Project Administration Subtotal	$661,604		$661,604		**$0**
Other Costs					
Other Costs Subtotal	$155,660		$155,660		**$0**
Project Cost Estimate					
Total Project	**$13,499,700**	**$0**	**$13,499,700**	**$0**	**$0**
	$13,500,000	**$0**	**$13,500,000**	**$0**	**$0**
	Percentage requested as a new appropriation		**100%**		

What is planned for the requested new appropriation? (*Ex. Acquisition and design, phase 1 construction, etc.*)
Design, permitting and construction of installation of owner furnished chiller.
Scope and schedule includes long lead electrical equipment to support the chiller.
Insert Row Here

What has been completed or is underway with a previous appropriation?
None
Insert Row Here

What is planned with a future appropriation?
Insert Row Here

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	$120,388			
Environmental Analysis				
Predesign Study				
Other				
Insert Row Here				
Sub TOTAL	**$120,388**	**1.0448**	**$125,782**	Escalated to Design Start
2) Construction Documents				
A/E Basic Design Services	$551,046			69% of A/E Basic Services
Other				Balance of design fees
Insert Row Here				
Sub TOTAL	**$551,046**	**1.0530**	**$580,251**	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				
Other	$95,117			WSST on design services
Insert Row Here				
Sub TOTAL	**$95,117**	**1.0530**	**$100,159**	Escalated to Mid-Design
4) Other Services				
Bid/Construction/Closeout	$247,571			31% of A/E Basic Services
HVAC Balancing				
Staffing				
Other				
Insert Row Here				
Sub TOTAL	**$247,571**	**1.1262**	**$278,815**	Escalated to Mid-Const.
5) Design Services Contingency				
Design Services Contingency	$50,706			
Other				
Insert Row Here				
Sub TOTAL	**$50,706**	**1.1262**	**$57,106**	Escalated to Mid-Const.

CONSULTANT SERVICES TOTAL	**$1,064,828**		**$1,142,113**	

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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	$25,000				
G30 - Site Mechanical Utilities					
G40 - Site Electrical Utilities					
G60 - Other Site Construction					
Other					
Insert Row Here					
Sub TOTAL	**$25,000**		**1.1167**	**$27,918**	
2) Related Project Costs					
Offsite Improvements					
City Utilities Relocation					
Parking Mitigation					
Stormwater Retention/Detention					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.1167**	**$0**	
3) Facility Construction					
A10 - Foundations					
A20 - Basement Construction					
B10 - Superstructure	$350,000				
B20 - Exterior Closure					
B30 - Roofing	$8,125				
C10 - Interior Construction					
C20 - Stairs					
C30 - Interior Finishes					
D10 - Conveying					
D20 - Plumbing Systems					
D30 - HVAC Systems	$2,535,270				
D40 - Fire Protection Systems					
D50 - Electrical Systems	$2,951,000				
F10 - Special Construction					
F20 - Selective Demolition					
General Conditions	$786,459				
D80 Integrated Automation	$150,000				
Z10 - General Requirements	$310,500				
Z20-Design Contingency	$175,105				
Z20- Insurance & Bonds	$292,052				
Z30 - General Contractor Fee	$1,181,424				
Z30 - WA B&O Tax	$79,104				

Sub TOTAL	**$8,819,039**	**1.1262**	**$9,932,002**	
4) Maximum Allowable Construction Cost				
MACC Sub TOTAL	**$8,844,039**		**$9,959,920**	
	NA		*NA per GSF*	
This Section is Intentionally Left Blank				
7) Owner Construction Contingency				
Allowance for Change Orders	$442,202			
Construction Contingency				
Insert Row Here				
Sub TOTAL	**$442,202**	**1.1262**	**$498,008**	
8) Non-Taxable Items				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.1262**	**$0**	
9) Sales Tax				
Sub TOTAL	**$961,126**		**$1,082,396**	
CONSTRUCTION CONTRACTS TOTAL	**$10,247,367**		**$11,540,324**	

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Cost Estimate Details

Equipment					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Equipment					
E10 - Equipment					
E20 - Furnishings					
F10 - Special Construction					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.1262**	**$0**	
2) Non Taxable Items					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.1262**	**$0**	
3) Sales Tax					
Sub TOTAL	**$0**			**$0**	
EQUIPMENT TOTAL	**$0**			**$0**	

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Cost Estimate Details

Artwork					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Artwork					
Project Artwork	$0				0.5% of total project cost for new construction
Higher Ed Artwork	$67,499				0.5% of total project cost for new and renewal construction
Other	-$67,499				
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**
1) Agency Project Management					
Agency Project Management	$587,466				
Additional Services					Balance of UW PDG fees
Other					
Insert Row Here					
Subtotal of Other	*$0*				
PROJECT MANAGEMENT TOTAL	**$587,466**		**1.1262**	**$661,604**	

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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				
Permits	$64,780			
In-Plant Services	$25,351			UW Engineering Services
EH&S	$2,535			UW EH&S support
Security & Traffic Control	$15,000			UW staff
Builder's Risk Insurance	$31,726			UW places policy
OTHER COSTS TOTAL	**$139,392**	**1.1167**	**$155,660**	

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STATE OF WASHINGTON
AGENCY / INSTITUTION PROJECT COST SUMMARY

Updated June 2024

Agency	University of Washington	
Project Name	Micro District - West Campus	
OFM Project Number	40000152	

Contact Information		
Name	John Wetzel	
Phone Number	(206) 616-5924	
Email	wetzej@uw.edu	

Statistics			
Gross Square Feet	N/A	MACC per Gross Square Foot	
Usable Square Feet	N/A	Escalated MACC per Gross Square Foot	
Alt Gross Unit of Measure			
Space Efficiency		A/E Fee Class	B
Construction Type	Other Sch. B Projects	A/E Fee Percentage	6.63%
Remodel	No	Projected Life of Asset (Years)	
Additional Project Details			
Procurement Approach	DB-Progressive	Art Requirement Applies	No
Inflation Rate	3.33%	Higher Ed Institution	Yes
Sales Tax Rate %	10.35%	Location Used for Tax Rate	Seattle
Contingency Rate	5%		
Base Month (Estimate Date)	July-24	OFM UFI# (from FPMT, if available)	
Project Administered By	Agency		

Schedule			
Predesign Start	July-25	Predesign End	July-25
Design Start	October-25	Design End	October-26
Construction Start	December-27	Construction End	May-29
Construction Duration	17 Months		

Green cells must be filled in by user

Project Cost Summary

Total Project	$67,845,324	Total Project Escalated	$76,399,953
		Rounded Escalated Total	$76,400,000

Amount funded in Prior Biennia	**$0**
Amount in current Biennium	**$76,400,000**
Next Biennium	**$0**
Out Years	**$0**

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

Consultant Services			
Predesign Services	$700,284		
Design Phase Services	$3,199,973		
Extra Services	$630,595		
Other Services	$1,081,334		
Design Services Contingency	$280,609		
Consultant Services Subtotal	**$5,892,795**	**Consultant Services Subtotal Escalated**	**$6,343,168**

Construction			
Maximum Allowable Construction Cost (MACC)	$50,106,666	Maximum Allowable Construction Cost (MACC) Escalated	$56,609,110
DB-Progressive Risk Contingencies	$0		
DB-Progressive Management	$0		
Owner Construction Contingency	$2,505,333		$2,867,354
Non-Taxable Items	$0		$0
Sales Tax	$5,445,342	Sales Tax Escalated	$6,155,814
Construction Subtotal	**$58,057,341**	**Construction Subtotal Escalated**	**$65,632,278**

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	$2,169,838		
DES Additional Services Subtotal	$455,002		
Other Project Admin Costs	$0		
Project Administration Subtotal	**$2,624,840**	**Project Administration Subtotal Escalated**	**$3,004,130**

Other Costs			
Other Costs Subtotal	**$1,270,348**	**Other Costs Subtotal Escalated**	**$1,420,377**

Project Cost Estimate			
Total Project	**$67,845,324**	Total Project Escalated	**$76,399,953**
		Rounded Escalated Total	**$76,400,000**

Funding Summary

	Project Cost (Escalated)	Funded in Prior Biennia	Current Biennium 2025-2027	2027-2029	Out Years
Acquisition					
Acquisition Subtotal	$0				**$0**
Consultant Services					
Consultant Services Subtotal	$6,343,168		$6,343,168		**$0**
Construction					
Construction Subtotal	$65,632,278		$65,632,278		**$0**
Equipment					
Equipment Subtotal	$0		$0		**$0**
Artwork					
Artwork Subtotal	$0		$0		**$0**
Agency Project Administration					
Project Administration Subtotal	$3,004,130		$3,004,130		**$0**
Other Costs					
Other Costs Subtotal	$1,420,377		$1,420,377		**$0**
Project Cost Estimate					
Total Project	**$76,399,953**	**$0**	**$76,399,953**	**$0**	**$0**
	$76,400,000	**$0**	**$76,400,000**	**$0**	**$0**
	Percentage requested as a new appropriation		**100%**		

What is planned for the requested new appropriation? (*Ex. Acquisition and design, phase 1 construction, etc.*)
Design, permitting and construction of the underground mirco-district in West Campus
Insert Row Here

What has been completed or is underway with a previous appropriation?
None
Insert Row Here

What is planned with a future appropriation?
Insert Row Here

Cost Estimate Details

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

Green cells must be filled in by user

Cost Estimate Details

Consultant Services				
Item	**Base Amount**	**Escalation Factor**	**Escalated Cost**	**Notes**
1) Pre-Schematic Design Services				
Programming/Site Analysis	$700,284			
Environmental Analysis				
Predesign Study				
Other				
Insert Row Here				
Sub TOTAL	**$700,284**	**1.0421**	**$729,766**	Escalated to Design Start
2) Construction Documents				
A/E Basic Design Services	$2,406,841			69% of A/E Basic Services
Other	$793,131			Balance of design fees
Insert Row Here				
Sub TOTAL	**$3,199,973**	**1.0585**	**$3,387,171**	Escalated to Mid-Design
3) Extra Services				
Civil Design (Above Basic Svcs)				
Geotechnical Investigation				
Commissioning				
Site Survey	$115,000			
Testing				
LEED Services				
Voice/Data Consultant				
Value Engineering				
Constructability Review				
Environmental Mitigation (EIS)				
Landscape Consultant				
Other	$515,595			WSST on design services
Insert Row Here				
Sub TOTAL	**$630,595**	**1.0585**	**$667,485**	Escalated to Mid-Design
4) Other Services				
Bid/Construction/Closeout	$1,081,334			31% of A/E Basic Services
HVAC Balancing				
Staffing				
Other				
Insert Row Here				
Sub TOTAL	**$1,081,334**	**1.1445**	**$1,237,588**	Escalated to Mid-Const.
5) Design Services Contingency				
Design Services Contingency	$280,609			
Other				
Insert Row Here				
Sub TOTAL	**$280,609**	**1.1445**	**$321,158**	Escalated to Mid-Const.

CONSULTANT SERVICES TOTAL	**$5,892,795**		**$6,343,168**	

Green cells must be filled in by user

Cost Estimate Details

Construction Contracts					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Site Work					
G10 - Site Preparation	$849,381				
G20 - Site Improvements	$771,903				
G30 - Site Mechanical Utilities	$26,268,138				
G40 - Site Electrical Utilities	$64,000				
G60 - Other Site Construction					
Other					
Insert Row Here					
Sub TOTAL	**$27,953,422**		**1.1181**	**$31,254,722**	
2) Related Project Costs					
Offsite Improvements					
City Utilities Relocation					
Parking Mitigation					
Stormwater Retention/Detention					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.1181**	**$0**	
3) Facility Construction					
A10 - Foundations	$4,090,500				
A20 - Basement Construction	$889,740				
B10 - Superstructure					
B20 - Exterior Closure					
B30 - Roofing					
C10 - Interior Construction					
C20 - Stairs					
C30 - Interior Finishes					
D10 - Conveying					
D20 - Plumbing Systems					
D30 - HVAC Systems	$1,385,520				
D40 - Fire Protection Systems					
D50 - Electrical Systems	$425,000				
F10 - Special Construction					
F20 - Selective Demolition	$100,000				
General Conditions	$3,621,075				
D80 Integrated Automation	$170,000				
Z10 - General Requirements	$1,792,333				
Z20-Design Contingency	$3,530,641				
Z20- Insurance & Bonds	$1,687,418				
Z30 - General Contractor Fee	$4,006,138				
Z30 - WA B&O Tax	$454,879				

Sub TOTAL	**$22,153,244**	**1.1445**	**$25,354,388**	
4) Maximum Allowable Construction Cost				
MACC Sub TOTAL	**$50,106,666**		**$56,609,110**	
	NA		*NA per GSF*	
This Section is Intentionally Left Blank				
7) Owner Construction Contingency				
Allowance for Change Orders	$2,505,333			
Insert Row Here				
Sub TOTAL	**$2,505,333**	**1.1445**	**$2,867,354**	
8) Non-Taxable Items				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.1445**	**$0**	
9) Sales Tax				
Sub TOTAL	**$5,445,342**		**$6,155,814**	
CONSTRUCTION CONTRACTS TOTAL	**$58,057,341**		**$65,632,278**	

Green cells must be filled in by user

Cost Estimate Details

Equipment					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Equipment					
E10 - Equipment					
E20 - Furnishings					
F10 - Special Construction					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.1445**	**$0**	
2) Non Taxable Items					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.1445**	**$0**	
3) Sales Tax					
Sub TOTAL	**$0**			**$0**	
EQUIPMENT TOTAL	**$0**			**$0**	

Green cells must be filled in by user

Cost Estimate Details

Artwork					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Artwork					
Project Artwork	$0				0.5% of total project cost for new construction
Higher Ed Artwork	$382,000				0.5% of total project cost for new and renewal construction
Other	-$382,000				undergound utility project
Insert Row Here					
ARTWORK TOTAL	**$0**		**NA**	**$0**	

Green cells must be filled in by user

Cost Estimate Details

Project Management					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Agency Project Management					
Agency Project Management	$2,169,838				
Additional Services	$455,002				Balance of UW PDG fees
Other					
Insert Row Here					
Subtotal of Other	*$0*				
PROJECT MANAGEMENT TOTAL	**$2,624,840**		**1.1445**	**$3,004,130**	

Green cells must be filled in by user

Cost Estimate Details

Other Costs				
Item	**Base Amount**	**Escalation Factor**	**Escalated Cost**	**Notes**
Mitigation Costs				
Hazardous Material Remediation/Removal				
Historic and Archeological Mitigation				
Permits	$579,870			
In-Plant Services	$145,775			UW Engineering Services
EH&S	$14,578			UW EH&S support
Security & Traffic Control	$346,752			UW staff
Builder's Risk Insurance	$183,373			UW places policy
OTHER COSTS TOTAL	**$1,270,348**	**1.1181**	**$1,420,377**	

Green cells must be filled in by user

STATE OF WASHINGTON
AGENCY / INSTITUTION PROJECT COST SUMMARY

Updated June 2024

Agency	University of Washington	
Project Name	Sewer Heat Recovery Site Piping	
OFM Project Number	40000153	

Contact Information		
Name	John Wetzel	
Phone Number	(206) 616-5924	
Email	wetzej@uw.edu	

Statistics			
Gross Square Feet	N/A	MACC per Gross Square Foot	
Usable Square Feet	N/A	Escalated MACC per Gross Square Foot	
Alt Gross Unit of Measure			
Space Efficiency		A/E Fee Class	B
Construction Type	Other Sch. B Projects	A/E Fee Percentage	8.51%
Remodel	No	Projected Life of Asset (Years)	
Additional Project Details			
Procurement Approach	DB-Progressive	Art Requirement Applies	No
Inflation Rate	3.33%	Higher Ed Institution	Yes
Sales Tax Rate %	10.35%	Location Used for Tax Rate	Seattle
Contingency Rate	5%		
Base Month (Estimate Date)	July-24	OFM UFI# (from FPMT, if available)	
Project Administered By	Agency		

Schedule			
Predesign Start	July-25	Predesign End	July-25
Design Start	October-25	Design End	July-26
Construction Start	September-27	Construction End	April-28
Construction Duration	6 Months		

Green cells must be filled in by user

Project Cost Summary

Total Project	$13,250,248	Total Project Escalated	$14,699,746
		Rounded Escalated Total	$14,700,000

Amount funded in Prior Biennia	**$0**
Amount in current Biennium	**$14,700,000**
Next Biennium	**$0**
Out Years	**$0**

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

Consultant Services			
Predesign Services	$120,981		
Design Phase Services	$593,433		
Extra Services	$206,536		
Other Services	$266,615		
Design Services Contingency	$59,378		
Consultant Services Subtotal	**$1,246,943**	**Consultant Services Subtotal Escalated**	**$1,334,319**

Construction			
Maximum Allowable Construction Cost (MACC)	$9,625,065	Maximum Allowable Construction Cost (MACC) Escalated	$10,712,375
DB-Progressive Risk Contingencies	$0		
DB-Progressive Management	$0		
Owner Construction Contingency	$481,253		$538,475
Non-Taxable Items	$0		$0
Sales Tax	$1,046,004	Sales Tax Escalated	$1,164,463
Construction Subtotal	**$11,152,322**	**Construction Subtotal Escalated**	**$12,415,313**

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	$637,337		
DES Additional Services Subtotal	$0		
Other Project Admin Costs	$0		
Project Administration Subtotal	**$637,337**	**Project Administration Subtotal Escalated**	**$713,116**

Other Costs			
Other Costs Subtotal	**$213,646**	**Other Costs Subtotal Escalated**	**$236,998**

Project Cost Estimate			
Total Project	**$13,250,248**	Total Project Escalated	**$14,699,746**
		Rounded Escalated Total	**$14,700,000**

Funding Summary

	Project Cost (Escalated)	Funded in Prior Biennia	Current Biennium 2025-2027	2027-2029	Out Years
Acquisition					
Acquisition Subtotal	$0				**$0**
Consultant Services					
Consultant Services Subtotal	$1,334,319		$1,334,319		**$0**
Construction					
Construction Subtotal	$12,415,313		$12,415,313		**$0**
Equipment					
Equipment Subtotal	$0		$0		**$0**
Artwork					
Artwork Subtotal	$0		$0		**$0**
Agency Project Administration					
Project Administration Subtotal	$713,116		$713,116		**$0**
Other Costs					
Other Costs Subtotal	$236,998		$236,998		**$0**
Project Cost Estimate					
Total Project	**$14,699,746**	**$0**	**$14,699,746**	**$0**	**$0**
	$14,700,000	**$0**	**$14,700,000**	**$0**	**$0**
Percentage requested as a new appropriation			**100%**		

What is planned for the requested new appropriation? (*Ex. Acquisition and design, phase 1 construction, etc.*)
Design, permitting and construction of the underground site piping for the sewer heat recovery system.
Installing piping in this tranche, combined with other underground piping projects, maximizes construction efficiencies and reduces impact to campus life.
Insert Row Here

What has been completed or is underway with a previous appropriation?
None
Insert Row Here

What is planned with a future appropriation?
Sewer heat recovery facility will be in a future appropriation, to be determined.
Insert Row Here

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	$120,981			
Environmental Analysis				
Predesign Study				
Other				
Insert Row Here				
Sub TOTAL	**$120,981**	**1.0421**	**$126,075**	Escalated to Design Start
2) Construction Documents				
A/E Basic Design Services	$593,433			69% of A/E Basic Services
Other				Balance of design fees
Insert Row Here				
Sub TOTAL	**$593,433**	**1.0544**	**$625,716**	Escalated to Mid-Design
3) Extra Services				
Civil Design (Above Basic Svcs)				
Geotechnical Investigation				
Commissioning				
Site Survey	$105,000			
Testing				
LEED Services				
Voice/Data Consultant				
Value Engineering				
Constructability Review				
Environmental Mitigation (EIS)				
Landscape Consultant				
Other	$101,536			WSST on design services
Insert Row Here				
Sub TOTAL	**$206,536**	**1.0544**	**$217,773**	Escalated to Mid-Design
4) Other Services				
Bid/Construction/Closeout	$266,615			31% of A/E Basic Services
HVAC Balancing				
Staffing				
Other				
Insert Row Here				
Sub TOTAL	**$266,615**	**1.1189**	**$298,316**	Escalated to Mid-Const.
5) Design Services Contingency				
Design Services Contingency	$59,378			
Other				
Insert Row Here				
Sub TOTAL	**$59,378**	**1.1189**	**$66,439**	Escalated to Mid-Const.

CONSULTANT SERVICES TOTAL	**$1,246,943**		**$1,334,319**	

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Cost Estimate Details

Construction Contracts					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Site Work					
G10 - Site Preparation	$420,140				
G20 - Site Improvements	$888,402				
G30 - Site Mechanical Utilities	$4,566,520				
G40 - Site Electrical Utilities	$74,000				
G60 - Other Site Construction					
Other					
Insert Row Here					
Sub TOTAL	**$5,949,062**		**1.1093**	**$6,599,295**	
2) Related Project Costs					
Offsite Improvements					
City Utilities Relocation					
Parking Mitigation					
Stormwater Retention/Detention					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.1093**	**$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	$1,117,803				
D80 Integrated Automation	$100,000				
Z10 - General Requirements	$639,667				
Z20-Design Contingency	$673,818				
Z20- Insurance & Bonds	$308,827				
Z30 - General Contractor Fee	$750,655				
Z30 - WA B&O Tax	$85,233				

Sub TOTAL	**$3,676,003**	**1.1189**	**$4,113,080**	
4) Maximum Allowable Construction Cost				
MACC Sub TOTAL	**$9,625,065**		**$10,712,375**	
	NA		*NA per GSF*	
This Section is Intentionally Left Blank				
7) Owner Construction Contingency				
Allowance for Change Orders	$481,253			
Construction Contingency				
Insert Row Here				
Sub TOTAL	**$481,253**	**1.1189**	**$538,475**	
8) Non-Taxable Items				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.1189**	**$0**	
9) Sales Tax				
Sub TOTAL	**$1,046,004**		**$1,164,463**	
CONSTRUCTION CONTRACTS TOTAL	**$11,152,322**		**$12,415,313**	

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Cost Estimate Details

Equipment					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Equipment					
E10 - Equipment					
E20 - Furnishings					
F10 - Special Construction					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.1189**	**$0**	
2) Non Taxable Items					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.1189**	**$0**	
3) Sales Tax					
Sub TOTAL	**$0**			**$0**	
EQUIPMENT TOTAL	**$0**			**$0**	

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Cost Estimate Details

Artwork					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Artwork					
Project Artwork	$0				0.5% of total project cost for new construction
Higher Ed Artwork	$73,499				0.5% of total project cost for new and renewal construction
Other	-$73,499				underground utility
Insert Row Here					
ARTWORK TOTAL	**$0**		**NA**	**$0**	

Green cells must be filled in by user

Cost Estimate Details

Project Management					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Agency Project Management					
Agency Project Management	$637,337				
Additional Services					Balance of UW PDG fees
Other					
Insert Row Here					
Subtotal of Other	*$0*				
PROJECT MANAGEMENT TOTAL	**$637,337**		**1.1189**	**$713,116**	

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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				
Permits	$64,855			
In-Plant Services	$27,315			UW Engineering Services
EH&S	$2,731			UW EH&S support
Security & Traffic Control	$84,129			UW staff
Builder's Risk Insurance	$34,616			UW places policy
OTHER COSTS TOTAL	**$213,646**	**1.1093**	**$236,998**	

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STATE OF WASHINGTON
AGENCY / INSTITUTION PROJECT COST SUMMARY

Updated June 2024

Agency	University of Washington	
Project Name	WCUP Heating System Improvements	
OFM Project Number	40000154	

Contact Information		
Name	John Wetzel	
Phone Number	(206) 616-5924	
Email	wetzej@uw.edu	

Statistics			
Gross Square Feet	N/A	MACC per Gross Square Foot	
Usable Square Feet	N/A	Escalated MACC per Gross Square Foot	
Alt Gross Unit of Measure			
Space Efficiency		A/E Fee Class	B
Construction Type	Other Sch. B Projects	A/E Fee Percentage	7.74%
Remodel	No	Projected Life of Asset (Years)	
Additional Project Details			
Procurement Approach	DB-Progressive	Art Requirement Applies	Yes
Inflation Rate	3.33%	Higher Ed Institution	Yes
Sales Tax Rate %	10.35%	Location Used for Tax Rate	Seattle
Contingency Rate	5%		
Base Month (Estimate Date)	July-24	OFM UFI# (from FPMT, if available)	
Project Administered By	Agency		

Schedule			
Predesign Start	July-25	Predesign End	July-25
Design Start	October-25	Design End	June-26
Construction Start	September-26	Construction End	October-27
Construction Duration	13 Months		

Green cells must be filled in by user

Project Cost Summary

Total Project	$26,273,372	Total Project Escalated	$28,599,622
		Rounded Escalated Total	$28,600,000

Amount funded in Prior Biennia	**$0**
Amount in current Biennium	**$28,600,000**
Next Biennium	**$0**
Out Years	**$0**

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

Consultant Services			
Predesign Services	$261,621		
Design Phase Services	$1,085,667		
Extra Services	$214,928		
Other Services	$487,763		
Design Services Contingency	$102,499		
Consultant Services Subtotal	**$2,152,478**	**Consultant Services Subtotal Escalated**	**$2,286,247**

Construction			
Maximum Allowable Construction Cost (MACC)	$19,360,533	Maximum Allowable Construction Cost (MACC) Escalated	$21,132,798
DB-Progressive Risk Contingencies	$0		
DB-Progressive Management	$0		
Owner Construction Contingency	$968,027		$1,057,570
Non-Taxable Items	$0		$0
Sales Tax	$2,104,006	Sales Tax Escalated	$2,296,703
Construction Subtotal	**$22,432,566**	**Construction Subtotal Escalated**	**$24,487,071**

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

Artwork			
Artwork Subtotal	**$142,287**	**Artwork Subtotal Escalated**	**$142,287**

Agency Project Administration			
Agency Project Administration Subtotal	$1,078,028		
DES Additional Services Subtotal	$205,851		
Other Project Admin Costs	$0		
Project Administration Subtotal	**$1,283,879**	**Project Administration Subtotal Escalated**	**$1,402,638**

Other Costs			
Other Costs Subtotal	**$262,162**	**Other Costs Subtotal Escalated**	**$281,379**

Project Cost Estimate			
Total Project	**$26,273,372**	Total Project Escalated	**$28,599,622**
		Rounded Escalated Total	**$28,600,000**

Funding Summary

	Project Cost (Escalated)	Funded in Prior Biennia	Current Biennium 2025-2027	2027-2029	Out Years
Acquisition					
Acquisition Subtotal	$0				**$0**
Consultant Services					
Consultant Services Subtotal	$2,286,247		$2,286,247		**$0**
Construction					
Construction Subtotal	$24,487,071		$24,487,071		**$0**
Equipment					
Equipment Subtotal	$0		$0		**$0**
Artwork					
Artwork Subtotal	$142,287		$142,287		**$0**
Agency Project Administration					
Project Administration Subtotal	$1,402,638		$1,402,638		**$0**
Other Costs					
Other Costs Subtotal	$281,379		$281,379		**$0**
Project Cost Estimate					
Total Project	**$28,599,622**	**$0**	**$28,599,622**	**$0**	**$0**
	$28,600,000	**$0**	**$28,600,000**	**$0**	**$0**
	Percentage requested as a new appropriation		**100%**		

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

Design, permitting and construction WCUP annex and hot water heating equipment.

Insert Row Here

What has been completed or is underway with a previous appropriation?

None

Insert Row Here

What is planned with a future appropriation?

Insert Row Here

Cost Estimate Details

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

Green cells must be filled in by user

Cost Estimate Details

Consultant Services				
Item	**Base Amount**	**Escalation Factor**	**Escalated Cost**	**Notes**
1) Pre-Schematic Design Services				
Programming/Site Analysis	$261,621			
Environmental Analysis				
Predesign Study				
Other				
Insert Row Here				
Sub TOTAL	**$261,621**	**1.0421**	**$272,636**	Escalated to Design Start
2) Construction Documents				
A/E Basic Design Services	$1,085,667			69% of A/E Basic Services
Other				Balance of design fees
Insert Row Here				
Sub TOTAL	**$1,085,667**	**1.0524**	**$1,142,557**	Escalated to Mid-Design
3) Extra Services				
Civil Design (Above Basic Svcs)				
Geotechnical Investigation				
Commissioning				
Site Survey	$25,000			
Testing				
LEED Services				
Voice/Data Consultant				
Value Engineering				
Constructability Review				
Environmental Mitigation (EIS)				
Landscape Consultant				
Other	$189,928			WSST on design services
Insert Row Here				
Sub TOTAL	**$214,928**	**1.0524**	**$226,191**	Escalated to Mid-Design
4) Other Services				
Bid/Construction/Closeout	$487,763			31% of A/E Basic Services
HVAC Balancing				
Staffing				
Other				
Insert Row Here				
Sub TOTAL	**$487,763**	**1.0925**	**$532,882**	Escalated to Mid-Const.
5) Design Services Contingency				
Design Services Contingency	$102,499			
Other				
Insert Row Here				
Sub TOTAL	**$102,499**	**1.0925**	**$111,981**	Escalated to Mid-Const.

CONSULTANT SERVICES TOTAL	**$2,152,478**		**$2,286,247**	

Green cells must be filled in by user

Cost Estimate Details

Construction Contracts					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Site Work					
G10 - Site Preparation	$753,478				
G20 - Site Improvements	$190,500				
G30 - Site Mechanical Utilities					
G40 - Site Electrical Utilities	$24,000				
G60 - Other Site Construction					
Other					
Insert Row Here					
Sub TOTAL	**$967,978**		**1.0733**	**$1,038,931**	
2) Related Project Costs					
Offsite Improvements					
City Utilities Relocation					
Parking Mitigation					
Stormwater Retention/Detention					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.0733**	**$0**	
3) Facility Construction					
A10 - Foundations	$222,116				
A20 - Basement Construction	$622,200				
B10 - Superstructure	$1,553,213				
B20 - Exterior Closure	$1,094,109				
B30 - Roofing	$172,225				
C10 - Interior Construction	$504,103				
C20 - Stairs					
C30 - Interior Finishes	$638,514				
D10 - Conveying					
D20 - Plumbing Systems	$346,599				
D30 - HVAC Systems	$4,888,738				
D40 - Fire Protection Systems	$135,000				
D50 - Electrical Systems	$1,661,250				
F10 - Special Construction					
F20 - Selective Demolition					
General Conditions	$1,609,551				
D80 Integrated Automation	$275,000				
Z10 - General Requirements	$1,209,667				
Z20-Design Contingency	$1,175,666				
Z20- Insurance & Bonds	$626,659				
Z30 - General Contractor Fee	$1,488,889				
Z30 - WA B&O Tax	$169,056				

Sub TOTAL	**$18,392,555**	**1.0925**	**$20,093,867**	
4) Maximum Allowable Construction Cost				
MACC Sub TOTAL	**$19,360,533**		**$21,132,798**	
	NA		*NA per GSF*	
This Section is Intentionally Left Blank				
7) Owner Construction Contingency				
Allowance for Change Orders	$968,027			
Construction Contingency				
Insert Row Here				
Sub TOTAL	**$968,027**	**1.0925**	**$1,057,570**	
8) Non-Taxable Items				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.0925**	**$0**	
9) Sales Tax				
Sub TOTAL	**$2,104,006**		**$2,296,703**	
CONSTRUCTION CONTRACTS TOTAL	**$22,432,566**		**$24,487,071**	

Green cells must be filled in by user

Cost Estimate Details

Equipment					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Equipment					
E10 - Equipment					
E20 - Furnishings					
F10 - Special Construction					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.0925**	**$0**	
2) Non Taxable Items					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.0925**	**$0**	
3) Sales Tax					
Sub TOTAL	**$0**			**$0**	
EQUIPMENT TOTAL	**$0**			**$0**	

Green cells must be filled in by user

Cost Estimate Details

Artwork					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Artwork					
Project Artwork	$0				0.5% of total project cost for new construction
Higher Ed Artwork	$142,287				0.5% of total project cost for new and renewal construction
Other					
Insert Row Here					
ARTWORK TOTAL	**$142,287**		**NA**	**$142,287**	

Green cells must be filled in by user

Cost Estimate Details

Project Management					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Agency Project Management					
Agency Project Management	$1,078,028				
Additional Services	$205,851				Balance of UW PDG fees
Other					
Insert Row Here					
Subtotal of Other	*$0*				
PROJECT MANAGEMENT TOTAL	**$1,283,879**		**1.0925**	**$1,402,638**	

Green cells must be filled in by user

Cost Estimate Details

Other Costs				
Item	**Base Amount**	**Escalation Factor**	**Escalated Cost**	**Notes**
Mitigation Costs				
Hazardous Material Remediation/Removal				
Historic and Archeological Mitigation				
Permits	$109,719			
In-Plant Services	$54,178			UW Engineering Services
EH&S	$5,418			UW EH&S support
Security & Traffic Control	$25,000			UW staff
Builder's Risk Insurance	$67,847			UW places policy
OTHER COSTS TOTAL	**$262,162**	**1.0733**	**$281,379**	

Green cells must be filled in by user

STATE OF WASHINGTON
AGENCY / INSTITUTION PROJECT COST SUMMARY

Updated June 2024

Agency	University of Washington	
Project Name	Chilled Water Thermal Energy Storage	
OFM Project Number	40000155	

Contact Information		
Name	John Wetzel	
Phone Number	206-616-5924	
Email	wetzej@uw.edu	

Statistics			
Gross Square Feet	N/A	MACC per Gross Square Foot	
Usable Square Feet	N/A	Escalated MACC per Gross Square Foot	
Alt Gross Unit of Measure			
Space Efficiency		A/E Fee Class	B
Construction Type	Other Sch. B Projects	A/E Fee Percentage	6.65%
Remodel	No	Projected Life of Asset (Years)	
Additional Project Details			
Procurement Approach	DB-Progressive	Art Requirement Applies	Yes
Inflation Rate	3.33%	Higher Ed Institution	Yes
Sales Tax Rate %	10.35%	Location Used for Tax Rate	Seattle
Contingency Rate	5%		
Base Month (Estimate Date)	July-24	OFM UFI# (from FPMT, if available)	
Project Administered By	Agency		

Schedule			
Predesign Start	July-25	Predesign End	July-25
Design Start	July-25	Design End	May-26
Construction Start	November-26	Construction End	March-28
Construction Duration	15 Months		

Green cells must be filled in by user

Project Cost Summary

Total Project	$66,977,258	Total Project Escalated	$73,299,763
		Rounded Escalated Total	$73,300,000

Amount funded in Prior Biennia	**$0**
Amount in current Biennium	**$73,300,000**
Next Biennium	**$0**
Out Years	**$0**

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

Consultant Services			
Predesign Services	$713,551		
Design Phase Services	$3,199,168		
Extra Services	$536,968		
Other Services	$1,082,139		
Design Services Contingency	$276,591		
Consultant Services Subtotal	**$5,808,417**	**Consultant Services Subtotal Escalated**	**$6,139,501**

Construction			
Maximum Allowable Construction Cost (MACC)	$49,993,150	Maximum Allowable Construction Cost (MACC) Escalated	$54,914,199
DB-Progressive Risk Contingencies	$0		
DB-Progressive Management	$0		
Owner Construction Contingency	$2,499,658		$2,755,873
Non-Taxable Items	$0		$0
Sales Tax	$5,433,006	Sales Tax Escalated	$5,968,852
Construction Subtotal	**$57,925,813**	**Construction Subtotal Escalated**	**$63,638,924**

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

Artwork			
Artwork Subtotal	**$364,675**	**Artwork Subtotal Escalated**	**$364,675**

Agency Project Administration			
Agency Project Administration Subtotal	$2,154,418		
DES Additional Services Subtotal	$0		
Other Project Admin Costs	$0		
Project Administration Subtotal	**$2,154,418**	**Project Administration Subtotal Escalated**	**$2,375,247**

Other Costs			
Other Costs Subtotal	**$723,934**	**Other Costs Subtotal Escalated**	**$781,415**

Project Cost Estimate			
Total Project	**$66,977,258**	Total Project Escalated	**$73,299,763**
		Rounded Escalated Total	**$73,300,000**

Funding Summary

	Project Cost (Escalated)	Funded in Prior Biennia	Current Biennium 2025-2027	2027-2029	Out Years
Acquisition					
Acquisition Subtotal	$0				**$0**
Consultant Services					
Consultant Services Subtotal	$6,139,501		$6,139,501		**$0**
Construction					
Construction Subtotal	$63,638,924		$63,638,924		**$0**
Equipment					
Equipment Subtotal	$0		$0		**$0**
Artwork					
Artwork Subtotal	$364,675		$364,675		**$0**
Agency Project Administration					
Project Administration Subtotal	$2,375,247		$2,375,247		**$0**
Other Costs					
Other Costs Subtotal	$781,415		$781,415		**$0**
Project Cost Estimate					
Total Project	**$73,299,763**	**$0**	**$73,299,763**	**$0**	**$0**
	$73,300,000	**$0**	**$73,300,000**	**$0**	**$0**
	Percentage requested as a new appropriation		**100%**		

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

Design and construction of first phase of the Thermal Energy Storage facility (Chilled Water storage tank)

Insert Row Here

What has been completed or is underway with a previous appropriation?

None

Insert Row Here

What is planned with a future appropriation?

Phase 2 (hot water thernal energy storage tank and office building). Timing and amount of Phase 2 is unknown as of 8/16/24

Insert Row Here

Cost Estimate Details

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

Green cells must be filled in by user

Cost Estimate Details

Consultant Services				
Item	**Base Amount**	**Escalation Factor**	**Escalated Cost**	**Notes**
1) Pre-Schematic Design Services				
Programming/Site Analysis	$713,551			
Environmental Analysis				
Predesign Study				
Other				
Insert Row Here				
Sub TOTAL	**$713,551**	**1.0311**	**$735,743**	Escalated to Design Start
2) Construction Documents				
A/E Basic Design Services	$2,408,632			69% of A/E Basic Services
Other	$790,535			Balance of design fees
Insert Row Here				
Sub TOTAL	**$3,199,168**	**1.0454**	**$3,344,410**	Escalated to Mid-Design
3) Extra Services				
Civil Design (Above Basic Svcs)				
Geotechnical Investigation				
Commissioning				
Site Survey	$20,000			
Testing				
LEED Services				
Voice/Data Consultant				
Value Engineering				
Constructability Review				
Environmental Mitigation (EIS)				
Landscape Consultant				
Other	$516,968			WSST on design services
Insert Row Here				
Sub TOTAL	**$536,968**	**1.0454**	**$561,347**	Escalated to Mid-Design
4) Other Services				
Bid/Construction/Closeout	$1,082,139			31% of A/E Basic Services
HVAC Balancing				
Staffing				
Other				
Insert Row Here				
Sub TOTAL	**$1,082,139**	**1.1025**	**$1,193,059**	Escalated to Mid-Const.
5) Design Services Contingency				
Design Services Contingency	$276,591			
Other				
Insert Row Here				
Sub TOTAL	**$276,591**	**1.1025**	**$304,942**	Escalated to Mid-Const.

CONSULTANT SERVICES TOTAL	**$5,808,417**		**$6,139,501**	

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Cost Estimate Details

Construction Contracts				
Item	**Base Amount**	**Escalation Factor**	**Escalated Cost**	**Notes**
1) Site Work				
G10 - Site Preparation	$1,007,081			
G20 - Site Improvements	$266,170			
G30 - Site Mechanical Utilities	$7,318,320			
G40 - Site Electrical Utilities	$107,125			
G60 - Other Site Construction	$100,000			
Other				
Insert Row Here				
Sub TOTAL	**$8,798,696**	**1.0794**	**$9,497,313**	
2) Related Project Costs				
Offsite Improvements				
City Utilities Relocation				
Parking Mitigation				
Stormwater Retention/Detention				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.0794**	**$0**	
3) Facility Construction				
A10 - Foundations	$3,264,551			
A20 - Basement Construction				
B10 - Superstructure	$1,916,800			
B20 - Exterior Closure	$277,541			
B30 - Roofing	$77,700			
C10 - Interior Construction	$3,773,935			
C20 - Stairs				
C30 - Interior Finishes	$159,718			
D10 - Conveying				
D20 - Plumbing Systems	$76,380			
D30 - HVAC Systems	$10,277,568			
D40 - Fire Protection Systems	$28,800			
D50 - Electrical Systems	$3,329,200			
F10 - Special Construction				
F20 - Selective Demolition	$1,411,667			
General Conditions	$3,602,763			
D80 Integrated Automation	$2,285,000			
Z10 - General Requirements	$1,564,333			
Z20-Design Contingency	$3,199,265			
Z20- Insurance & Bonds	$1,641,652			
Z30 - General Contractor Fee	$3,868,348			
Z30 - WA B&O Tax	$439,233			

Sub TOTAL	**$41,194,454**	**1.1025**	**$45,416,886**	
4) Maximum Allowable Construction Cost				
MACC Sub TOTAL	**$49,993,150**		**$54,914,199**	
	NA		*NA per GSF*	
This Section is Intentionally Left Blank				
7) Owner Construction Contingency				
Allowance for Change Orders	$2,499,658			
Construction Contingency				
Insert Row Here				
Sub TOTAL	**$2,499,658**	**1.1025**	**$2,755,873**	
8) Non-Taxable Items				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.1025**	**$0**	
9) Sales Tax				
Sub TOTAL	**$5,433,006**		**$5,968,852**	
CONSTRUCTION CONTRACTS TOTAL	**$57,925,813**		**$63,638,924**	

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Cost Estimate Details

Equipment					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Equipment					
E10 - Equipment					
E20 - Furnishings					
F10 - Special Construction					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.1025**	**$0**	
2) Non Taxable Items					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.1025**	**$0**	
3) Sales Tax					
Sub TOTAL	**$0**			**$0**	
EQUIPMENT TOTAL	**$0**			**$0**	

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Cost Estimate Details

Artwork					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Artwork					
Project Artwork	$0				0.5% of total project cost for new construction
Higher Ed Artwork	$364,675				0.5% of total project cost for new and renewal construction
Other					
Insert Row Here					
ARTWORK TOTAL	**$364,675**		**NA**	**$364,675**	

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Cost Estimate Details

Project Management					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Agency Project Management					
Agency Project Management	$2,154,418				
Additional Services					Balance of UW PDG fees
Other					
Insert Row Here					
Subtotal of Other	*$0*				
PROJECT MANAGEMENT TOTAL	**$2,154,418**		**1.1025**	**$2,375,247**	

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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				
Permits	$368,033			
In-Plant Services	$140,761			UW Engineering Services
EH&S	$14,076			UW EH&S support
Security & Traffic Control	$25,000			UW staff
Builder's Risk Insurance	$176,064			UW places policy
OTHER COSTS TOTAL	**$723,934**	**1.0794**	**$781,415**	

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STATE OF WASHINGTON
AGENCY / INSTITUTION PROJECT COST SUMMARY

Updated June 2024

Agency	University of Washington	
Project Name	West Receiving Station Electrical Infrastructure Upgrades	
OFM Project Number	40000156	

Contact Information		
Name	John Wetzel	
Phone Number	(206) 616-5924	
Email	wetzej@uw.edu	

Statistics			
Gross Square Feet	N/A	MACC per Gross Square Foot	
Usable Square Feet	N/A	Escalated MACC per Gross Square Foot	
Alt Gross Unit of Measure			
Space Efficiency		A/E Fee Class	B
Construction Type	Other Sch. B Projects	A/E Fee Percentage	7.15%
Remodel	No	Projected Life of Asset (Years)	
Additional Project Details			
Procurement Approach	DB-Progressive	Art Requirement Applies	No
Inflation Rate	3.33%	Higher Ed Institution	Yes
Sales Tax Rate %	10.35%	Location Used for Tax Rate	Seattle
Contingency Rate	5%		
Base Month (Estimate Date)	July-24	OFM UFI# (from FPMT, if available)	
Project Administered By	Agency		

Schedule			
Predesign Start	July-25	Predesign End	July-25
Design Start	November-25	Design End	June-27
Construction Start	September-28	Construction End	January-30
Construction Duration	16 Months		

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Project Cost Summary

Total Project	$43,265,877	Total Project Escalated	$50,100,037
		Rounded Escalated Total	$50,100,000

Amount funded in Prior Biennia	**$0**
Amount in current Biennium	**$50,100,000**
Next Biennium	**$0**
Out Years	**$0**

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

Consultant Services			
Predesign Services	$458,965		
Design Phase Services	$2,001,491		
Extra Services	$482,520		
Other Services	$752,297		
Design Services Contingency	$184,764		
Consultant Services Subtotal	**$3,880,037**	**Consultant Services Subtotal Escalated**	**$4,239,317**

Construction			
Maximum Allowable Construction Cost (MACC)	$32,324,554	Maximum Allowable Construction Cost (MACC) Escalated	$37,622,857
DB-Progressive Risk Contingencies	$0		
DB-Progressive Management	$0		
Owner Construction Contingency	$1,616,228		$1,893,250
Non-Taxable Items	$0		$0
Sales Tax	$3,512,871	Sales Tax Escalated	$4,089,917
Construction Subtotal	**$37,453,653**	**Construction Subtotal Escalated**	**$43,606,024**

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	$1,584,013		
DES Additional Services Subtotal	$0		
Other Project Admin Costs	$0		
Project Administration Subtotal	**$1,584,013**	**Project Administration Subtotal Escalated**	**$1,855,514**

Other Costs			
Other Costs Subtotal	**$348,174**	**Other Costs Subtotal Escalated**	**$399,182**

Project Cost Estimate			
Total Project	**$43,265,877**	Total Project Escalated	**$50,100,037**
		Rounded Escalated Total	**$50,100,000**

Funding Summary

	Project Cost (Escalated)	Funded in Prior Biennia	Current Biennium 2025-2027	2027-2029	Out Years
Acquisition					
Acquisition Subtotal	$0				**$0**
Consultant Services					
Consultant Services Subtotal	$4,239,317		$4,239,317		**$0**
Construction					
Construction Subtotal	$43,606,024		$43,606,024		**$0**
Equipment					
Equipment Subtotal	$0		$0		**$0**
Artwork					
Artwork Subtotal	$0		$0		**$0**
Agency Project Administration					
Project Administration Subtotal	$1,855,514		$1,855,514		**$0**
Other Costs					
Other Costs Subtotal	$399,182		$399,182		**$0**
Project Cost Estimate					
Total Project	**$50,100,037**	**$0**	**$50,100,037**	**$0**	**$0**
	$50,100,000	**$0**	**$50,100,000**	**$0**	**$0**
	Percentage requested as a new appropriation		**100%**		

What is planned for the requested new appropriation? (*Ex. Acquisition and design, phase 1 construction, etc.*)
Planning with Seattle City Light, design, permitting and construction of new UW electrical substation
and eletrical equipment upgades to UW West Receiving Station.
Insert Row Here

What has been completed or is underway with a previous appropriation?
None
Insert Row Here

What is planned with a future appropriation?
Insert Row Here

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	$458,965			
Environmental Analysis				
Predesign Study				
Other				
Insert Row Here				
Sub TOTAL	**$458,965**	**1.0448**	**$479,527**	Escalated to Design Start
2) Construction Documents				
A/E Basic Design Services	$1,674,468			69% of A/E Basic Services
Other	$327,022			Balance of design fees
Insert Row Here				
Sub TOTAL	**$2,001,491**	**1.0717**	**$2,144,998**	Escalated to Mid-Design
3) Extra Services				
Civil Design (Above Basic Svcs)				
Geotechnical Investigation				
Commissioning				
Site Survey	$150,000			
Testing				
LEED Services				
Voice/Data Consultant				
Value Engineering				
Constructability Review				
Environmental Mitigation (EIS)				
Landscape Consultant				
Other	$332,520			WSST on design services
Insert Row Here				
Sub TOTAL	**$482,520**	**1.0717**	**$517,117**	Escalated to Mid-Design
4) Other Services				
Bid/Construction/Closeout	$752,297			31% of A/E Basic Services
HVAC Balancing				
Staffing				
Other				
Insert Row Here				
Sub TOTAL	**$752,297**	**1.1714**	**$881,242**	Escalated to Mid-Const.
5) Design Services Contingency				
Design Services Contingency	$184,764			
Other				
Insert Row Here				
Sub TOTAL	**$184,764**	**1.1714**	**$216,433**	Escalated to Mid-Const.

CONSULTANT SERVICES TOTAL	**$3,880,037**		**$4,239,317**	

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Cost Estimate Details

Construction Contracts					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Site Work					
G10 - Site Preparation	$1,004,395				
G20 - Site Improvements	$1,242,475				
G30 - Site Mechanical Utilities					
G40 - Site Electrical Utilities	$7,477,090				
G60 - Other Site Construction					
Other					
Insert Row Here					
Sub TOTAL	**$9,723,960**		**1.1465**	**$11,148,521**	
2) Related Project Costs					
Offsite Improvements					
City Utilities Relocation					
Parking Mitigation					
Stormwater Retention/Detention					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.1465**	**$0**	
3) Facility Construction					
A10 - Foundations	$1,239,096				
A20 - Basement Construction					
B10 - Superstructure	$112,000				
B20 - Exterior Closure	$1,294,080				
B30 - Roofing	$189,800				
C10 - Interior Construction	$41,569				
C20 - Stairs					
C30 - Interior Finishes	$142,678				
D10 - Conveying					
D20 - Plumbing Systems	$20,000				
D30 - HVAC Systems	$128,512				
D40 - Fire Protection Systems					
D50 - Electrical Systems	$9,626,000				
F10 - Special Construction					
F20 - Selective Demolition	$415,538				
General Conditions	$2,225,949				
D80 Integrated Automation	$15,000				
Z10 - General Requirements	$1,586,500				
Z20-Design Contingency	$1,544,156				
Z20- Insurance & Bonds	$1,100,317				
Z30 - General Contractor Fee	$2,621,715				
Z30 - WA B&O Tax	$297,684				

Sub TOTAL	**$22,600,594**	**1.1714**	**$26,474,336**	
4) Maximum Allowable Construction Cost				
MACC Sub TOTAL	**$32,324,554**		**$37,622,857**	
	NA			*NA per GSF*
This Section is Intentionally Left Blank				
7) Owner Construction Contingency				
Allowance for Change Orders	$1,616,228			
Construction Contingency				
Insert Row Here				
Sub TOTAL	**$1,616,228**	**1.1714**	**$1,893,250**	
8) Non-Taxable Items				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.1714**	**$0**	
9) Sales Tax				
Sub TOTAL	**$3,512,871**		**$4,089,917**	
CONSTRUCTION CONTRACTS TOTAL	**$37,453,653**		**$43,606,024**	

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Cost Estimate Details

Equipment					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Equipment					
E10 - Equipment					
E20 - Furnishings					
F10 - Special Construction					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.1714**	**$0**	
2) Non Taxable Items					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.1714**	**$0**	
3) Sales Tax					
Sub TOTAL	**$0**			**$0**	
EQUIPMENT TOTAL	**$0**			**$0**	

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Cost Estimate Details

Artwork					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Artwork					
Project Artwork	$0				0.5% of total project cost for new construction
Higher Ed Artwork	$250,500				0.5% of total project cost for new and renewal construction
Other	-$250,500				
Insert Row Here					
ARTWORK TOTAL	**$0**		**NA**	**$0**	

Green cells must be filled in by user

Cost Estimate Details

Project Management					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Agency Project Management					
Agency Project Management	$1,584,013				
Additional Services					Balance of UW PDG fees
Other					
Insert Row Here					
Subtotal of Other	*$0*				
PROJECT MANAGEMENT TOTAL	**$1,584,013**		**1.1714**	**$1,855,514**	

Green cells must be filled in by user

Cost Estimate Details

Other Costs				
Item	**Base Amount**	**Escalation Factor**	**Escalated Cost**	**Notes**
Mitigation Costs				
Hazardous Material Remediation/Removal				
Historic and Archeological Mitigation				
Permits	$39,272			
In-Plant Services	$95,399			UW Engineering Services
EH&S	$9,540			UW EH&S support
Security & Traffic Control	$84,129			UW staff
Builder's Risk Insurance	$119,834			UW places policy
OTHER COSTS TOTAL	**$348,174**	**1.1465**	**$399,182**	

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STATE OF WASHINGTON
AGENCY / INSTITUTION PROJECT COST SUMMARY

Updated June 2024

Agency	University of Washington	
Project Name	Lake Interface Advancement	
OFM Project Number	40000157	

Contact Information		
Name	John Wetzel	
Phone Number	(206) 616-5924	
Email	wetzej@uw.edu	

Statistics			
Gross Square Feet	N/A	MACC per Gross Square Foot	
Usable Square Feet	N/A	Escalated MACC per Gross Square Foot	
Alt Gross Unit of Measure			
Space Efficiency		A/E Fee Class	B
Construction Type	Other Sch. B Projects	A/E Fee Percentage	14.08%
Remodel	No	Projected Life of Asset (Years)	
Additional Project Details			
Procurement Approach	DBB	Art Requirement Applies	No
Inflation Rate	3.33%	Higher Ed Institution	Yes
Sales Tax Rate %	10.35%	Location Used for Tax Rate	Seattle
Contingency Rate	5%		
Base Month (Estimate Date)	July-24	OFM UFI# (from FPMT, if available)	
Project Administered By	Agency		

Schedule			
Predesign Start	July-25	Predesign End	July-25
Design Start	July-25	Design End	June-27
Construction Start	June-27	Construction End	June-27
Construction Duration	0 Months		

Green cells must be filled in by user

Project Cost Summary

Total Project	$953,500	Total Project Escalated	$1,000,039
		Rounded Escalated Total	$1,000,000

Amount funded in Prior Biennia	**$0**
Amount in current Biennium	**$1,000,000**
Next Biennium	**$0**
Out Years	**$0**

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

Consultant Services			
Predesign Services	$650,000		
Design Phase Services	$0		
Extra Services	$100,000		
Other Services	$0		
Design Services Contingency	$37,500		
Consultant Services Subtotal	**$787,500**	**Consultant Services Subtotal Escalated**	**$817,787**

Construction			
Maximum Allowable Construction Cost (MACC)	$0	Maximum Allowable Construction Cost (MACC) Escalated	$0
DBB Risk Contingencies	$0		
DBB Management	$0		
Owner Construction Contingency	$0		$0
Non-Taxable Items	$0		$0
Sales Tax	$0	Sales Tax Escalated	$0
Construction Subtotal	**$0**	**Construction Subtotal Escalated**	**$0**

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	$34,740		
DES Additional Services Subtotal	$50,260		
Other Project Admin Costs	$0		
Project Administration Subtotal	**$85,000**	**Project Administration Subtotal Escalated**	**$93,322**

Other Costs			
Other Costs Subtotal	**$81,000**	**Other Costs Subtotal Escalated**	**$88,930**

Project Cost Estimate			
Total Project	**$953,500**	Total Project Escalated	**$1,000,039**
		Rounded Escalated Total	**$1,000,000**

Funding Summary

	Project Cost (Escalated)	Funded in Prior Biennia	Current Biennium 2025-2027	2027-2029	Out Years
Acquisition					
Acquisition Subtotal	$0				**$0**
Consultant Services					
Consultant Services Subtotal	$817,787		$817,787		**$0**
Construction					
Construction Subtotal	$0		$0		**$0**
Equipment					
Equipment Subtotal	$0		$0		**$0**
Artwork					
Artwork Subtotal	$0		$0		**$0**
Agency Project Administration					
Project Administration Subtotal	$93,322		$93,322		**$0**
Other Costs					
Other Costs Subtotal	$88,930		$88,930		**$0**
Project Cost Estimate					
Total Project	**$1,000,039**	**$0**	**$1,000,039**	**$0**	**$0**
	$1,000,000	**$0**	**$1,000,000**	**$0**	**$0**
	Percentage requested as a new appropriation		**100%**		

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

Studies for environmental permitting to advance the Lake Interface project. The Lake Inteface project is a non-consumptive use of Lake Washington water.
The lake water will be an energy source for heat pump technology for campus heating & cooling. The project may have a positive impact on salmon migration
by reducing water temperatures in/near the Lake Washington ship canal and additional studies are required.

What has been completed or is underway with a previous appropriation?

None

Insert Row Here

What is planned with a future appropriation?

Insert Row Here

Cost Estimate Details

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

Green cells must be filled in by user

Cost Estimate Details

Consultant Services				
Item	**Base Amount**	**Escalation Factor**	**Escalated Cost**	**Notes**
1) Pre-Schematic Design Services				
Programming/Site Analysis				
Environmental Analysis	$590,000			
Predesign Study				
Permitting assistance	$60,000			
Sub TOTAL	**$650,000**	**1.0311**	**$670,215**	Escalated to Design Start
2) Construction Documents				
A/E Basic Design Services	$0			69% of A/E Basic Services
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.0640**	**$0**	Escalated to Mid-Design
3) Extra Services				
Civil Design (Above Basic Svcs)				
Geotechnical Investigation	$50,000			hydrological studies
Commissioning				
Site Survey				
Testing	$50,000			soil testing
LEED Services				
Voice/Data Consultant				
Value Engineering				
Constructability Review				
Environmental Mitigation (EIS)				
Landscape Consultant				
Other				
Insert Row Here				
Sub TOTAL	**$100,000**	**1.0640**	**$106,400**	Escalated to Mid-Design
4) Other Services				
Bid/Construction/Closeout	$0			31% of A/E Basic Services
HVAC Balancing				
Staffing				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.0979**	**$0**	Escalated to Mid-Const.
5) Design Services Contingency				
Design Services Contingency	$37,500			
Other				
Insert Row Here				
Sub TOTAL	**$37,500**	**1.0979**	**$41,172**	Escalated to Mid-Const.

CONSULTANT SERVICES TOTAL	**$787,500**		**$817,787**	

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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**		**1.0979**	**$0**	
2) Related Project Costs					
Offsite Improvements					
City Utilities Relocation					
Parking Mitigation					
Stormwater Retention/Detention					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.0979**	**$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					
D80 Integrated Automation					
Z10 - General Requirements					
Z20-Design Contingency					
Z20- Insurance & Bonds					
Z30 - General Contractor Fee					
Z30 - WA B&O Tax					

Sub TOTAL	**$0**	**1.0979**	**$0**	
4) Maximum Allowable Construction Cost				
MACC Sub TOTAL	**$0**		**$0**	
	NA		*NA per GSF*	
This Section is Intentionally Left Blank				
7) Owner Construction Contingency				
Allowance for Change Orders	$0			
Construction Contingency				
Insert Row Here				
Sub TOTAL	**$0**	**1.0979**	**$0**	
8) Non-Taxable Items				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.0979**	**$0**	
9) Sales Tax				
Sub TOTAL	**$0**		**$0**	
CONSTRUCTION CONTRACTS TOTAL	**$0**		**$0**	

Green cells must be filled in by user

Cost Estimate Details

Equipment					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Equipment					
E10 - Equipment					
E20 - Furnishings					
F10 - Special Construction					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.0979**	**$0**	
2) Non Taxable Items					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.0979**	**$0**	
3) Sales Tax					
Sub TOTAL	**$0**			**$0**	
EQUIPMENT TOTAL	**$0**			**$0**	

Green cells must be filled in by user

Cost Estimate Details

Artwork					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Artwork					
Project Artwork	$0				0.5% of total project cost for new construction
Higher Ed Artwork	$5,000				0.5% of total project cost for new and renewal construction
Other	-$5,000				consultant services only
Insert Row Here					
ARTWORK TOTAL	**$0**		**NA**	**$0**	

Green cells must be filled in by user

Cost Estimate Details

Project Management					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Agency Project Management					
Agency Project Management	$34,740				
Additional Services	$50,260				Balance of UW PDG fees
Other					
Insert Row Here					
Subtotal of Other	*$0*				
PROJECT MANAGEMENT TOTAL	**$85,000**		**1.0979**	**$93,322**	

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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					
Permits					
In-Plant Services	$75,000				UW Engineering Services
EH&S	$6,000				UW EH&S support
Security & Traffic Control					UW staff
Builder's Risk Insurance					UW places policy
OTHER COSTS TOTAL	**$81,000**		**1.0979**	**$88,930**	

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STATE OF WASHINGTON
AGENCY / INSTITUTION PROJECT COST SUMMARY

Updated June 2024

Agency	University of Washington	
Project Name	Power Plant Boiler Removal	
OFM Project Number	40000158	

Contact Information		
Name	John Wetzel	
Phone Number	(206) 616-5924	
Email	wetzej@uw.edu	

Statistics			
Gross Square Feet	N/A	MACC per Gross Square Foot	
Usable Square Feet	N/A	Escalated MACC per Gross Square Foot	
Alt Gross Unit of Measure			
Space Efficiency		A/E Fee Class	B
Construction Type	Other Sch. B Projects	A/E Fee Percentage	13.41%
Remodel	Yes	Projected Life of Asset (Years)	
Additional Project Details			
Procurement Approach	DB-Progressive	Art Requirement Applies	No
Inflation Rate	3.33%	Higher Ed Institution	Yes
Sales Tax Rate %	10.35%	Location Used for Tax Rate	Seattle
Contingency Rate	5%		
Base Month (Estimate Date)	July-24	OFM UFI# (from FPMT, if available)	
Project Administered By	Agency		

Schedule			
Predesign Start	July-25	Predesign End	July-25
Design Start	November-25	Design End	February-26
Construction Start	June-26	Construction End	September-26
Construction Duration	3 Months		

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Project Cost Summary

Total Project	$1,874,624	Total Project Escalated	$2,000,072
		Rounded Escalated Total	$2,000,000

Amount funded in Prior Biennia	**$0**
Amount in current Biennium	**$2,000,000**
Next Biennium	**$0**
Out Years	**$0**

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

Consultant Services			
Predesign Services	$15,500		
Design Phase Services	$125,964		
Extra Services	$20,499		
Other Services	$56,592		
Design Services Contingency	$10,928		
Consultant Services Subtotal	**$229,482**	**Consultant Services Subtotal Escalated**	**$242,008**

Construction			
Maximum Allowable Construction Cost (MACC)	$1,296,516	Maximum Allowable Construction Cost (MACC) Escalated	$1,385,494
DB-Progressive Risk Contingencies	$0		
DB-Progressive Management	$0		
Owner Construction Contingency	$64,826		$69,293
Non-Taxable Items	$0		$0
Sales Tax	$140,899	Sales Tax Escalated	$150,570
Construction Subtotal	**$1,502,241**	**Construction Subtotal Escalated**	**$1,605,357**

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	$118,539		
DES Additional Services Subtotal	$15,474		
Other Project Admin Costs	$0		
Project Administration Subtotal	**$134,013**	**Project Administration Subtotal Escalated**	**$143,247**

Other Costs			
Other Costs Subtotal	**$8,888**	**Other Costs Subtotal Escalated**	**$9,459**

Project Cost Estimate			
Total Project	**$1,874,624**	Total Project Escalated	**$2,000,072**
		Rounded Escalated Total	**$2,000,000**

Funding Summary

	Project Cost (Escalated)	Funded in Prior Biennia	Current Biennium 2025-2027	2027-2029	Out Years
Acquisition					
Acquisition Subtotal	$0				**$0**
Consultant Services					
Consultant Services Subtotal	$242,008		$242,008		**$0**
Construction					
Construction Subtotal	$1,605,357		$1,605,357		**$0**
Equipment					
Equipment Subtotal	$0		$0		**$0**
Artwork					
Artwork Subtotal	$0		$0		**$0**
Agency Project Administration					
Project Administration Subtotal	$143,247		$143,247		**$0**
Other Costs					
Other Costs Subtotal	$9,459		$9,459		**$0**
Project Cost Estimate					
Total Project	**$2,000,072**	**$0**	**$2,000,072**	**$0**	**$0**
	$2,000,000	**$0**	**$2,000,000**	**$0**	**$0**
Percentage requested as a new appropriation			**100%**		

What is planned for the requested new appropriation? (*Ex. Acquisition and design, phase 1 construction, etc.*)
Design, permitting and construction to remove a boiler in the main power plant.
Insert Row Here

What has been completed or is underway with a previous appropriation?
None
Insert Row Here

What is planned with a future appropriation?
Insert Row Here

Cost Estimate Details

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

Green cells must be filled in by user

Cost Estimate Details

Consultant Services				
Item	**Base Amount**	**Escalation Factor**	**Escalated Cost**	**Notes**
1) Pre-Schematic Design Services				
Programming/Site Analysis	$15,500			
Environmental Analysis				
Predesign Study				
Other				
Insert Row Here				
Sub TOTAL	**$15,500**	**1.0448**	**$16,195**	Escalated to Design Start
2) Construction Documents				
A/E Basic Design Services	$125,964			69% of A/E Basic Services
Other				Balance of design fees
Insert Row Here				
Sub TOTAL	**$125,964**	**1.0490**	**$132,136**	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				
Other	$20,499			WSST on design services
Insert Row Here				
Sub TOTAL	**$20,499**	**1.0490**	**$21,504**	Escalated to Mid-Design
4) Other Services				
Bid/Construction/Closeout	$56,592			31% of A/E Basic Services
HVAC Balancing				
Staffing				
Other				
Insert Row Here				
Sub TOTAL	**$56,592**	**1.0689**	**$60,492**	Escalated to Mid-Const.
5) Design Services Contingency				
Design Services Contingency	$10,928			
Other				
Insert Row Here				
Sub TOTAL	**$10,928**	**1.0689**	**$11,681**	Escalated to Mid-Const.

CONSULTANT SERVICES TOTAL	**$229,482**		**$242,008**	

Green cells must be filled in by user

Cost Estimate Details

Construction Contracts				
Item	**Base Amount**	**Escalation Factor**	**Escalated Cost**	**Notes**
1) Site Work				
G10 - Site Preparation	$25,000			
G20 - Site Improvements	$50,000			
G30 - Site Mechanical Utilities				
G40 - Site Electrical Utilities				
G60 - Other Site Construction				
Other				
Insert Row Here				
Sub TOTAL	**$75,000**	**1.0642**	**$79,815**	
2) Related Project Costs				
Offsite Improvements				
City Utilities Relocation				
Parking Mitigation				
Stormwater Retention/Detention				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.0642**	**$0**	
3) Facility Construction				
A10 - Foundations				
A20 - Basement Construction				
B10 - Superstructure				
B20 - Exterior Closure	$135,000			
B30 - Roofing				
C10 - Interior Construction				
C20 - Stairs				
C30 - Interior Finishes	$125,000			
D10 - Conveying				
D20 - Plumbing Systems				
D30 - HVAC Systems				
D40 - Fire Protection Systems				
D50 - Electrical Systems	$25,000			
F10 - Special Construction				
F20 - Selective Demolition	$365,000			
General Conditions	$241,700			
D80 Integrated Automation	$50,000			
Z10 - General Requirements	$102,500			
Z20-Design Contingency	$28,040			
Z20- Insurance & Bonds	$40,047			
Z30 - General Contractor Fee	$98,091			
Z30 - WA B&O Tax	$11,138			

Sub TOTAL	**$1,221,516**	**1.0689**	**$1,305,679**	
4) Maximum Allowable Construction Cost				
MACC Sub TOTAL	**$1,296,516**		**$1,385,494**	
	NA		*NA per GSF*	
This Section is Intentionally Left Blank				
7) Owner Construction Contingency				
Allowance for Change Orders	$64,826			
Construction Contingency				
Insert Row Here				
Sub TOTAL	**$64,826**	**1.0689**	**$69,293**	
8) Non-Taxable Items				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.0689**	**$0**	
9) Sales Tax				
Sub TOTAL	**$140,899**		**$150,570**	
CONSTRUCTION CONTRACTS TOTAL	**$1,502,241**		**$1,605,357**	

Green cells must be filled in by user

Cost Estimate Details

Equipment					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Equipment					
E10 - Equipment					
E20 - Furnishings					
F10 - Special Construction					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.0689**	**$0**	
2) Non Taxable Items					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.0689**	**$0**	
3) Sales Tax					
Sub TOTAL	**$0**			**$0**	
EQUIPMENT TOTAL	**$0**			**$0**	

Green cells must be filled in by user

Cost Estimate Details

Artwork					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Artwork					
Project Artwork	$0				0.5% of total project cost for new construction
Higher Ed Artwork	$10,000				0.5% of total project cost for new and renewal construction
Other	-$10,000				no art program
Insert Row Here					
ARTWORK TOTAL	**$0**		**NA**	**$0**	

Green cells must be filled in by user

Cost Estimate Details

Project Management					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Agency Project Management					
Agency Project Management	$118,539				
Additional Services	$15,474				Balance of UW PDG fees
Other					
Insert Row Here					
Subtotal of Other	*$0*				
PROJECT MANAGEMENT TOTAL	**$134,013**		**1.0689**	**$143,247**	

Green cells must be filled in by user

Cost Estimate Details

Other Costs				
Item	**Base Amount**	**Escalation Factor**	**Escalated Cost**	**Notes**
Mitigation Costs				
Hazardous Material Remediation/Removal				
Historic and Archeological Mitigation				
Permits	$500			
Inplant Services	$3,569			UW Engineering Services
EH&S	$357			UW EH&S support
Security & Traffic Control				UW staff
Builder's Risk Insurance	$4,462			UW places policy
OTHER COSTS TOTAL	**$8,888**	**1.0642**	**$9,459**	

Green cells must be filled in by user

Availability of Space/Campus Utilization Template

Project name:	Clean Energy Transformation 25-27	CBS/OFM Project #:	40000148
Institution:	University of Washington	Category:	Infrastructure
Campus/Location:	Seattle Campus		

Enrollment

2023 fall on-campus student FTE:	50,097	Expected 2024 fall on-campus student FTE:	50,600
		% increase budgeted:	1.00%

Enter the average number of hours per week each for (a) classroom seat and (b) classroom lab is expected to be utilized in Fall 2024 for the campus where the project is located.

(a) General University Classroom Utilization	
Fall 2023 Weekly Contact Hours	591,757
Multiply by % FTE Increase Budgeted	1.00%
Expected Fall 2024 Contact Hours	597,699
Expected Fall 2024 Classroom Seats	
Expected Hours per Week Utilization	-
HECB utilization standard (hours/GUC seat)	22.0
Difference in utilization standard	-100.0%

(b) General University Lab Utilization	
Fall 2023 Weekly Contact Hours	3,815
Multiply by % FTE Increase Budgeted	1.00%
Expected Fall 2024 Contact Hours	3,853
Expected Fall 2024 Class Lab Seats	
Expected Hours per Week Utilization	-
HECB utilization standard (hour/GUL seat)	16.0
Difference in utilization standard	-100.0%

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

The Clean Energy Transformation 25-27 Project consists of many programs and individual projects that impact classrooms and lab utilization for multiple buildings. Since these projects are primarily renewal projects related to our utility infrastructure and decarbonization efforts, it is essential that these projects are done to maintain the current utilization numbers and not doing these projects could result in multiple buildings being shutdown and greatly reducing the current utilization.

Reasonableness of Cost Template

Project name:	Clean Energy Transformation 25-27	CBS/OFM Project #:	40000148
Institution:	University of WA	Category:	Infrastructure
Campus/Location:	Seattle Campus		

	Construction Begin	Construction End	Construction mid-point	Escalation Multiplier
Construction mid-point:	July-25	June-27	June-26	1.4274

MACC from C-100: $215,500,682

	Expected MACC/GSF in 2019	Expected MACC/GSF	GSF by type	Expected MACC
Classrooms	$405	$578		$0
Instructional labs	$397	$567		$0
Research labs	$545	$778		$0
Administration	$406	$580		$0
Libraries	$340	$485		$0
Athletic	$385	$550		$0
Assembly, exhibit and meeting rooms	$428	$611		$0
			-	$0

C-100 to expected MACC variance:

The work associated with the Clean Energy Transformation 25-27 project does not translate into square footage values based on space type.

Efficiency of space allocation. For each major function in the proposed facility (classroom, instructional labs, offices), identify whether space allocations will be consistent with the Facility

The work associated with the Clean Energy Transformation 25-27 project does not translate into square footage values based on space type.

Example: efficiency of space allocation – FEPG standard

FEPG room classification number	FEPG room classification type	Project ASF per station	FEPG standard	Meets standard (Y/N)	Comments
110	Classroom	20	16-26	Y	
110	Classroom	30	16-26	N	Exceeds standards due to programmatic need for demonstration space
210	Class lab – physical science	70	40-90	Y	
215	Class lab – services			N/A	Sized appropriately to serve two labs
230	Computer lab	45	60	N	Falls below FEPG guideline, but meets programming needs
250	Research lab	80		N/A	Sized for research program needs
255	Research lab – service			N/A	Sized appropriately to serve research labs
311	Faculty office	140	140	Y	
311 & 312	Faculty chair office	175	175	Y	
311 & 312	Dean's office	200	200	Y	
313	Student assistants	140 per 4	140 per 2 min.	Y	4 student assistants = 2 FTEs
314	Clerical office	140	140	Y	2 FTEs
315	Office service, clerical station	100	100	Y	2 FTEs
316 & 317	Staff & other office	120	120	Y	
350	Conference room	300	310	N	Total SF shown; FEPG = total office area/12; project SF insignificant amount below standards, still meets FEPG guideline of 20 SF per station
610	Auditorium/ lecture hall	20	15-16	N	Additional SF needed to meet ADA requirements due to site conditions
FEPG room classification number	FEPG room classification type	Project ASF per station	FEPG standard	Meets standard (Y/N)	Comments
760	Hazardous material storage		As appropriate by code	N/A	Sized appropriately to serve labs
770	Hazardous waste storage		As appropriate by code	N/A	Sized appropriately to serve labs

Identify the (a) assignable square feet in the proposed facility; (b) the gross square feet; and (c) the net building efficiency ("a" divided by "b").

Instructions:
Provide the facility's condition score (1 superior – 5 marginal functionality) from the 2016 Comparable Framework study, and summarize the major structural and systems conditions that resulted in that score. Provide selected supporting documentation in appendix, and reference them in the body of the proposal.

Narrative Response:
The assets being addressed by the Clean Energy Transformation 25-27 project are not associated with specific buildings or facility identifiers, but rather utility systems that are not tracked in the OFM Database or FPMT.

Instructions:
Identify the estimated number of additional FTE students the project is expected to enable the institution to serve when the space is fully occupied. Describe the method by which additional FTEs are calculated, including an analysis of probable student enrollment demand from project completion to full occupancy. Also provide an estimate of the number of additional FTE enrollments in high-demand fields and the fields in which such growth is expected to occur.

Per RCW 43.88D.010(1)(a), growth projects must also demonstrate that they can more cost- effectively provide enrollment access than alternatives such as university centers and distance learning.

Narrative Response:
The Clean Energy Transformation 25-27 project does not affect student enrollment. It is a series of projects that ensure that the campus utility infrastructure can support ongoing teaching, research and public activities.

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FACILITIES
UNIVERSITY of WASHINGTON

40000158 - Clean Energy Transformation 25-27 Appendices

Appendices

Appendix A - Overview and Project Descriptions

Appendix B - Budget/Cost Estimate Details

Appendix C - Campus Demographics

Appendix D - Lake Interface (Deep Lake Cooling) Overview

Appendix A

Clean Energy Transformation 25-27

University of Washington
Agency 360
2025-2027
Capital Budget Request

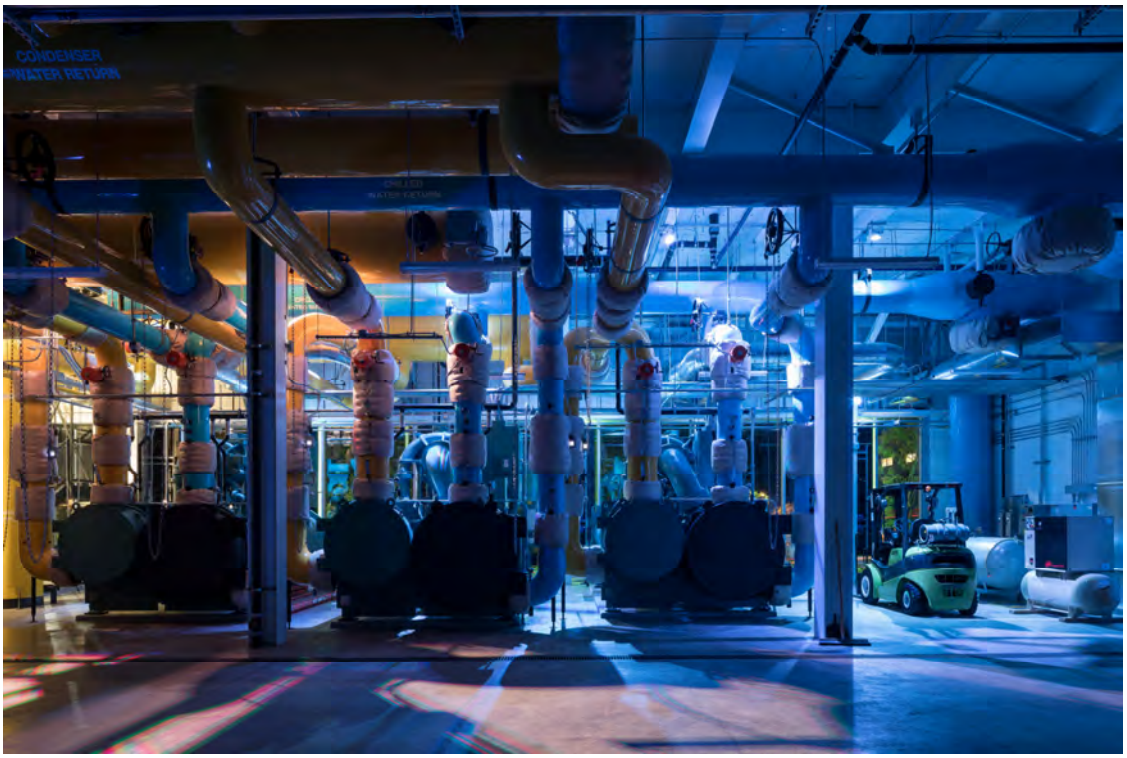


Table of Contents

0. Clean Energy Transformation Overview
1. Chilled Water Thermal Energy Storage
2. Power Plant Boiler Removal
3. Micro-district West Campus
4. Micro-district South of Pacific
5. Sewer Heat Recovery Site Piping
6. WCUP Heating System Improvements
7. West Receiving Station Electrical Infrastructure Upgrade
8. Chiller Installation
9. District Energy Standards/Basis of Design
10. Lake Interface Advancement

UW Clean Energy Transformation 25-27
Supporting Project Information

1. Project Name: UW Clean Energy Transformation 25-27

2. Description of problem:

The University of Washington has developed an innovative energy transformation strategy to transition the Seattle campus energy infrastructure to 100% clean energy. This monumental undertaking will modernize our energy infrastructure and better align UW's sustainability values with daily campus operations. Reducing UW's carbon emissions and conversion to 100% clean energy is required and motivated by State and City regulations, infrastructure renewal requirements, consistency with the UW Sustainability Action Plan and new funding sources available at the State and Federal levels. The five-part energy transformation strategy includes:

1. **Energy Efficiency:** expanding metering, upgrading controls, improving data analytics, and establishing a green revolving fund to channel energy savings into energy efficiency projects.
2. **Convert to Hot Water:** convert from steam to hot water heating to enable heat pump electrification.
3. **Central Cooling:** replace inefficient chillers, use lake water for cooling and add thermal storage.
4. **Electrify Heating:** use heat pumps to extract heat from cooling towers, sewer, and lake water.
5. **Emerging technologies and renewables**: continuously evaluate emerging technologies for full decarbonization.

The primary function of the power plant is to provide heating and hot water to the Seattle campus. Currently, it generates heat by combusting natural gas to turn water into steam which is distributed to buildings. The Seattle steam plant alone comprises approximately 93% of the Seattle campus emissions, and UW is the second largest State agency polluter. At approximately 81,000 MT CO2e (metric tons of carbon dioxide equivalent emissions) per year, the GHG pollution from the Seattle steam plant is the equivalent emissions of 20,254 gasoline-powered passenger vehicles driven annually. Transitioning the Seattle plant to 100% clean energy is a critical next step for UW, and a project that will take significant coordination, planning, and investment.

The Seattle campus energy system has served the campus well for over 100 years, but its age and dependence on fossil fuels no longer aligns with the mission of the University. Maintaining the status quo puts the UW in substantial financial and reputational risk. UW's clean energy transformation strategy will meet the following objectives:

- Provide a reliable & resilient energy system
- Reduce carbon emissions per the UW Sustainability Action Plan
- Remain flexible to future technologies
- Serve current and future loads
- Comply with city and state requirements
- Minimize total cost of ownership and reduce operating costs

In the 23-25 biennium, UW received $3million in Climate Commitment Act (CCA) operating funds to develop an Energy Renewal Program (ERP) and the Energy Renewal implementation plan. The overall goal of the energy renewal implementation plan is to define projects, rough order of magnitude budgets, project schedules and sequence, funding strategies and projected cash flows for the energy transformation. UW Facilities engaged a consultant team led by Affiliated Engineers, Inc and they started their baseline assessment in September 2023. The second phase of work, project definition, started in January 2024 and will finish in August 2024. The third phase is the development of the implementation

plan that will continue development and refinement through October 2024. The team has developed the following list of projects to include in the 25-27 capital funding cycle. In October 2024, the completed implementation plan will provide the schedule and funding requirements for the entire energy transformation. The 25-27 projects include:

1. Chilled Water Thermal Energy Storage
2. Power Plant Boiler Removal
3. Micro-district - West Campus
4. Micro-district - South of Pacific
5. Sewer Heat Recovery Site Piping
6. WCUP Heating System Improvements
7. West Receiving Station Electrical Infrastructure Upgrade
8. Chiller Installation
9. District Energy Standards/Basis of Design
10. Lake Interface Advancement

Over the entire ten-year energy transformation process, there will be approximately 30-40 projects to complete the transformation. These ten projects were identified by the ERP team for several reasons, including:

- Provides standards and guidance for all ERP projects,
- Starts the first stage of projects that will take multiple biennia to complete,
- Removes aging infrastructure in existing buildings so that future projects can be accomplished more quickly without adding additional square footage,
- Adds utility infrastructure where none currently exists to serve existing UW properties, improve operations and resiliency,
- Expands existing infrastructure to serve campus loads and conversion from natural gas to electricity.

The following matrix indicates how each project supports the energy transformation strategy. The order that they are presented in this report does not indicate any priority – they are all required to advance the energy transformation strategy.

Sub-Projects	1. Energy Efficiency	2. Convert to Hot Water	3. Central Cooling	4. Electrify Heating	5. Emerging Technologies
Chilled Water Thermal Energy Storage			X		
Power Plant Boiler Removal				X	
Micro-district West Campus		X	X	X	
Micro-district South of Pacific		X		X	
Sewer Heat Recovery Site Piping				X	X
WCUP Heating System Improvements				X	
West Receiving Station Electrical Infrastructure Upgrade				X	
Chiller Installation			X		
District Energy Standards/Basis of Design	X	X	X	X	X
Lake Interface Advancement			X		X

3. Description of solution:

Information for each sub-project includes a description of the issue and proposed solution.

4. How does this project contribute to meeting the greenhouse gas emissions limits *established in RCW 70A.45.050 (Greenhouse gas emission limits for state agencies), Clean Buildings performance standards in RCW 19.27A.210, or other statewide goals to reduce carbon pollution and/or improve efficiency?*

Alignment with State Climate Commitment Act reduction in greenhouse gas emissions.

In 2021, the Washington Legislature passed the Climate Commitment Act (CCA) which establishes a comprehensive, market-based program to reduce carbon pollution and achieve the greenhouse gas (GHG) limits set in state law. (https://ecology.wa.gov/air-climate/climate-commitment-act/cap-and-invest). Entities that exceed 25,000 tons/year of GHG emissions are required to purchase carbon allowances. Since UW's GHG emissions were approximately 93,000 tons/year in 2023, we are required to purchase allowances . In 2023, UW purchased allowances for 93,000 tons. Recent power plant renovations have reduced the GHG emissions to 81,000 tons/year. The cost of allowances may increase over time as more entities (such as Puget Sound Energy) are required to purchase allowances. Therefore, UW is financially motivated to reduce their GHG emissions. Burning natural gas at the Power Plant represents 93% of UW's GHG emissions. The most effective course of action to reduce UW's GHG emissions is to switch the Power Plant's fuel source from natural gas to electricity.

The process to switch from natural gas to electricity will take many individual projects that may not reduce GHG remissions on an individual basis, but when combined over the entire transformation, will reduce campus GHG emissions by over 90%. Ultimately, the UW will have GHG emissions under the CCA threshold and no longer be required to purchase allowances.

Alignment with State Clean Buildings Act and House Bill 1390 State-owned District Energy Decarbonization requirements.

In 2019, the Washington Legislature passed the Clean Buildings Act that created the Clean Building Performance Standards, codified ASHREA standards and established mandatory compliance deadlines. The purpose of the act was to reduce GHG emissions from building sources which represent the second largest source of GHG emissions (second to transportation). In 2023, House Bill 1390 was signed into law to establish an alternative compliance pathway for campus district energy systems to meet the Clean Building Performance Standards. To comply with the law, UW is required to:

- Start a decarbonization plan by June 2024 (UW Sustainability is on schedule to submit the draft decarbonization plan),
- Submit a final plan to WA Dept of Commerce by June 2025 and start compliance reporting,
- Reduce the campus district Energy Use Intensity (EUI) to 112 kBtu/SF/yr by 2040.
- Date of full compliance is required within 15 years (2040) unless another timeline is approved by Dept of Commerce.

For more information, see (https://www.commerce.wa.gov/growing-the-economy/energy/buildings/clean-buildings-standards/).

Currently, the Seattle campus is above the energy use intensity (EUI) targets in the Clean Building Performance Standards (CBPS). Several projects in the Energy Renewal implementation plan will address the EUI levels for the campus and facilitate compliance with the CBPS. Projects that improve energy efficiency (such as heat recovery chillers, new centralized heating & cooling equipment, sewer heat recovery, and upgrading building controls) will enable UW to reduce its campus EUI. The campus cannot meet the EUI targets without heat recovery systems – switching to electricity as a fuel source alone does not reduce EUI. A switch from steam to a hot water system is required to implement heat recovery systems which will reduce our EUI.

5. How does this project align with the UW Campus Master Plan and UW Energy Strategy?

Alignment with UW Energy Strategy
The University of Washington has developed an innovative energy transformation strategy for transitioning the Seattle campus energy infrastructure to 100% clean energy. Currently, the UW's energy infrastructure faces the following challenges:

- Greenhouse gas emission levels that require UW to purchase allowances,
- Energy consumption levels that are above the State targets per the Clean Building Performance Standards,
- Aging infrastructure that is well past its useful life and in need of replacement causing a strain on maintenance resources and increasing the risk of service disruptions,
- Electrical infrastructure that constrains the electrical capacity and reliability.

UW's Energy Strategy transitions the Seattle campus to 100% clean energy and decarbonizes the heating and cooling system. The 5-part strategy includes:

- Improve the energy efficiencies of the campus buildings through metering, upgrading building controls and expanding energy use data analytics,
- Convert the steam distribution system to a hot water system to take advantage of heat recovery opportunities,
- Centralized cooling at the central plants to replace aging, inefficient, individual building chillers,
- Electrify the heating system (switch from natural gas to electricity), install a centralized heat pump system and recover waste heat from multiple sources,
- Include emerging technologies and renewable energy sources to reduce the campus energy demand and pressure on the City's electrical grid.

For more information, see (https://sustainability.uw.edu/energy-transformation).

The Energy Renewal implementation plan advances this strategy into specific projects to be executed over a 10-year period. The implementation plan will identify the percentage of decarbonization for each project with the understanding that not every individual project reduces carbon – but all projects together are required to reach the target. The 25-27 funding request includes the initial implementation plan projects which future biennium requests will build on and advance the energy transformation process.

Alignment with UW Campus Master Plan
The University of Washington issued latest the Campus Master Plan (CMP) in 2019 and is the primary regulatory vehicle for the University's future development, defining both the square footage to be constructed and the geographic locations of such development.

The CMP creates a framework designed to enable the UW's continued evolution as a 21st century public higher education research and service institution. The CMP provides for the preservation of historic campus assets with increased density, and relies on the University's strategic goals, academic, research, and service missions, and capital plan objectives, to inform the physical development of the campus. The Seattle campus is approximately 640 acres with 250 buildings totaling approximately 17 million gross square feet (GSF). The CMP envisions a total projected growth of an additional 6 million GSF.

The Energy Implementation plan addresses the existing campus energy needs and the growth identified in the master plan. For projects that have real estate needs (above grade), the potential site options were evaluated on several criteria including the development potential identified in the CMP.

6. Schedule

A Gantt chart style summary schedule is provided in Figure 1 for the 25-27 tranche of the Clean Energy Transformation projects.

7. Budgets

Capital budget (this biennium) $262,600,000
O&M costs O&M cost vary per project – see detailed descriptions.

	Project		Budget
1	Chilled Water Thermal Energy Storage	$	73,300,000
2	Power Plant Boiler Removal	$	2,000,000
3	Micro-district West Campus	$	76,400,000
4	Micro-district South of Pacific	$	31,100,000
5	Sewer Heat Recovery Site Piping	$	14,700,000
6	WCUP Heating System Improvements	$	28,600,000
7	West Receiving Station Electrical Infrastructure Upgrade	$	50,100,000
8	Chiller Installation	$	13,500,000
9	District Energy Standards/Basis of Design	$	1,900,000
10	Lake Interface Advancement	$	1,000,000
	Total	**$**	**292,600,000**

A conceptual level cost estimate is provided in Appendix B.

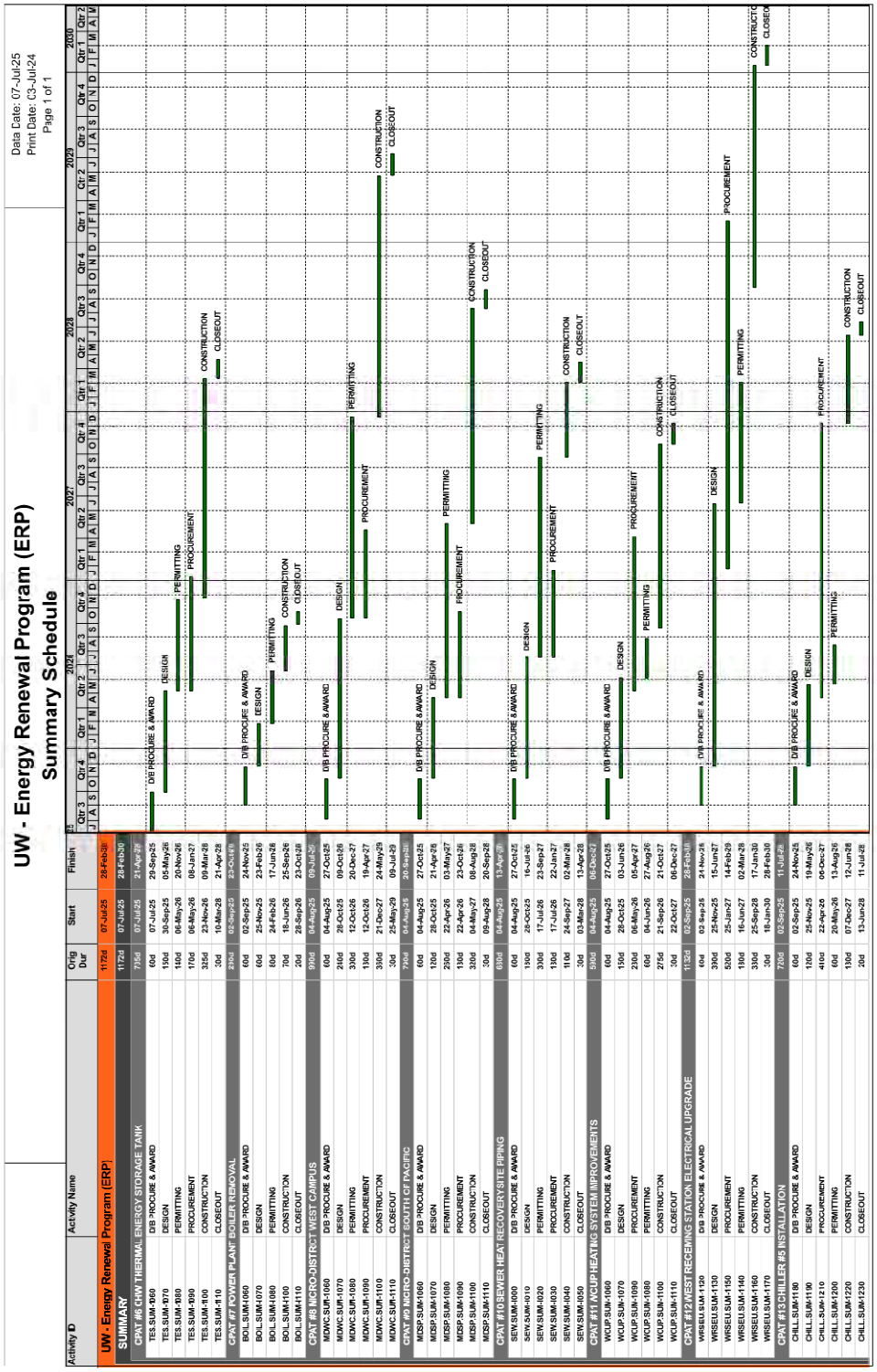
8. Funding

All 25-27 Clean Energy Transformation projects will be initially funded through the Climate Commitment Act (CCA) and the subaccount labeled the Climate Commitment Account. In the current on-going Energy Renewal Program implementation plan, the team is exploring funding options and pairing projects with the funding sources. We are also structuring projects to optimize federal funding reimbursement opportunities. Depending on project eligibility, UW will seek partial cost reimbursement through federal programs via the Infrastructure Act and Inflation Reduction Act. The application for Federal cost reimbursement does not occur until the project is completed and in-service.

9. How is your proposal impacting equity in the state? Which communities are impacted by this proposal? Include both demographic and geographic communities. How are disparities in communities impacted?

The **Clean Energy Transformation 25-27** projects are the first major step to reduce greenhouse gases and nitrogen dioxide (NOx) emissions from the fossil fuel fired boilers required for campus heating and process steam systems. Reducing greenhouse gas and NOx emissions through the UW decarbonization plan will improve air quality and benefit the local Seattle campus community, the Puget Sound Region and the State. The demographics of the UW campus are highlighted in Appendix C – UW Pride Points 2023-2024. The region, as delineated by the Puget Sound Clean Air Agency, includes Snohomish, King, Pierce and Kitsap counties and includes 4.1 million people with diverse ethnicities and incomes. Snohomish, King and Pierce counties include six of the sixteen communities identified as overburdened by the Department of Ecology. For information on air quality impacts to Washington overburdened communities see Dept of Ecology report:
https://apps.ecology.wa.gov/publications/UIPages/documents/2302115.pdf

Figure 1 - Conceptual Schedule



UW Clean Energy Transformation 25-27
Chilled Water Thermal Energy Storage
Supporting Project Information

1. Sub-Project Name: Chilled Water Thermal Energy Storage

2. Description of problem:

The campus chilled water system, at its current capacity, is unable to meet the load during the hottest parts of summer. Additionally, the Seattle City Light electrical feed to the main Power Plant experiences voltage sags throughout the year causing campus power disruptions and specifically, interrupt chiller operation. While we are working with SCL to provide a better warning system for voltage sags, they will not go away entirely. If a voltage sag occurs causing chillers to go off-line, a manual re-start of equipment is required. On hot days, these restarts can take several hours and cause the plant to underperform for the entire day – resulting in temperatures in buildings that are above their set temperature ranges or some buildings curtailed entirely because the plant cannot supply the quantity of cooling required. Chilled water thermal energy storage will allow the system to address peak loads and bridge voltage sags, increasing the system's resiliency and reliability (how this is accomplished is addressed in section 3). Chilled water thermal energy storage is essential for implementation of heat pump technologies which will reduce the University's dependance on fossil fuels and emissions of greenhouse gases.

3. Description of solution:

Thermal energy storage is a critical component on a district energy system with heat pump technology. The addition of a thermal energy storage (TES) tank to the campus chilled water system will address both the issue of peak load demand during the hottest days of summer as well as riding through service interruptions caused by electrical system voltage sags. The existing chillers will be able to add cold water to the tank during low-load hours (including night-time operation) when the campus cooling load is satisfied, and the electrical rates are lower. The TES provides additional capacity to allow the power plant to ride through hot summer days and chiller outages caused by voltage sags in the SCL electrical system, resulting in fewer buildings being shed from chilled water service, and an ability to provide critical cooling to more buildings on campus.

This project consists of the installation of a large, chilled water thermal energy storage (TES) tank and its associated systems as an initial step in the campus decarbonization project. Future provisions will be made for a second TES tank for the heating water system. Components of the Phase 1 project include:

- Demolition of facilities support buildings on the proposed site. The one-story buildings are currently occupied by CEU&O operations staff and Building & Grounds staff.
- Site development includes excavation & leveling to the Mason Road elevation, construction of a retaining wall and foundation for Phase 1 chilled water, Phase 2 hot water TES tanks and a replacement building for displaced staff.
- Installation of a 4.2 million gallon chilled water TES tank
- Piping to/from the tank to the central plant
- Building-level modifications for 11 campus buildings to accommodate changes in services pressure at building connections

The size of the TES tank is determined by the number of cooling hours needed during a voltage sag and peak cooling capacity. The current TES tank target size is 4.2 million gallons, with outside dimensions of 90' in diameter and 100' above grade.

The TES location criteria include proximity to the main power plant or WCUP, impacts to pipe pressure due to tank elevation, proximity to existing utility infrastructure, consistency with the Campus Master Plan, displacement of existing uses, displacement of future development sites and size of the TES tanks. The team analyzed 3 possible locations on the UW campus (a parking lot near the north main entrance, Padelford parking lot and Plant Operations Annex site) and selected the location just north of the main power plant currently occupied with several Plant Operations Annex buildings as the preferred location (See Figures 1 & 2).

The construction of the TES system will require the demolition of Plant Operations Annex buildings 2, 3, 4, 5 & 6. These small support buildings currently house office space for Facilities Services, Campus Controls Shop and FOM's group and equipment space for Building & Grounds functions. During Phase 1, surge space for office functions will be accommodated in nearby buildings and equipment functions in temporary locations. Displaced functions will eventually be relocated in the Phase 2 building co-located with the TES tanks.

Connections from the TES tank to the chilled water system in the existing Power Plant building will include two 42" diameter pipes. The pipes will route from the TES tank site approximately 115 feet to the south, then transition to above-grade and route along the roof of the Power Plant building for another 230 feet before connecting to the main chilled water header.

The effects of hydraulic pressures on the tank and connected buildings will result in some building-level modifications to allow it to interact with the new system without over- or under-pressurization. Eleven existing campus buildings will require a new set of building-level chilled water pumps and pressure sustaining valves to prevent over pressurizing the TES tank.

Components for the second phase of the TES system include the installation of a hot water tank, co-located with the chilled water tank, and a multi-story building to replace the Operations Annex buildings that were demolished in Phase 1. The building will have a minimum of 3 floors (could extend to six floors to maximize the site) to accommodate Plant Operations, Facilities Services and Grounds and Maintenance functions. The second phase of the TES system will be a future funding request.

4. How does this project contribute to meeting the greenhouse gas emissions limits *established in RCW 70A.45.050 (Greenhouse gas emission limits for state agencies), Clean Buildings performance standards in RCW 19.27A.210, or other statewide goals to reduce carbon pollution and/or improve efficiency?*

The chilled water TES tank will initially provide direct energy savings through the efficiency gains of producing chilled water in off-peak periods (night) when the outdoor air temperatures are lower and chiller equipment operates at a higher efficiency. There will be operational cost savings associated with this as well.

As the University continues to deploy its Energy Strategy, this chilled water TES tank, and the future heating water TES tank, will play a critical role in allowing the University to operate primarily on heat pumps rather than fossil-fuel boilers. Heat pumps are highly efficient compared to fossil-fuel boilers, but they have limited operational capabilities and TES tanks allow them to operate at their peak performance (full throttle) for longer periods of the year as the TES tanks store the excess energy created by the heat pumps during periods of lower campus heating and cooling loads.

Quantifying this individual project's contribution in the near-term is difficult, however as part of the longer-term heat pump TES strategy outlined above, the anticipated GHG savings for those combined projects is 56,500 MTCO2e (metric tons equivalent CO2), which represents ~65% of the campus's current greenhouse gas emissions.

5. How does this project align with the UW Campus Master Plan and UW Energy Strategy?

All projects in the Clean Energy Transformation 25-27 request support the University's Energy strategy and Sustainability Action Plan to decarbonize the campus. The proposed project aligns with the UW Energy Strategy for transforming the central cooling system into a reliable system suitable for uses beyond comfort cooling and to provide the reliability required of a Tier 1 research university.

The current preferred location of the Chilled Water Thermal Energy Storage tank is consistent with Campus Master Plan (2019) and does not impact future campus growth.

6. Schedule
This project request is the first phase of the Thermal Energy Storage projects. Future phase requests will include the Hot Water Thermal Energy Storage Tank, co-located with the Chilled Water tank. The schedule for this request is:

Task	**Date range**
Funding available	July 2025
D/B Contractor Selection Process	July 2025-September 2025
Design & Permit	October 2025 – November 2026
Construction	August 2026 – March 2028
Commissioning & Start-up	October 2027 – April 2028

A Gantt chart style schedule is provided in Figure 3.

7. Budgets

This project will require funding over multiple phases. The 25-27 request represents the first phase of funding for planning, design, permitting, and the first phase of construction. Additional funding will be requested to complete this project including funding for the new facilities building collocated on the TES site, a second TES tank for heating water, and retrofits of the existing plant chilled water systems to integrate the TES tank into the system.

Capital budget (this phase) $73,300,000

O&M costs	$16,000/yr for pumping system, $300,000-$500,000/yr related to tank and associated water treatment.

A conceptual level cost estimate is provided in Appendix B.

8. Funding

All 25-27 Clean Energy Transformation projects will be initially funded through the Climate Commitment Act (CCA) and the subaccount labeled the Climate Commitment Account. In the current on-going Energy Renewal Program implementation plan, the team is exploring funding options and pairing projects with the funding sources. We are also structuring projects to optimize federal funding reimbursement opportunities. This project will seek partial cost reimbursement through federal programs via the Infrastructure Act and Inflation Reduction Act. The application for federal cost reimbursement does not occur until the project is completed and in-service.

Location diagrams

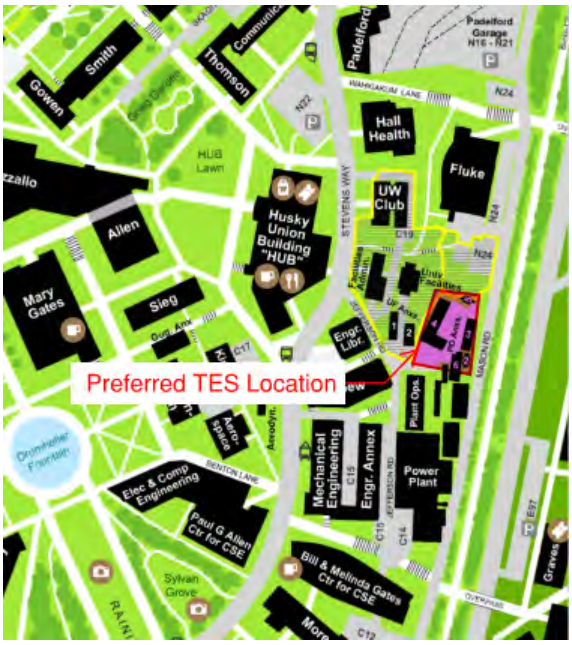


Figure 1 -Preferred TES Location

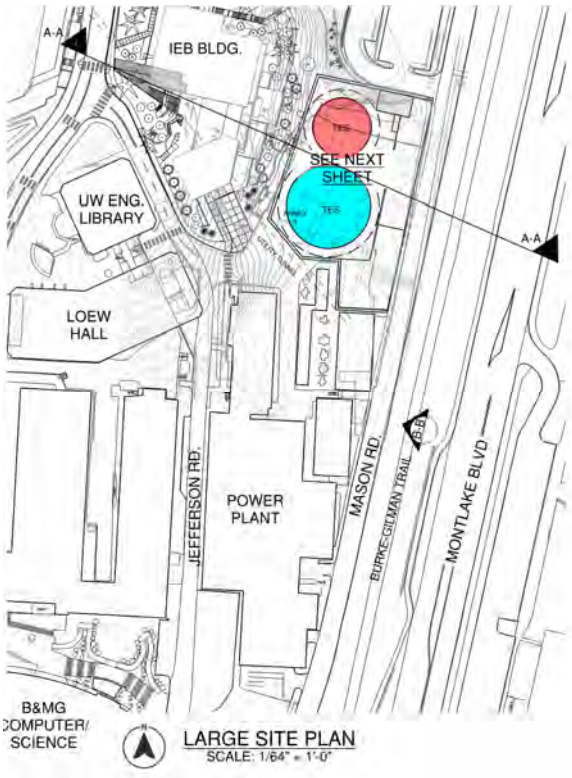
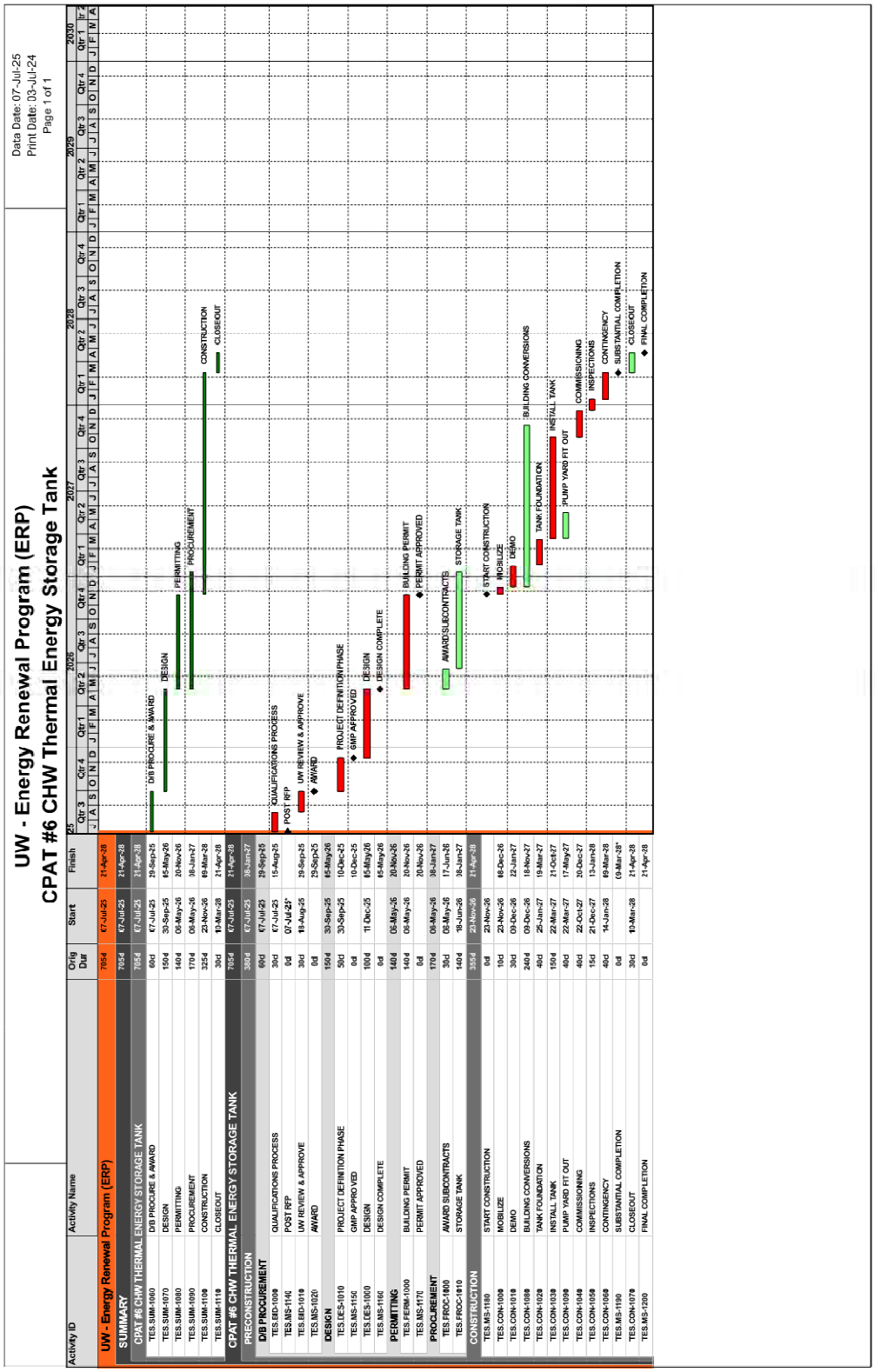


Figure 2 – Proposed TES site plan

Figure 3 – Schedule



UW Clean Energy Transformation 25-27
Power Plant Boiler Removal
Supporting Project Information

1. Sub-Project Name: Power Plant Boiler Removal

2. Description of problem:

In the Central Utility Plant, Boiler #3 (installed in 1948) and Boiler #5 (installed in 1958) are the smallest and oldest boilers that are part of the current set of five natural gas steam boilers serving the distributed campus steam system. Each of the natural gas steam boilers will be replaced as part of the energy transformation process in a coordinated process as new heat sources are provided. Removal of one of these boilers will still allow the plant to serve the campus with steam at an N+1 capacity during the interim until the new hot water heating system is operational. Evaluation of which boiler should be first will be taken into consideration during the project definition phase of the design-build process.

3. Description of solution:

This make-ready project will create space at the Central Utility Plant for new low-carbon heating and cooling equipment that will replace the existing fossil-fuel fired equipment. The project consists of demolition and removal of one large steam boiler and associated systems, which are near the end of its useful life. The removal of Boiler #3 or Boiler #5 will create 5,000-6,500 square feet of space and accelerate the schedule of the future installation of the electric heat recovery chillers.

The demolition of this steam boiler system includes removal and modification of existing mechanical, electrical, and piping (MEP) systems, in addition to architectural and structural conditions infrastructure at the facility.

4. How does this project contribute to meeting the greenhouse gas emissions limits *established in RCW 70A.45.050 (Greenhouse gas emission limits for state agencies), Clean Buildings performance standards in RCW 19.27A.210, or other statewide goals to reduce carbon pollution and/or improve efficiency?*

The demolition and removal of this boiler will not provide any direct energy, cost, or greenhouse gas savings initially.

Over a longer time period, as the University continues to deploy its Energy Strategy, real estate within the existing Power Plant freed up by this project will play a critical role in allowing the University to operate primarily on heat pumps rather than fossil-fuel boilers. Heat pumps are highly efficient compared to fossil-fuel boilers and are more space efficient. Many essential components to the heat pump system will be able to be installed within this space after the boiler is removed, including the heat pumps themselves, associated pumps, electric boilers, and backup heating systems.

Quantifying this individual project's contribution in the near-term is difficult, however as part of the longer-term heat pump strategy outlined above, the anticipated GHG savings for those combined projects is 56,500 MTCO2e (metric tons equivalent CO2), which represents approximately 65% of the campus's current greenhouse gas emissions.

5. How does this project align with the UW Campus Master Plan and UW Energy Strategy?

All projects in the Clean Energy Transformation 25-27 request support the University's Energy strategy and Sustainability Action Plan to decarbonize the campus. This project aligns with the UW Energy Strategy for electrification of heating.

As this project is in an existing building, there is no impact to the Campus Master Plan.

6. Schedule
The schedule for this request is:

Task	**Date range**
Funding available	July 2025
Contractor Selection Process	September 2025- November2025
Design & Permit	November 2025 – June 2026
Construction	June 2026 – September 2026
Closeout	September 2026 – October 2026

A Gantt chart style schedule is provided in Figure 2.

7. Budgets

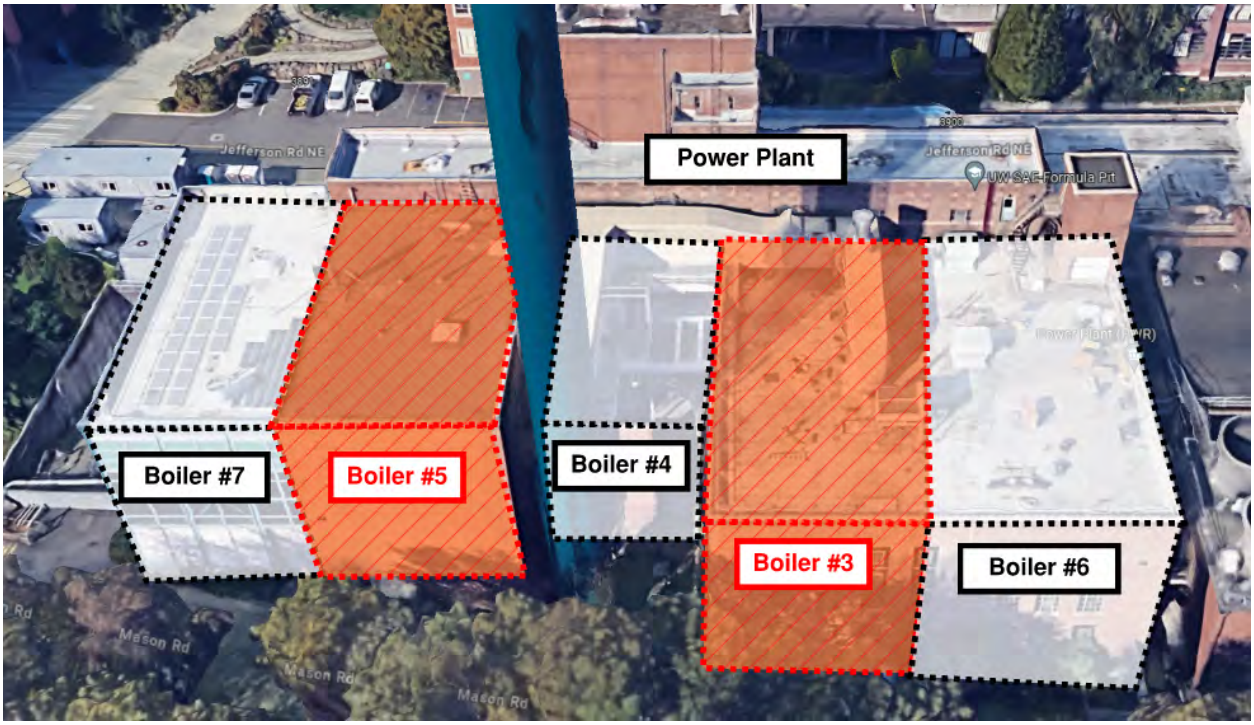
Capital budget	$2,000,000
O&M costs	N/A

A conceptual level cost estimate is provided in Appendix B.

8. Funding

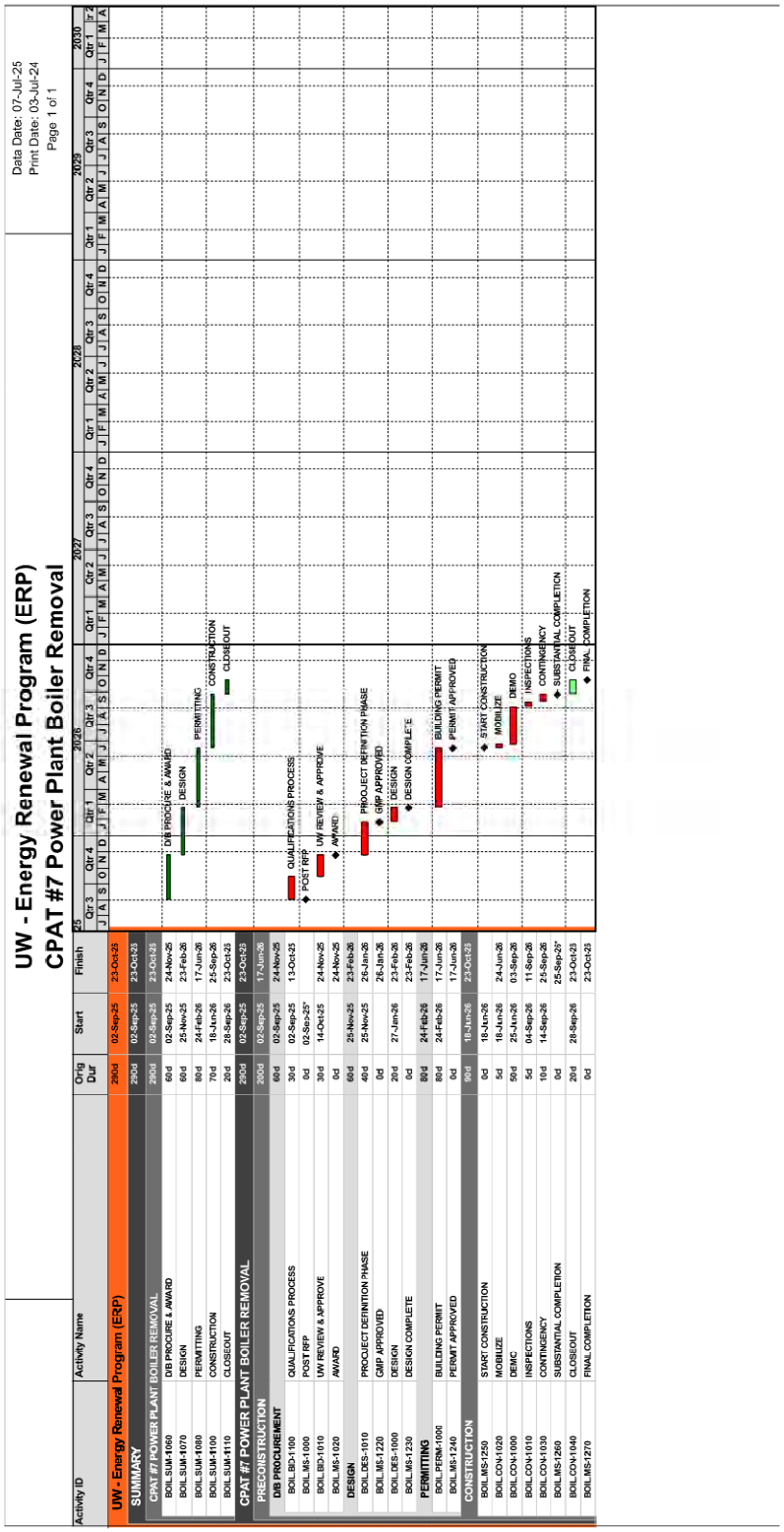
All 25-27 Clean Energy Transformation projects will be initially funded through the Climate Commitment Act (CCA) and the subaccount labeled the Climate Commitment Account. In the current on-going Energy Renewal Program implementation plan, the team is exploring funding options and pairing projects with the funding sources. We are also structuring projects to optimize federal funding reimbursement opportunities. It is unlikely that this project will be eligible for partial cost reimbursement through federal programs via the Infrastructure Act and Inflation Reduction Act.

Appendix D – Location diagram



Satellite image of the Power Plant with the locations of each Boiler noted. One of Boiler #3 and #5 will be demolished as part of this project.

Figure 2 – Schedule



UW Clean Energy Transformation 25-27
Micro-district West Campus
Supporting Project Information

1. Sub-Project Name*:* Micro-district West Campus

2. Description of problem:

The conversion from a steam heating system to a hot water system requires new hot water piping in existing underground utility tunnels. The hot water piping systems enable heat pump technologies to utilize low-grade heat sources for campus heating demands which will play a critical role in the reduction of fossil fuel use for the UW campus.

The Power Plant supply utilities to most of the Seattle campus buildings through an underground tunnel system. This underground distribution system was started in 1901, was extended as the campus grew and connects the buildings to the central plant and the WCUP. The utility tunnels typically include steam piping, chilled water piping, electrical, communications and IT systems.

Currently, the West Campus is partially served by two disconnected utility tunnels that dead-end. When repairs or changes to the utility systems occur at one building on the dead-end leg, it impacts all buildings on that leg. A looped system provides flexibility and resiliency to the system during maintenance and when future buildings connect to the utility systems.

The existing tunnel network has varying dimensions and densities of existing utilities. Typical dimensions are 7 to 8 ft wide and 9 ft to 14 ft tall. A typical tunnel section in the West Campus is shown in Figure 2.1 below.

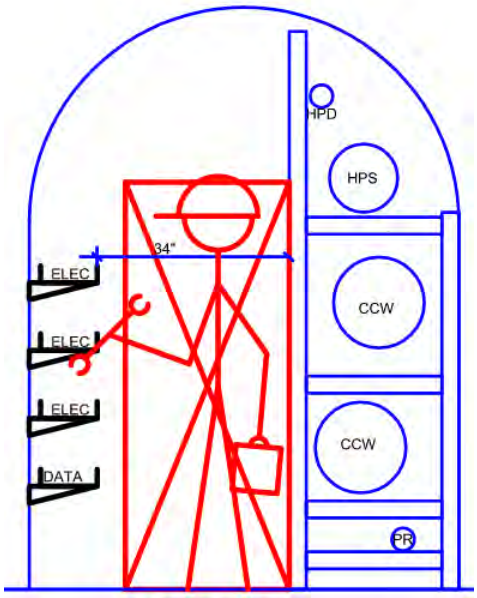


Figure 2.1 Representational tunnel section from the Campus Parkway (CP) tunnel system in west campus.

3. Description of solution:

Extension of central heating and cooling utilities to West Campus will address thermal comfort in existing buildings, replace existing inefficient steam piping systems, and enable heat recovery systems to be implemented.

This project extends the existing tunnel system by constructing two new underground tunnel segments to complete a loop in the West Campus to the WCUP. The micro-district will include hot water piping for heating and chilled water piping for mechanical cooling. The utility tunnel also includes space for distribution of electrical, communication and IT systems.

A looped system for heating hot water distribution will allow service to buildings on the west side of campus including existing connected buildings (Henderson Hall, Terry Hall, Maple Hall, Startup Hall, Lander Hall, Elm Hall, Alder Hall, Schmitz Hall, Gould Hall), and additional capacity (including valves and terminations) for future connections. The new heating water piping will create a full loop from the WCUP to the west campus, connecting the West Tunnel (WT) and Central Parkway (CP) tunnel systems. Buildings can be fed from either direction of the loop if a section of the loop is closed for maintenance, thus increasing system resilience and maintenance flexibility. See Figure 1 for location of proposed new tunnel sections.

Chilled water will be extended to form a loop with capacity (including valves and terminations) for future loads based on the Campus Master Plan development sites. The new chilled water piping will connect to existing CCW in the tunnel vault at CP5 and be routed (along with heating water) back to WCUP through a new tunnel system.

The specific recommended solution installs a pathway of tunnels and piping to include:

- New utility tunnel sections constructed between WT 5 to CP 8 (14’-0”W x 8’-0”H) and WT 5-1 to a new tunnel intersection between CP 2 and CP 3 (9’-6”W x 8’-0”H). Refer to Figure 2 for sketches of the new tunnel sections.
- Heating Water: 1,610 linear feet of 12” supply and return piping (qty 2 pipes within existing utility tunnels WT5 to WT5-1 and CP2.5 to CP-8), 1,000 linear feet of 20” supply and return piping (qty 2 pipes within new tunnel section between WT 5 and CP 8), and 515 linear feet of 12” supply and return piping (qty 2 pipe within new utility tunnels between WT 5 to CP 2.5).
- Demolish existing high-pressure steam, low pressure steam, and condensate return piping in existing utility tunnels WT5 to WT5-1 and CP2.5 to CP-8.
- Chilled Water: 1,000 linear feet of 24” supply and return piping (qty 2 pipes within new utility tunnel section between WT 5 and CP 8) and 675 linear feet of 14” supply and return piping (qty 2 pipes within existing tunnel section between CP 8 and CP 5).
- Piping material to be ASTM A53 Grade B carbon steel piping with welded joints. Insulated with 2” rock wool insulation and aluminum jacket. Inline slip-type expansion joints provided every 100’ for heating and chilled water piping.
- Tunnels to be installed at depth to avoid conflicts with existing utilities.
- Tunnel segment between WT 5 and CP 8 to be constructed through a mining process.
- Tunnel segment between WT5 and new CP2.5 shall be constructed through a cut and cover process.
- Piping to include tees, valves and caps for extension of hot water to future connections in the West Campus region.

To install the hot water piping in the existing tunnels, existing steam infrastructure must be demolished to make room. Existing buildings will be impacted during this conversion. The scope of this project includes the work to convert existing buildings to the hot water system, including temporary heating during construction. The project includes valves and terminations for future building connections but does not provide the final connection.

To make use of the existing tunnels without significant interruptions to building occupancy, the project plans a combination of temporary systems and back-feeding where possible. This will minimize disruption time to campus buildings but adds cost, complexity, and risk to the construction sequence.

The scope of work includes restoration of the surface (roads, bike paths, sidewalks and adjacent landscape) to comply with the campus ADA master plan, City of Seattle standards, campus tree policy and adds pedestrian level lighting to improve safety.

4. How does this project contribute to meeting the greenhouse gas emissions limits *established in RCW 70A.45.050 (Greenhouse gas emission limits for state agencies), Clean Buildings performance standards in RCW 19.27A.210, or other statewide goals to reduce carbon pollution and/or improve efficiency?*

In the near-term, there are minor energy savings and operational cost savings from converting from steam heating to hot water heating through the decreased heat loss comparatively between heating water piping and steam piping.

Over a longer time period, as the University continues to deploy its Energy Strategy, the heating water system piping will play a critical role in allowing the University to operate primarily on heat pumps rather than fossil-fuel boilers. Heat pumps are highly efficient compared to fossil-fuel boilers, but they are not capable of generating high temperature hot water or even steam. The new heating water system piping will allow for heat to be delivered through heat pumps rather than fossil fuel boilers.

Quantifying this individual project's contribution in the near-term is difficult, however as part of the longer-term heat pump strategy outlined above, the anticipated GHG savings for those combined projects is 71,000 MTCO2e (metric tons equivalent CO2), which represents approximately 84% of the campus's current greenhouse gas emissions.

5. How does this project align with the UW Campus Master Plan and UW Energy Strategy?

All projects in the Clean Energy Transformation 25-27 request support the University's Energy strategy and Sustainability Action Plan to decarbonize the campus.

This project aligns with the UW Energy Strategy for Conversion to Hot Water, Central Cooling, and Electrification of Heating.

6. Schedule
The schedule for this request is:

Task	Date range
Funding available	July 2025
Contractor Selection Process	August 2025- October 2025
Design & Permit	October 2025 – December 2027
Construction	December 2027 – May 2029
Commissioning & Start-up	May 2029 – July 2029

A Gantt chart style schedule is provided in Figure 3.

7. Budgets

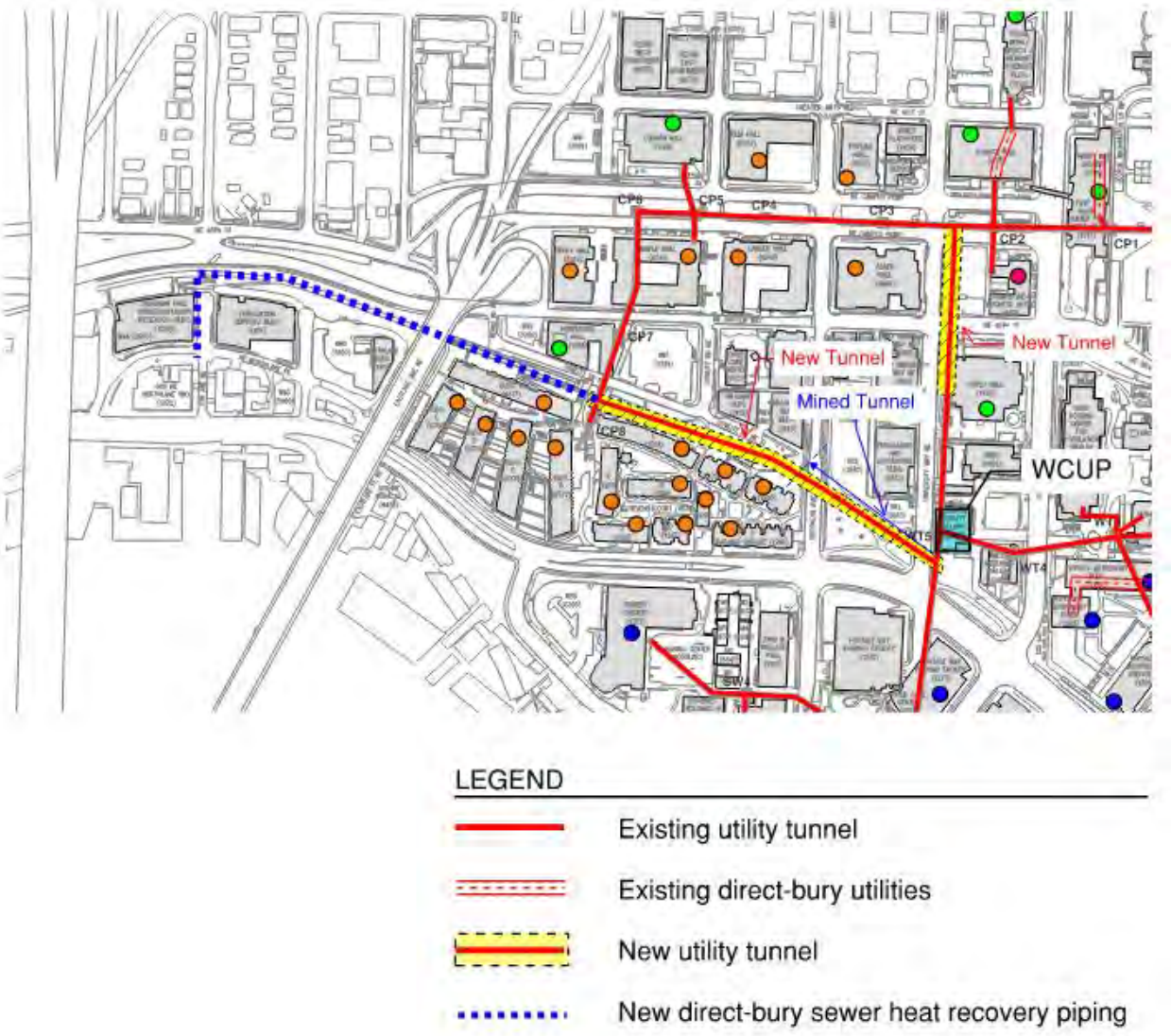
Capital budget	$76,400,000
O&M costs	Minimal maintenance required for pipe system within the tunnels.

A conceptual level cost estimate is provided in Appendix B.

8. Funding

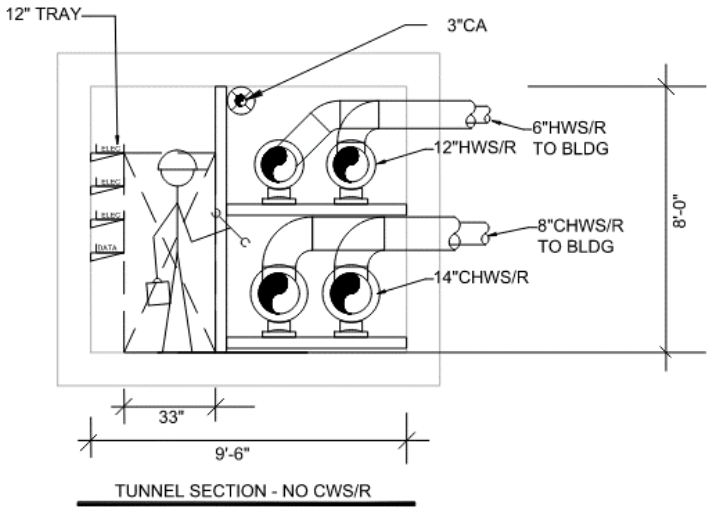
All 25-27 Clean Energy Transformation projects will be initially funded through the Climate Commitment Act (CCA) and the subaccount labeled the Climate Commitment Account. In the current on-going Energy Renewal Program implementation plan, the team is exploring funding options and pairing projects with the funding sources. We are also structuring projects to optimize federal funding reimbursement opportunities. This project will seek partial cost reimbursement through federal programs via the Infrastructure Act and Inflation Reduction Act. The application for Federal cost reimbursement does not occur until the project is completed and in-service.

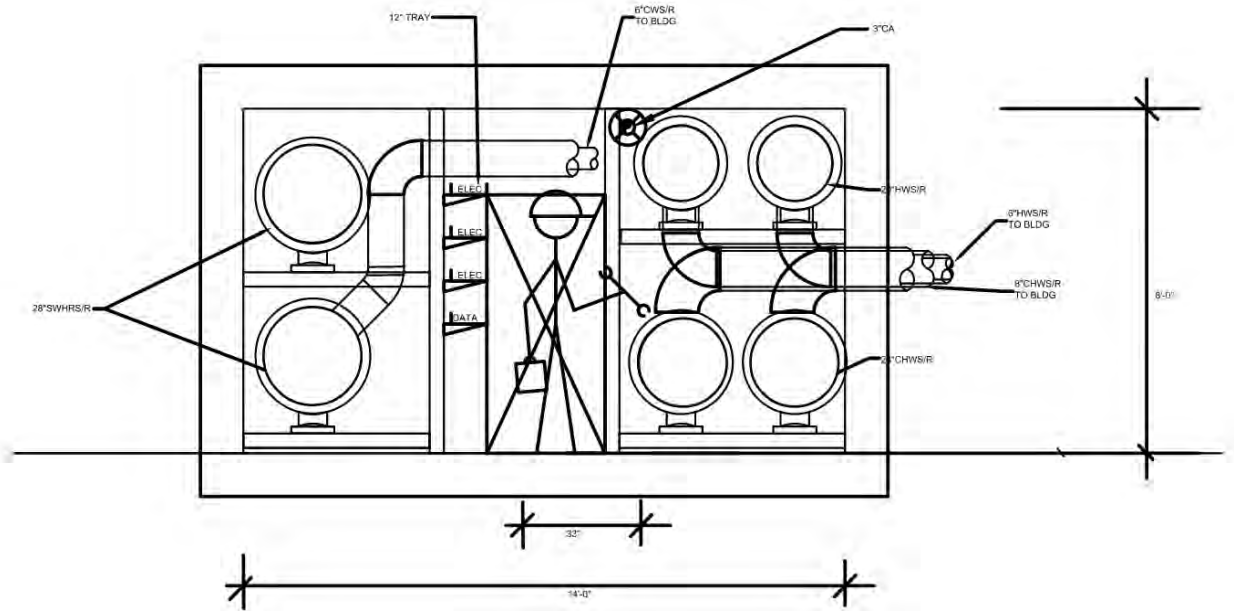
Figure 1 – Location diagram



Site plan of West Campus proposed micro-districts installed in existing and new tunnels.

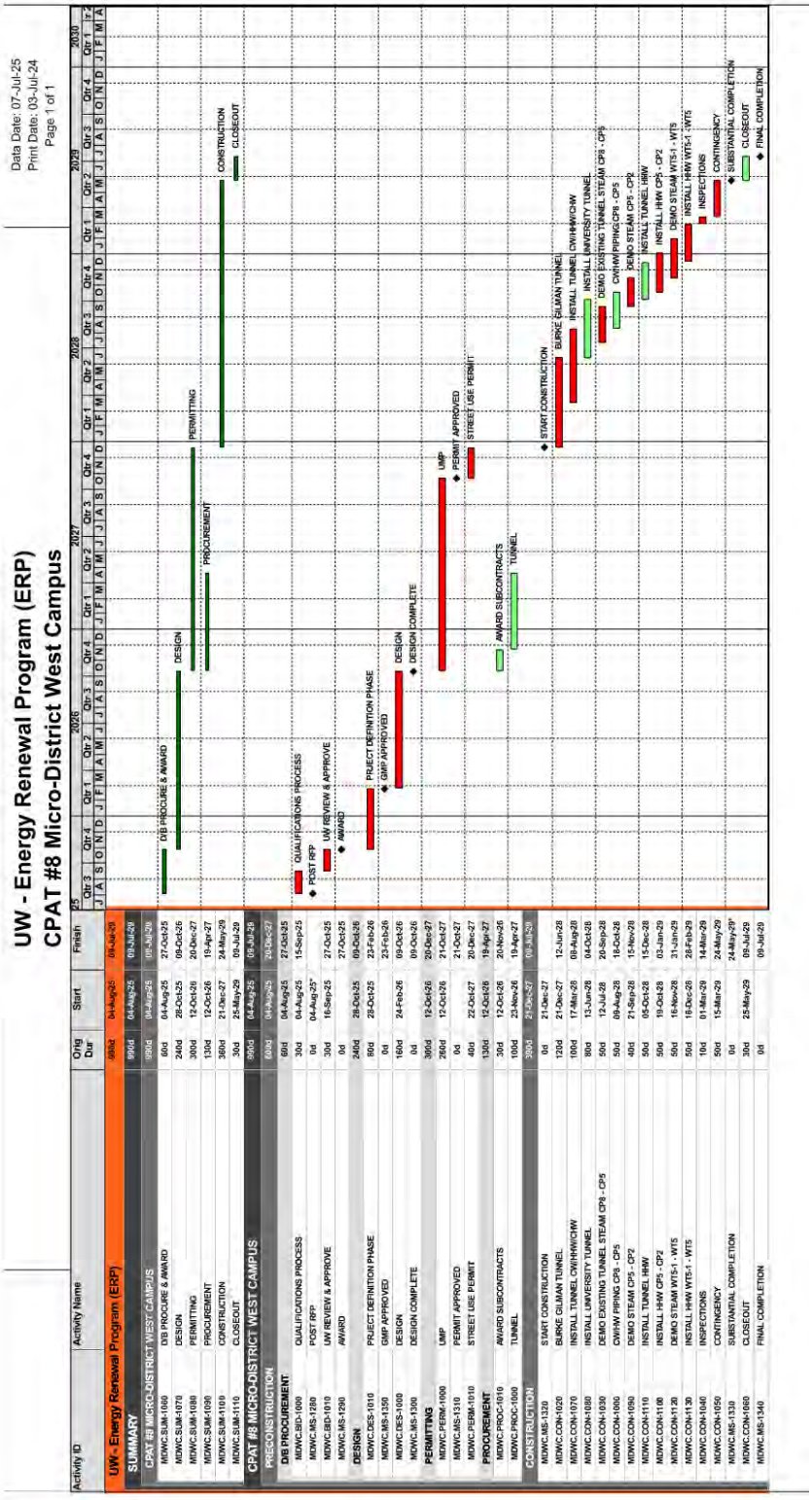
Figure 2 – Tunnel Sections





New utility tunnel sections.

Figure 3 – Schedule



UW Clean Energy Transformation 25-27
Micro-district South of Pacific
Supporting Project Information

1. Sub-Project Name*:* Micro-district South of Pacific

2. Description of problem:

The conversion from steam to hot water heating system will require new hot water piping in existing underground utility tunnels. The hot water piping systems enable heat pump technologies to utilize low-grade heat sources for campus heating demands which will play a critical role in the reduction of fossil fuel use for the UW campus.

The Power Plant & WCUP supply utilities to most of the Seattle campus buildings through an underground tunnel system. This underground distribution system was started in 1901, was extended as the campus grew and connects the central plant to the WCUP.

The tunnel system in South Campus (south of Pacific Ave NE) is a combination of free-standing utility tunnels and tunnels that are incorporated into the basement levels of buildings. This combination of construction, as well as the 24/7/365 operations in the Magnuson Health Sciences Center (MHSC) and University of Washington Medical Center (UWMC) buildings, provides unique challenges to remove steam piping and replace it with hot water piping.

The existing tunnel network has varying dimensions and densities of existing utilities. Typical dimensions are 7 to 8 ft wide and 9 ft to 14 ft tall. A typical dense tunnel section is shown in Figure 2.1 below.

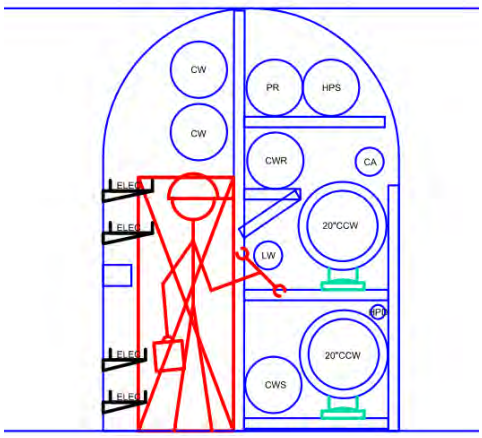


Figure 2.1 Representational tunnel section from tunnel SC-2A.

3. Description of solution:

Extension of central heating utilities to buildings south of Pacific will replace existing inefficient steam piping systems with hot water piping and enable heat recovery systems to be implemented.

As the first stage of the hot water distribution system with building conversions, this project includes the initial portions of heating water distribution mains that will eventually serve buildings south of NE Pacific St.

As an enabling project, the recommended solution is to install a pathway of piping between the existing WCUP facility through the existing tunnel system, terminating at tunnel node SC6. Refer to Figure 1 for extent of piping through tunnels. This distribution will be sized to serve all facilities south of Pacific Ave NE. Future extension into the MHSC / UWMC region will be determined once the Building Renewal plans have been solidified.

The specific recommended solution is to install piping in existing utility tunnels to include:

- Heating Water: 1,650 linear feet of 18" supply and return piping (qty 2 pipes within existing utility tunnels WT5 to SC6) and 720 linear feet of 6" supply and return piping (qty 2 pipe within existing utility tunnels SW 3 to SW 4 and Fishery Sciences).
- Replace existing steam to hot water heat exchangers with hot water to hot water heat exchangers at the following buildings:
    - Fishery Sciences
    - Fisheries Teaching Research
    - Marines Studies
    - Foege Bioengineering
    - Foege Genome Sciences
    - Ocean Sciences Building
    - K Wing (MHSC)
- Demolish existing high-pressure steam, low pressure steam, and condensate return piping in existing utility tunnels Fishery Sciences to SW 3 and WT5 to SC6.
- Temporary heating solutions will be required at each of the above buildings during the changeover period from steam to hot water.
- Provide stand-alone process steam generators for existing process loads (e.g. autoclaves) within buildings previously served by campus steam.
- Piping material to be ASTM A53 Grade B carbon steel piping with welded joints. Insulated with 2" rock wool insulation and aluminum jacket. Inline slip-type expansion joints provided every 100' for heating water piping.
- Piping to include tees, valves and caps for extension of hot water to future connections in the South of Pacific region.

To install this piping in the existing tunnels (where available), existing steam infrastructure must be demolished to make room for the new hot water system. While the work is occurring and to keep the buildings operational, temporary heating solutions will be required. The essential costs to construct the initial hot water distribution and connect the buildings listed above are included in the project budget. The project budget also includes tee's and valves for future building connections. The Magnuson Health Science Center (MHSC) is partially addressed with this project (K-wing), however, the majority of the MHSC conversation will be in a future funding request. The cost to connect future buildings is not included in the project budget.

To make use of the existing tunnels without significant interruptions to building occupancy, the project plans a combination of temporary systems and back-feeding in a looped arrangement. This will minimize disruption time to the campus buildings and adds cost, complexity, and risk to the construction sequence.

Under a future scope of work, segments of the pipe distribution will be constructed using buried pipe (direct-bury is the industry terminology) in areas of campus to create additional pathways for energy to flow from the campus plants to the buildings served. These projects will be more disruptive to the campus environment during construction but will aim to restore the conditions to a better state than they were previously, including surface improvements for ADA compliance.

4. How does this project contribute to meeting the greenhouse gas emissions limits *established in RCW 70A.45.050 (Greenhouse gas emission limits for state agencies), Clean Buildings performance standards in RCW 19.27A.210, or other statewide goals to reduce carbon pollution and/or improve efficiency?*

In the near-term, there are minor energy savings and operational cost savings from converting from steam heating to hot water heating through the decreased heat loss comparatively between heating water piping and steam piping.

Over a longer time period, as the University continues to deploy its Energy Strategy, the heating water system piping will play a critical role in allowing the University to operate primarily on heat pumps rather than fossil-fuel boilers. Heat pumps are highly efficient compared to fossil-fuel boilers, but they are not capable of generating high temperature hot water or even steam. The new heating water system piping will allow for heat to be delivered through heat pumps rather than fossil fuel boilers.

Quantifying this individual project's contribution in the near-term is difficult, however as part of the longer-term heat pump strategy outlined above, the anticipated GHG savings for those combined projects is 71,000 MTCO2e (metric tons equivalent CO2), which represents approximately 84% of the campus's current greenhouse gas emissions.

5. How does this project align with the UW Campus Master Plan and UW Energy Strategy?

All projects in the Clean Energy Transformation 25-27 request support the University's Energy strategy and Sustainability Action Plan to decarbonize the campus.

This project aligns with the UW Energy Strategy for conversion to hot water, centralized cooling, and electrification of heating.

6. Schedule
The schedule for this request is:

Task	Date range
Funding available	July 2025
Contractor Selection Process	August 2025 - October 2025
Design & Permit	October 2025 – May 2027
Construction	May 2027 – August 2028
Commissioning & Start-up	August 2028 – September 2028

A Gantt chart style schedule is provided in Figure 2.

7. Budgets

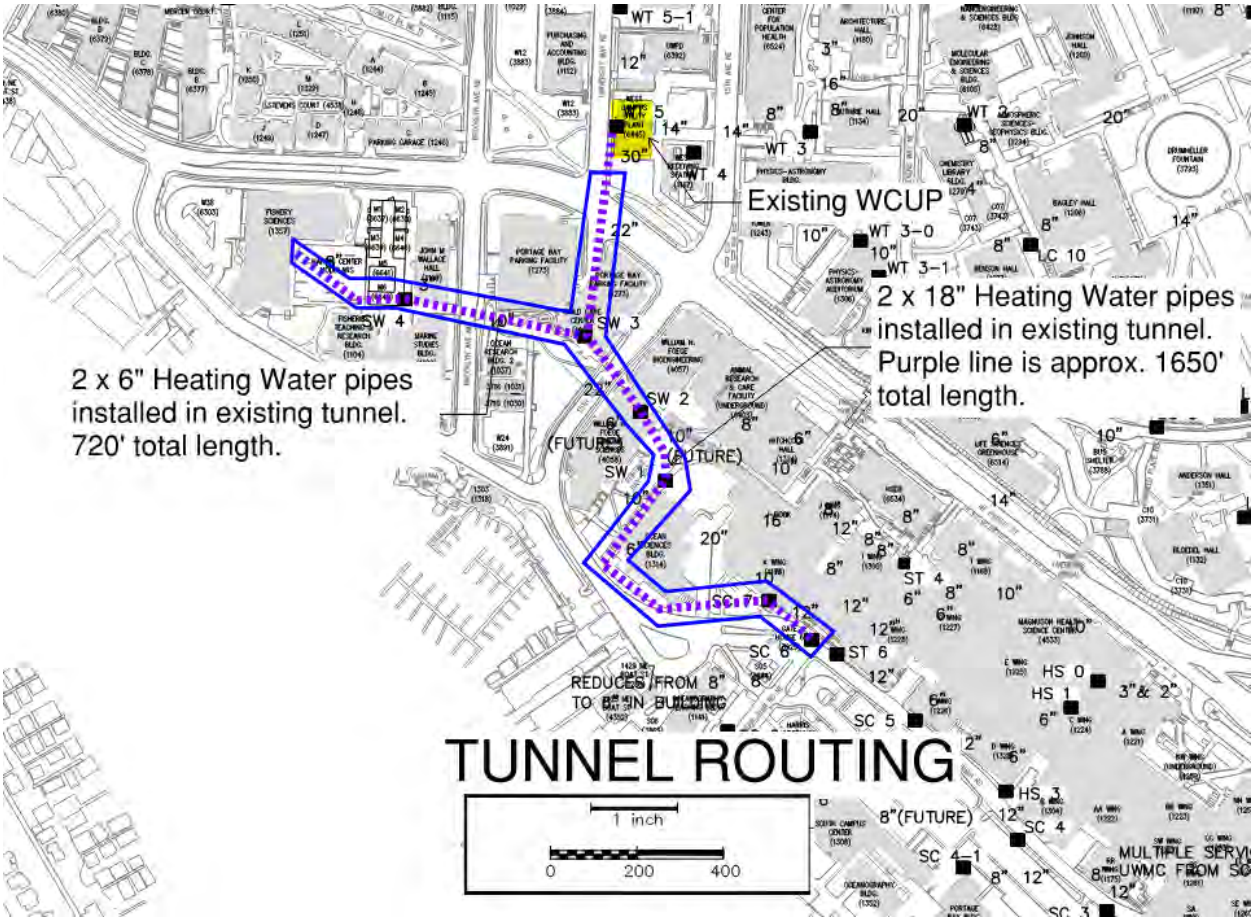
Capital budget	$31,100,000
O&M costs	Minimal maintenance required for pipe system within the tunnels.

A conceptual level cost estimate is provided in Appendix B.

8. Funding

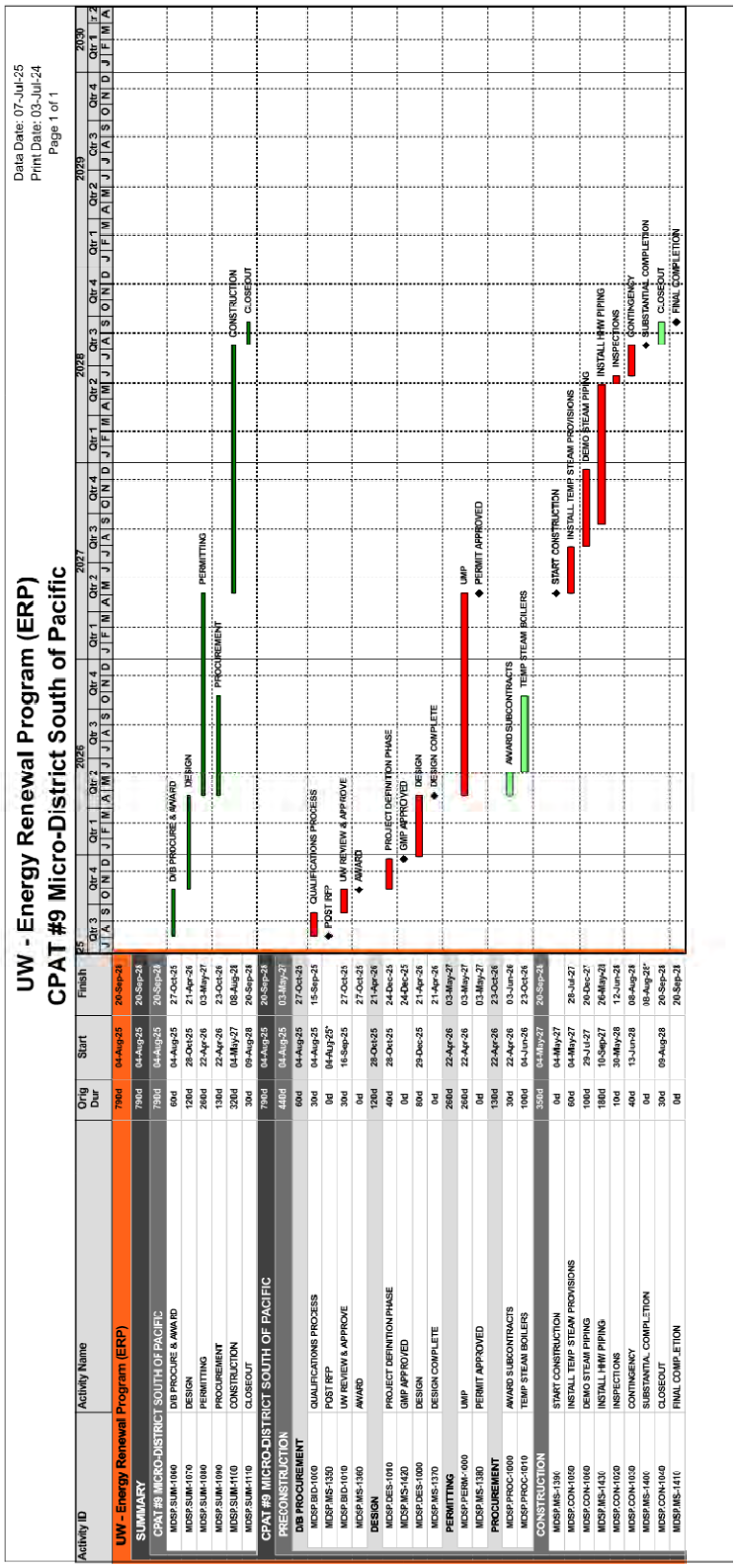
All 25-27 Clean Energy Transformation projects will be initially funded through the Climate Commitment Act (CCA) and the subaccount labeled the Climate Commitment Account. In the current on-going Energy Renewal Program implementation plan, the team is exploring funding options and pairing projects with the funding sources. We are also structuring projects to optimize federal funding reimbursement opportunities. This project will seek partial cost reimbursement through federal programs via the Infrastructure Act and Inflation Reduction Act. The application for Federal cost reimbursement does not occur until the project is completed and in-service.

Figure 1 – Location diagram



Site plan of South of Pacific proposed micro-districts installed in existing and new tunnels.

Figure 2 – Schedule



UW Clean Energy Transformation 25-27
Sewer Heat Recovery Site Piping
Supporting Project Information

1. Sub-Project Name*:* Sewer Heat Recovery Site Piping

2. Description of problem:

The University is fortunate to have large municipal sewer lines that run adjacent to the campus (generally along the Burke-Gilman trail) which present a large potential source for waste heat recovery. In 2020, King County established a pilot program for three opportunities to use the King County sewer line as a source for heat transfer. Two slots remain after the first slot was used for a project in South Lake Union in 2023. Using heat from the sewer line provides a reliable energy source that does not increase UW's electrical demand.

The largest potential for heat from the sewer system exists near 7th Ave NE and NE 40th St in the western edges of the University campus. This location is approximately 2,500 ft from the WCUP.

3. Description of solution:

The sewer heat recovery project includes several components: intercept of the King County sewer line, a wet well, a facility with specialized heat exchangers, and piping from this facility to the West Campus Utility Plant (WCUP). This enabling project only addresses one component: the piping between the existing WCUP facility and the future heat exchanger facility near NE 40th St and 7th Ave NE. Installing the piping now coincides with other projects along the Burke-Gilman trail and provides construction efficiencies and one-time disruption to commuters along the Burke-Gilman trail. This project will include:

- 1,000 linear feet of 36" direct bury heat recovery water supply and return piping (qty 2 pipes within trench)
- 1,000 linear feet of 28" heat recovery water supply and return piping installed within new tunnel section (see Micro-District West Campus for details of tunnel)
- Direct-bury piping material to be HDPE
- Tunnel piping material to be ASTM A53 Grade B carbon steel piping with welded joints. Insulated with 2" rock wool insulation and aluminum jacket. Inline slip-type expansion joints provided every 100'.
- Pipe to be installed beneath Burke-Gilman Trail.
- Anticipated conflicts with existing utilities will require relocation of existing utilities in some instances.
- Piping will originate at the WCUP plant and terminate at the intersection described above with valves and caps, to be extended by the future sewer heat recovery facility project.
- Modifications will be required at the WCUP to accept this piping. The current WCUP facility does not have space for the routing of these new pipes. This is anticipated to be accommodated within the basement of the new WCUP Annex built-out as part of the WCUP Heating System Improvements (refer to that section).

Refer to Figure 1 for the route of the piping between WCUP and the likely location of the Sewer Heat Recovery facility.

4. How does this project contribute to meeting the greenhouse gas emissions limits *established in RCW 70A.45.050 (Greenhouse gas emission limits for state agencies), Clean Buildings performance standards in RCW 19.27A.210, or other statewide goals to reduce carbon pollution and/or improve efficiency?*

The installation of this piping will not provide any direct energy reduction or greenhouse gas emission savings initially.

Once the Sewer Heat Recovery Facility and associated systems within the WCUP are installed (part of a future funding request), this project will play a critical role in allowing the University to operate primarily on heat pumps rather than fossil-fuel boilers.

Quantifying this individual project's contribution in the near-term is difficult, however as part of the longer-term heat pump strategy outlined above, the anticipated GHG savings for those combined projects is 20,000 MTCO2e (metric tons equivalent CO2), which represents approximately 24% of the campus's current greenhouse gas emissions.

5. How does this project align with the UW Campus Master Plan and UW Energy Strategy?

All projects in the Clean Energy Transformation 25-27 request support the University's Energy strategy and Sustainability Action Plan to decarbonize the campus.

This project aligns with the UW Energy Strategy for electrification of heating and using emerging energy technologies.

6. Schedule
The schedule for this request is:

Task	Date range
Funding available	July 2025
Contractor Selection Process	August 2025 - October 2025
Design & Permit	October 2025 – September 2027
Construction	September 2027 – March 2028
Commissioning & Start-up	March 2028 – April 2028

A Gantt chart style schedule is provided in Figure 2.

7. Budgets

Capital budget	$14,700,000
O&M costs	Minimal maintenance required for direct bury pipe system.

A conceptual level cost estimate is provided in Appendix B.

8. Funding

All 25-27 Clean Energy Transformation projects will be initially funded through the Climate Commitment Act (CCA) and the subaccount labeled the Climate Commitment Account. In the

current on-going Energy Renewal Program implementation plan, the team is exploring funding options and pairing projects with the funding sources. The sewer heat recovery project (or select components) could be financed through a public-private partnership (P3). We are also structuring projects to optimize federal funding reimbursement opportunities. This project will seek partial cost reimbursement through federal programs via the Infrastructure Act and Inflation Reduction Act. The application for Federal cost reimbursement does not occur until the project is completed and in-service.

Figure 1 – Location diagram

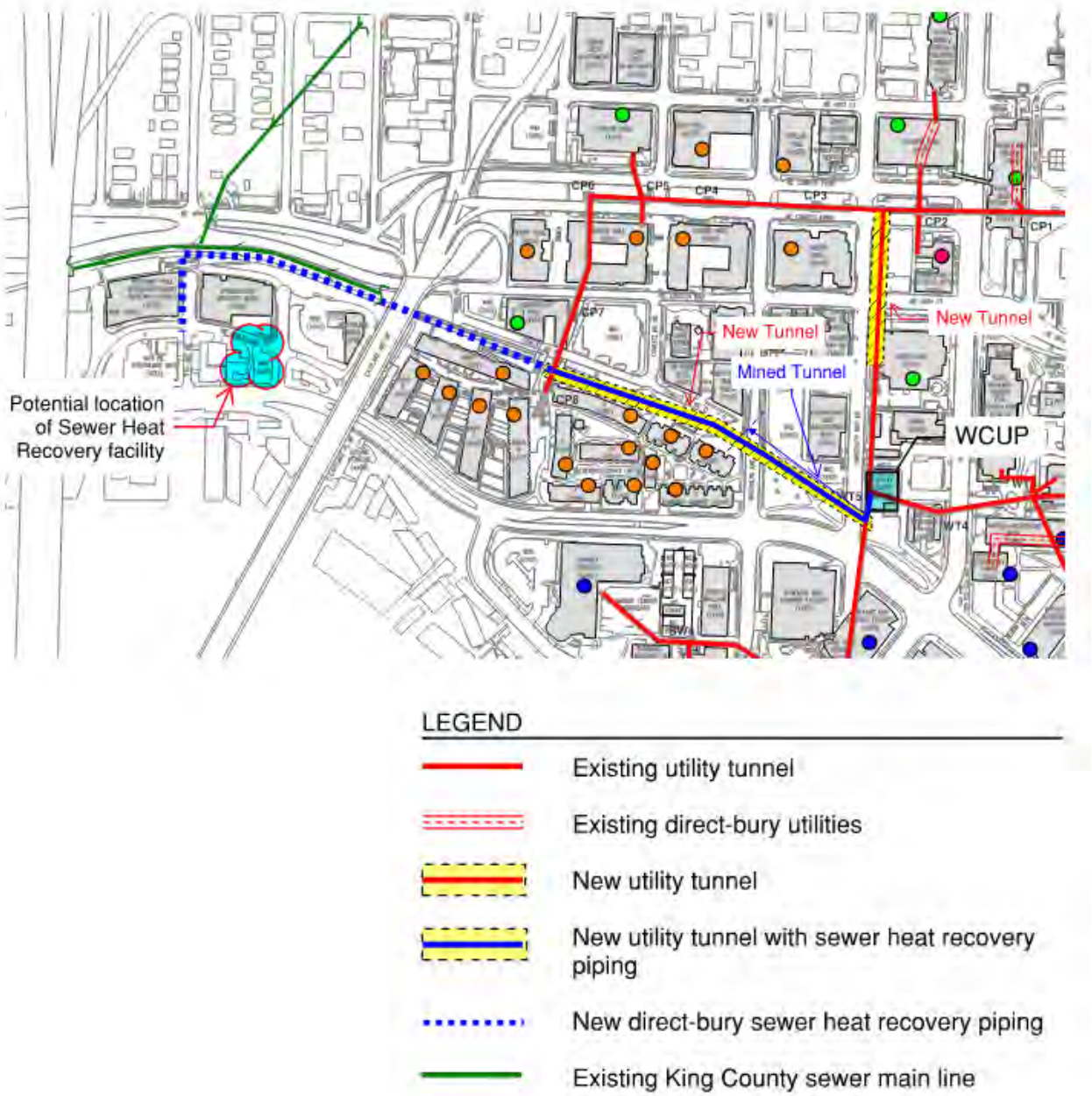
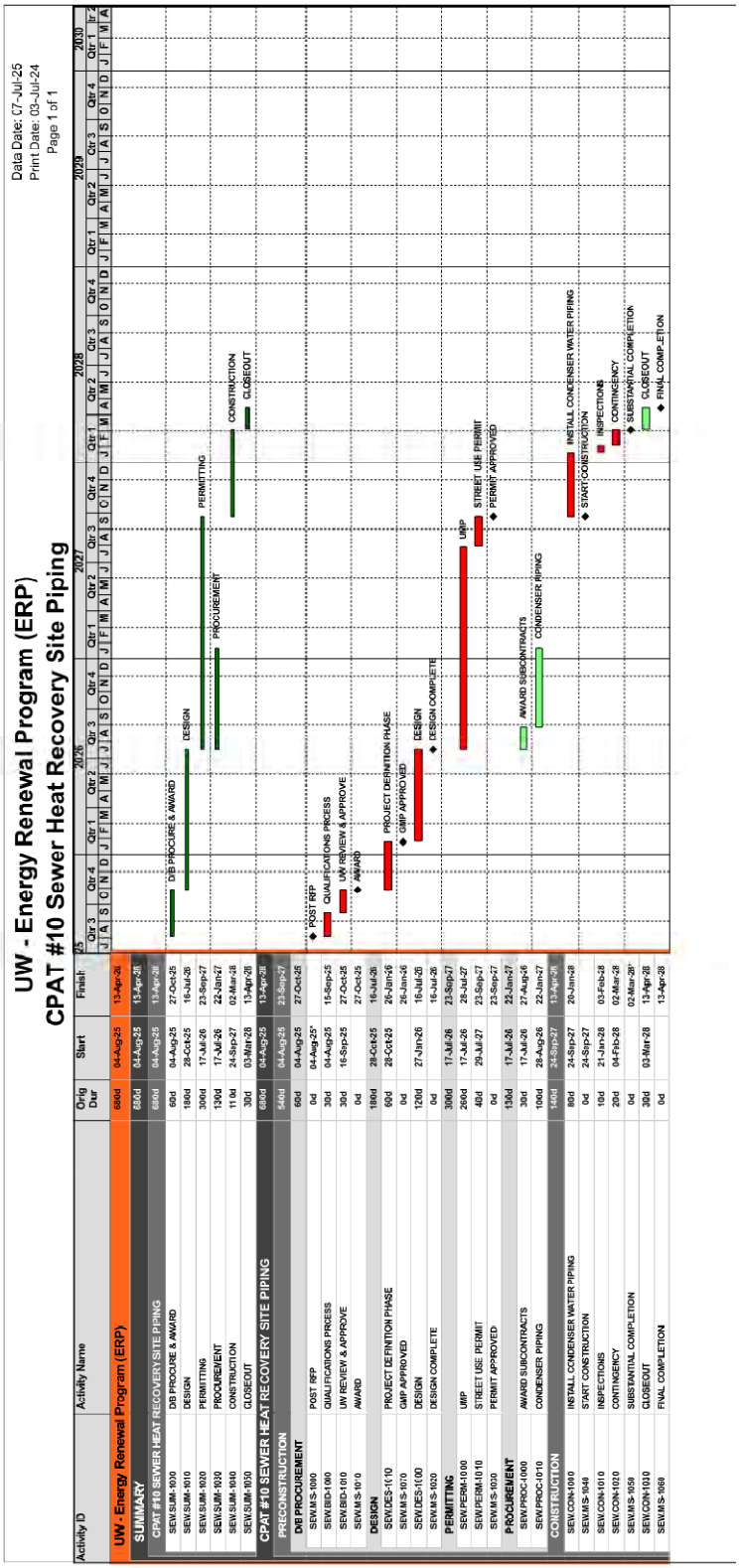


Figure 2 – Schedule



1. Sub-Project Name: WCUP Heating System Improvements

2. Description of problem:

As a first step towards transitioning from fossil-fuels to electrical heat sources, the West Campus Utility Plant (WCUP) will be the first stage of converting the central power plants from steam heat to hot water heat. The future addition of heat recovery chillers, sewer heat recovery, and electric boilers will allow for elimination of the majority of fossil fuel use for buildings in this region of campus.

The existing WCUP building does not have adequate space to house new heating equipment including heat recovery chillers, electric boilers, pumps, electrical equipment, and steam-to-hot water converters in its current configuration. While the WCUP is a relatively new facility (2017) and did anticipate future equipment installations, the original design was intended to primarily provide cooling and did not anticipate the conversion to hot water, new heat recovery chillers that take more room or new regulated refrigerant requirements for chillers that increase their size. The original assumption of remote operation has also not materialized, and on-site staff are required for central plant operations. The existing maintenance, storage, and operator space will be displaced by new equipment associated with the campus energy strategy. Therefore, the maintenance, storage and operator space square footage will need a new location and the operator space must remain operational during the expansion of the facility.

3. Description of solution*:*

This phase of the improvements to the WCUP includes the expansion of the existing facility and installation of new heating water systems to supply nearby UW facilities.

The scope of proposed project includes:

- Expand the facility by 23,600 sq ft (three story structure + basement). The new expansion is anticipated to extend from the south face of the existing WCUP facility, towards the Burke-Gilman trail. The expansion will require the relocation of existing underground utility duct banks south of the existing WCUP. The facility expansion includes the following functions per floor:
    - Basement: Campus distribution pumps and steam-to-water heat exchangers for first phase of hot water generation (covered under this project).
    - Ground level: Future heat recovery chillers, primary pumps, entrance lobby, and accommodation of existing access to fuel oil tank, electrical transformers, and facility parking stall.
    - Equipment Level: Electric boilers and electrical room.
    - Office Level: Plant operations, offices, storage and shop space, and mechanical room.
- Install new equipment and piping:
    - Install three new steam-to-hot water converters (3 @ 45,000 lbs/hr capacity / 4,200 GPM) in an N+1 configuration.

  - Primary pumping/piping system for steam-to-hot water converter loop.
  - Provide 8" HPS and 4" pumped condensate return line piping from existing WT 5 to new heat exchangers.
  - Install three new heating water system pumps (3 @ 4,200 GPM) – horizontal split case pumps in an N+1 configuration.
  - Install new heating water system specialty equipment (air separator, expansion tank, strainers, flow meters).
- Install electrical systems and equipment:
  - Provide lighting fixtures and lighting controls.
  - Provide electrical infrastructure to support new Annex building and mechanical equipment listed above.
  - Provide 2000A, 480V, 3 Ph, 4W, distribution board.
  - Provide 300 KVA 480/208v transformer with 800A, 208V, 3Ph, 4W distribution board.
  - Provide 208v branch panelboards for maintenance receptacles, controls, and support loads.

- The WCUP expansion project will provide space for future electrical gear and distribution to the equipment in future projects that add heat recovery chillers, cooling towers, and electric boilers. The expansion will include space for 13.8 kV Switchgear. The actual electrical infrastructure for those projects is included within the future project's scope.
- New heating water systems will connect to new hot water micro-district distribution loops to deliver hot water to the West Campus and South of Pacific regions.

The expansion of the WCUP will also act as a necessary component of the Micro-District West Campus tunnel mining operation. The excavation associated with the WCUP expansion will act as the sending/receiving pit for the mining operation between the WCUP and west across Brooklyn Ave NE.

See Figure 1 for site location, site plan and section diagrams.

4. How does this project contribute to meeting the greenhouse gas emissions limits *established in RCW 70A.45.050 (Greenhouse gas emission limits for state agencies), Clean Buildings performance standards in RCW 19.27A.210, or other statewide goals to reduce carbon pollution and/or improve efficiency?*

The WCUP expansion and first phase of heating systems will not provide any direct energy, cost, or greenhouse gas savings initially.

Over a longer time period, as the University continues to deploy its Energy Strategy, real estate within the new WCUP expansion will play a critical role in allowing the University to operate primarily on heat pumps rather than fossil-fuel boilers. Heat pumps are highly efficient compared to fossil-fuel boilers but require significantly more space than the WCUP was planned for. Many essential components to the heat pump system will be able to be installed within this space including the heat pumps themselves, associated pumps, electric boilers, and backup heating systems.

Quantifying this individual project's contribution in the near-term is difficult, however as part of the longer-term heat pump strategy outlined above, the anticipated GHG savings for those combined projects is 55,600 MTCO2e (metric tons equivalent CO2), which represents approximately 65% of the campus's current greenhouse gas emissions.

5. How does this project align with the UW Campus Master Plan and UW Energy Strategy?

All projects in the Clean Energy Transformation 25-27 request support the University's Energy strategy and Sustainability Action Plan to decarbonize the campus. The proposed project aligns with the UW Energy Strategy for transforming the central cooling system into a reliable system suitable for uses beyond comfort cooling and the electrification of heating.

The WCUP is an existing facility included in the current Campus Master plan. The land used for the WCUP expansion is not identified as a future development site. The additional square footage is accommodated within and is consistent with the future growth allocations in the west campus region.

6. Schedule
The schedule for this request is:

Task	Date range
Funding available	July 2025
Contractor Selection Process	August 2025-October 2025
Design & Permit	October 2025 – May 2026
Construction	August 2026 – July 2027
Commissioning & Start-up	July 2027 – Nov 2027

A Gantt chart style schedule is provided in Figure 2.

7. Budgets

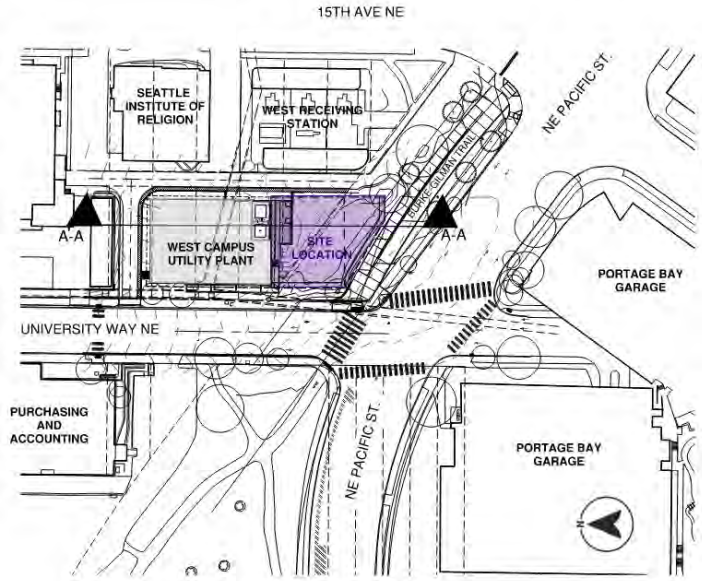
Capital budget (this phase)	$28,600,000
O&M costs	M&O+R rate per UWF Finance calculations for additional square footage.

A conceptual level cost estimate is provided in Appendix B.

8. Funding

All 25-27 Clean Energy Transformation projects will be initially funded through the Climate Commitment Act (CCA) and the subaccount labeled the Climate Commitment Account. In the current on-going Energy Renewal Program implementation plan, the team is exploring funding options and pairing projects with the funding sources. We are also structuring projects to optimize federal funding reimbursement opportunities. This project will seek partial cost reimbursement through federal programs via the Infrastructure Act and Inflation Reduction Act. Application for federal cost reimbursement does not occur until the project is completed and in-service.

Figure 1 – Location diagram



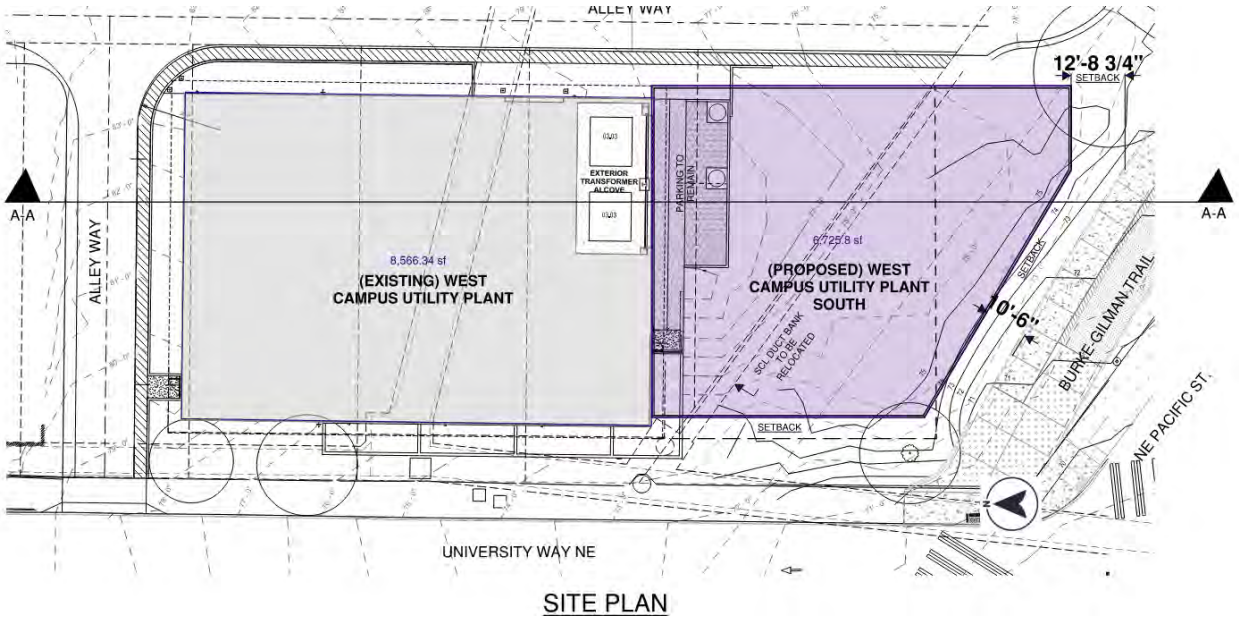


Figure 1 – Location diagram

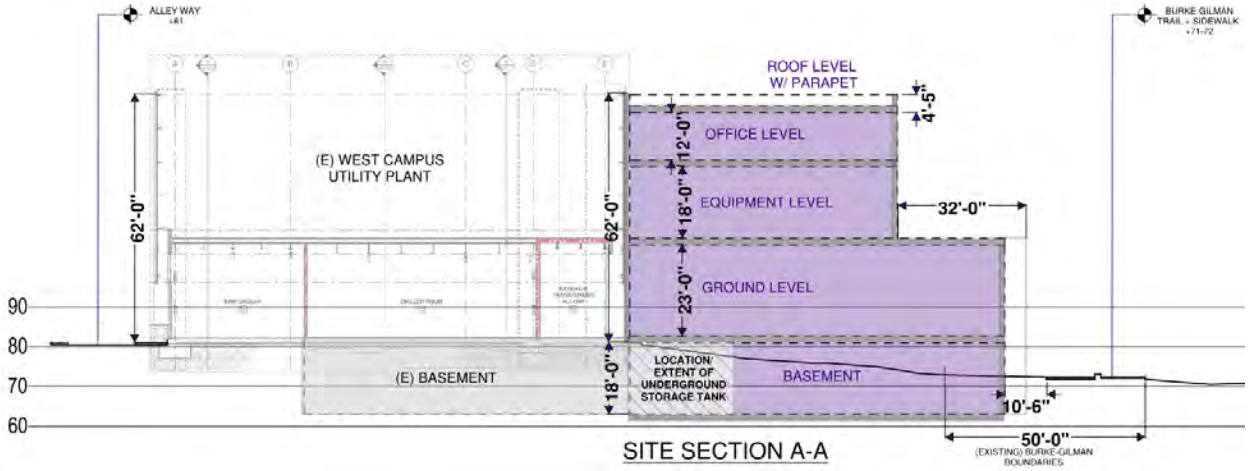
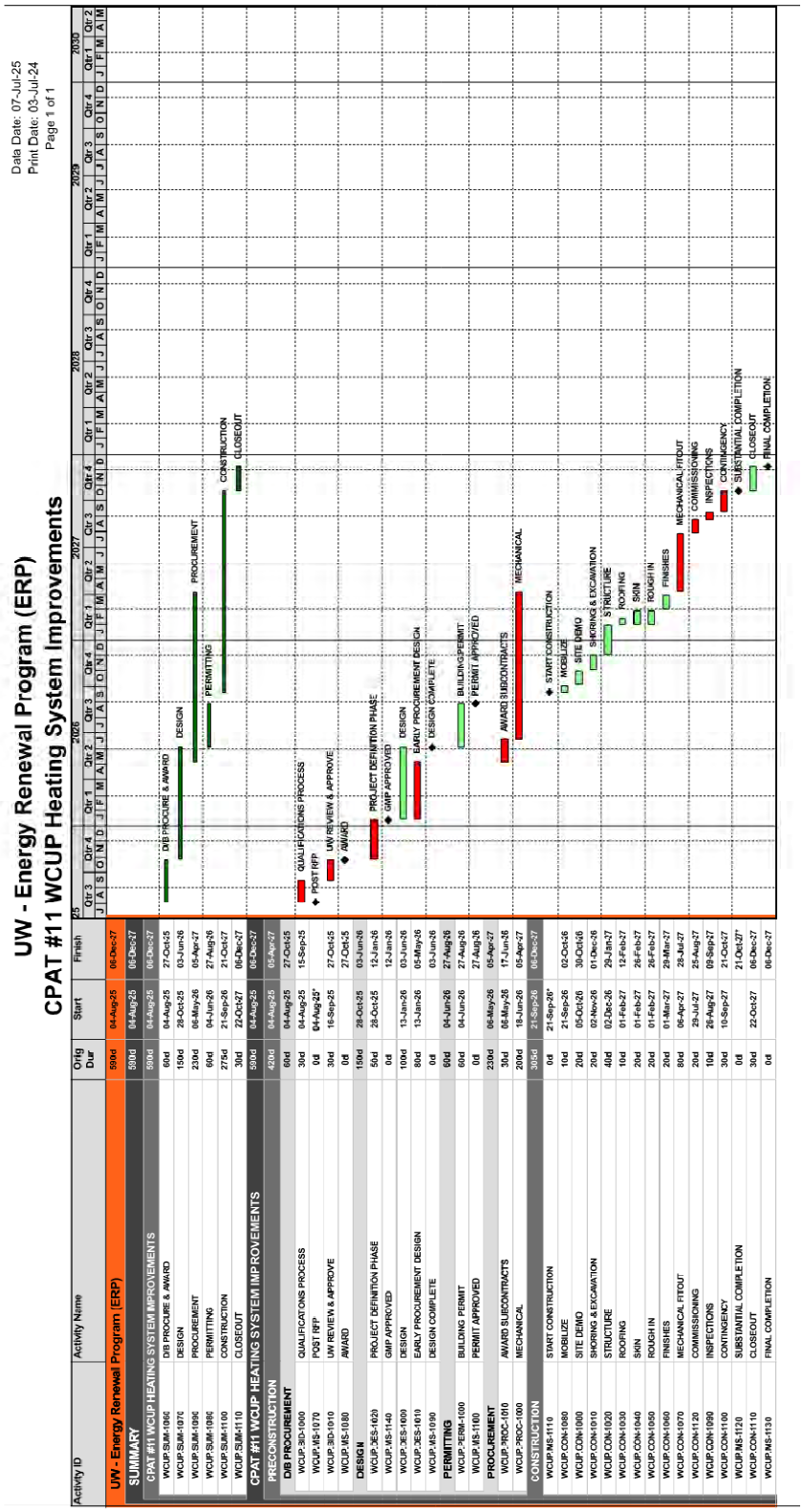


Figure 2 – Schedule



UW Clean Energy Transformation 25-27
West Receiving Station Electrical Infrastructure Upgrade
Supporting Project Information

1. Sub-Project Name*:* West Receiving Station Electrical Infrastructure Upgrade

2. Description of problem:

The existing electrical infrastructure from Seattle City Light (SCL) does not meet the current and future demands or reliability standards of the University. The electrical service from SCL has known issues addressing the campus demand in peak events and meeting the campus reliability standards during normal operating conditions. The existing issues include a lack of reliability, insufficient redundancy, and frequent voltage sags that negatively impact mechanical, research and medical equipment. UW recorded 30 voltage sags in the last 18 months with varying degrees of equipment disruption.

The Energy Renewal Program (ERP) will remove carbon creating sources of energy from the campus and transfer the heating loads to the electrical system. Electrifying the heating load of the campus creates a new additional load that the electrical system must support. These new electrical loads exceed the recommended level of spare capacity which limits the connection of future loads or future expansion and removes redundancy, a crucial element for reliable power to a tier 1 research facility and leading medical center. The unreliable and insufficient electrical infrastructure presents a significant obstacle to the campus's ability to achieve its decarbonization goals and maintain operational stability. To support the ERP, the campus needs a new transmission-level service from SCL.

3. Description of solution:

To address the identified problems and create a reliable electrical system that supports the campus goals, UW is working with Seattle City Light (SCL) who supplies power to the campus. Based on previous studies by SCL and analysis of the current University District substation, the recommended solution is to design and construct new transmission lines from the SCL primary distribution system to a new substation (UW Substation) which will resupply the existing West Receiving Station (WRS). The new UW Substation will be located at the existing Northlake Building site, located at 814 NE Northlake Pl.

The new substation brings substantial resiliency and redundancy to the campus. The intent is that the University will be the only customer served by the new SCL transmission lines (aka feeders) and it will not serve other customers who could introduce voltage sags or maintenance interruptions on the service. The conductors would be installed underground where they have significant protection from physical damage including downed trees and vehicle traffic interruptions. The project introduces reliable N+1 redundancy to the campus such that power is not limited or interrupted even during peak demand events.

The project shall include:

- Extension of 115kV transmission line from Interstate 5 (I-5) toward the University to the new UW Substation. This line originates south of the existing SCL University Substation along I-5 and will terminate at the new UW owned substation at the Northlake Building site.
- New underground transmission lines from SCL to be buried in a utility duct bank. The system will be a looped transmission line configuration.
- Provide (2) sets, approximately 1,200 feet each, 115KV, oil insulated transmission cables (Final cable specification by SCL). Include underground routing and long-term right of way

permitting costs for utilities in the SDOT right of way. Transmission line routes should be separated by a city block where possible and should not share a trench. Transmission line design shall be per SCL's design standards. The assumption at this time is that this work would be performed by Seattle City Light, with the cost covered through the utility rates paid back to SCL over the following years. Negotiations regarding the cost structure with SCL are still on-going.

- Provide three major duct banks out of the substation routed to the existing West Receiving Station. Each duct bank shall be (9) 6" conduits in 3x3 configuration. Feeders should be 15kv rated armored cable with (3)750 kCMIL and ground.
- Remove four existing SCL transformers at the WRS and bypass with new 13.8 kV feeders. Land new 13.8 kV feeders on existing WRS Switchgear. Decommission and remove existing SCL equipment from the site.
- The substation site should contain the following features:
    - Dual-level construction
    - Level 1 will be subterranean and will house the transmission line entrance and transformers.
    - Provide enclosed utility building on level 2. The intent is for equipment to be housed indoors, protected from the weather, and secured from the public.
    - Truck access from the Burke-Gilman Trail, 8th Ave NE, and NE Northlake Way
    - Transmission lines enter the UW Substation underground.
    - 115kV bussing, overcurrent protection, and switching in breaker and a half configuration – air insulated.
    - Transmission line oil pump house with oil filter
    - Maintenance access and truck aisles within the substation yard
    - SCL metering enclosure (separate structure)
    - Three (3) 60 MW Transformers
    - 115 kV Primary, 13.8 kV Secondary
    - ONAF cooling [ONAF = Oil filled (O), with natural convection (N), air cooled (A) with forced air (F)]
    - 3 hour rated walls between transformers
    - Capacitor banks
    - Line reactors
    - Control room
    - Control room shall contain UPS battery system or
    - Standby diesel genset
    - 13.8 kV distribution switchgear (Ring Bus)
    - 5000A bussing, 15kV rated, metal-clad switchgear.
    - 20 output breakers, each rated for 1200A with adjustable trip ratings.
- Preliminary ownership structure proposes that the substation land and secondary lines shall be University-owned. Primary lines entering the substation and the transformers and gear shall be SCL-owned and maintained. Primary metering for SCL billing shall be at this location.
- New University-owned copper feeders from the new UW Substation to the WRS. University owned conductors shall be installed in a new tunnel.

- Depending on distance from the new substation to the WRS, the feeders may be required to be superconductors in lieu of copper.

See Figure 1 for site location.

4. How does this project contribute to meeting the greenhouse gas emissions limits *established in RCW 70A.45.050 (Greenhouse gas emission limits for state agencies), Clean Buildings performance standards in RCW 19.27A.210, or other statewide goals to reduce carbon pollution and/or improve efficiency?*

The West Receiving Station Electrical Infrastructure Upgrade will not provide any direct energy, cost, or greenhouse gas savings initially.

Over a longer time period, as the University continues to deploy its Energy Strategy, the increased electrical capacity and reliability of the system will play a critical role in allowing the University to operate primarily on heat pumps rather than fossil-fuel boilers as well as maintaining the quality and service required of a Tier 1 research university and leading regional medical center. Electrified heating sources (heat pumps, electric boilers) are essential to reducing the University's use of fossil-fuels but require significantly more electrical capacity than the current SCL system can deliver.

Quantifying this individual project's contribution in the near-term is difficult, however as part of the longer-term heat pump strategy outlined above, the anticipated GHG savings for those combined projects is 71,600 MTCO2e (metric tons equivalent CO2), which represents approximately 84% of the campus's current greenhouse gas emissions.

5. How does this project align with the UW Campus Master Plan and UW Energy Strategy?

All projects in the Clean Energy Transformation 25-27 request support the University's Energy strategy and Sustainability Action Plan to decarbonize the campus. The proposed project aligns with the UW Energy Strategy for the electrification of heating and cooling.

A new electrical substation was not anticipated when the Campus Master Plan was published in 2019. The proposed location in west campus will displace a potential development site that could accommodate future campus growth. The proposed location is well situated between the existing SCL University District substation and UW's West Receiving Station with good service truck access and elevation change that can accommodate a single level or double level substation layout. The proposed site receives significant car/street noise from the I-5 and University Street bridges which makes the site more suitable for utility infrastructure rather than a future academic building.

6. Schedule
The schedule for this request is:

Task	**Date range**
Funding available	July 2025
Contractor Selection Process	September 2025- November 2025
Design & Permit	November 2025 – March 2028
Construction	September 2028 – January 2030

Commissioning & Start-up	January 2030 – June 2030

- Note: Construction start date is being driven by SCL procurement (assumed 24 months). We have conservatively assumed that SCL will order gear once an early procurement design package has been developed.

A Gantt chart style schedule is provided in Figure 2.

7. Budgets

Capital budget (this phase)	$50,100,000
O&M costs	Minimal maintenance is required for underground electrical system. Maintenance of the primary electrical gear of the new substation is assumed to be by Seattle City Light.

A conceptual level cost estimate is provided in Appendix B.

8. Funding

All 25-27 Clean Energy Transformation projects will be initially funded through the Climate Commitment Act (CCA) and the subaccount labeled the Climate Commitment Account. In the current on-going Energy Renewal Program implementation plan, the team is exploring funding options and pairing projects with the funding sources. We are also structuring projects to optimize federal funding reimbursement opportunities. This project will seek partial cost reimbursement through federal programs via the Infrastructure Act and Inflation Reduction Act where applicable. Since this project partners with Seattle City Light (SCL), SCL, as a public utility, may be eligible for funding from the Infrastructure Act and Inflation Reduction Act that UW cannot access.

Application for federal cost reimbursement does not occur until the project is completed and in-service.

9. Site Selection

The project team analyzed twelve (12) site options for the new UW Station between the existing SCL University District substation and the UW West Receiving Station. The site selection criteria included:

1. Location proximity to the SCL substation and the UW West Receiving Station
2. Parcel size
3. Ability to accommodate four substation layout options: 1) single level with air insulated switchgear, 2) single level with gas insulated switchgear, 3) double level with air insulated switchgear, and 4) double level with gas insulated switchgear.
4. Service truck access
5. Underground transmission and distribution access
6. Proximity to underground utility tunnels
7. Existing structure requiring demolition and relocation of occupants
8. Existing known hazardous materials requiring remediation
9. Existing parking that will be displaced

10. Security issues & mitigation requirements
11. Entitlements required & land use restrictions
12. Campus Master Plan impacts, opportunity cost, view corridor impacts
13. Impacts to campus life.

The site that best meets the selection criteria is the site located at 814 NE Northlake Pl, the Northlake Building site. This property is currently owned by UW and the 20,077 GSF building, originally built in 1928, is used for storage by the Drama department and Building services (custodial). The site is the appropriate size for a two level with gas insulated switchgear substation layout, has good service truck access and the least impact to future campus growth per the Campus Master Plan. See Figure 3 for site selection matrix.

Figure 1 – Location diagram

Northlake Building Site – Combined Parcel Exhibit.

Satellite perspective image of the Northlake Building site.

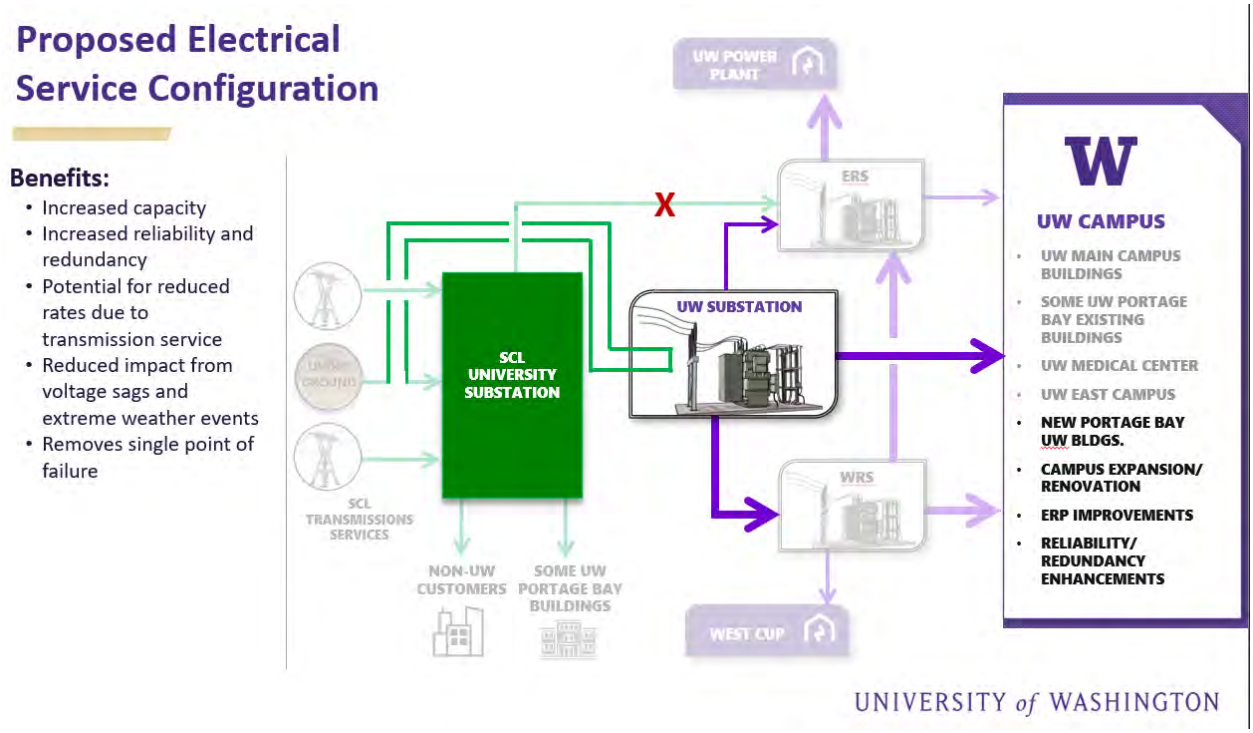


Diagram of the proposed UW Substation and the existing service that it replaces (in halftone).

Figure 2 – Schedule

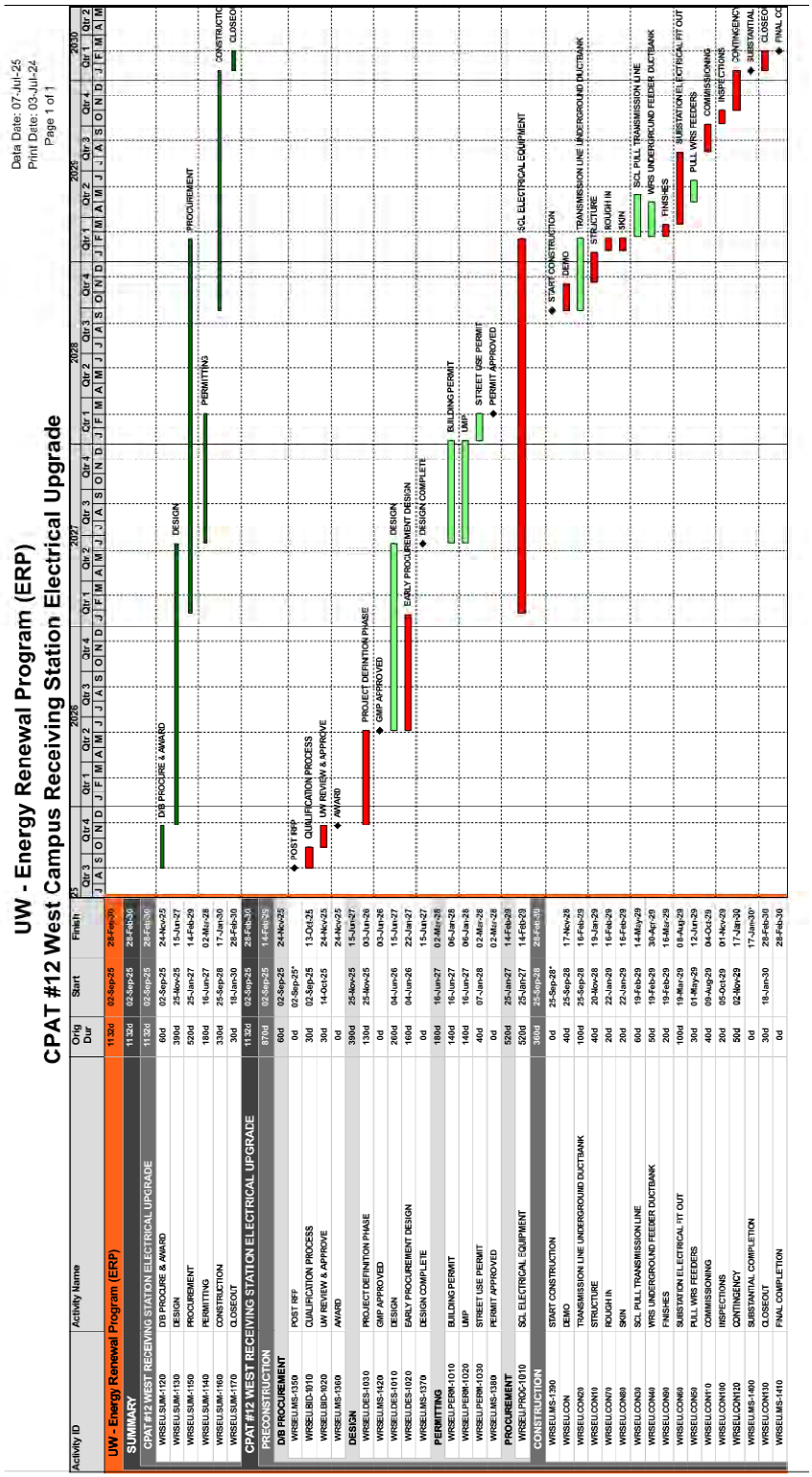
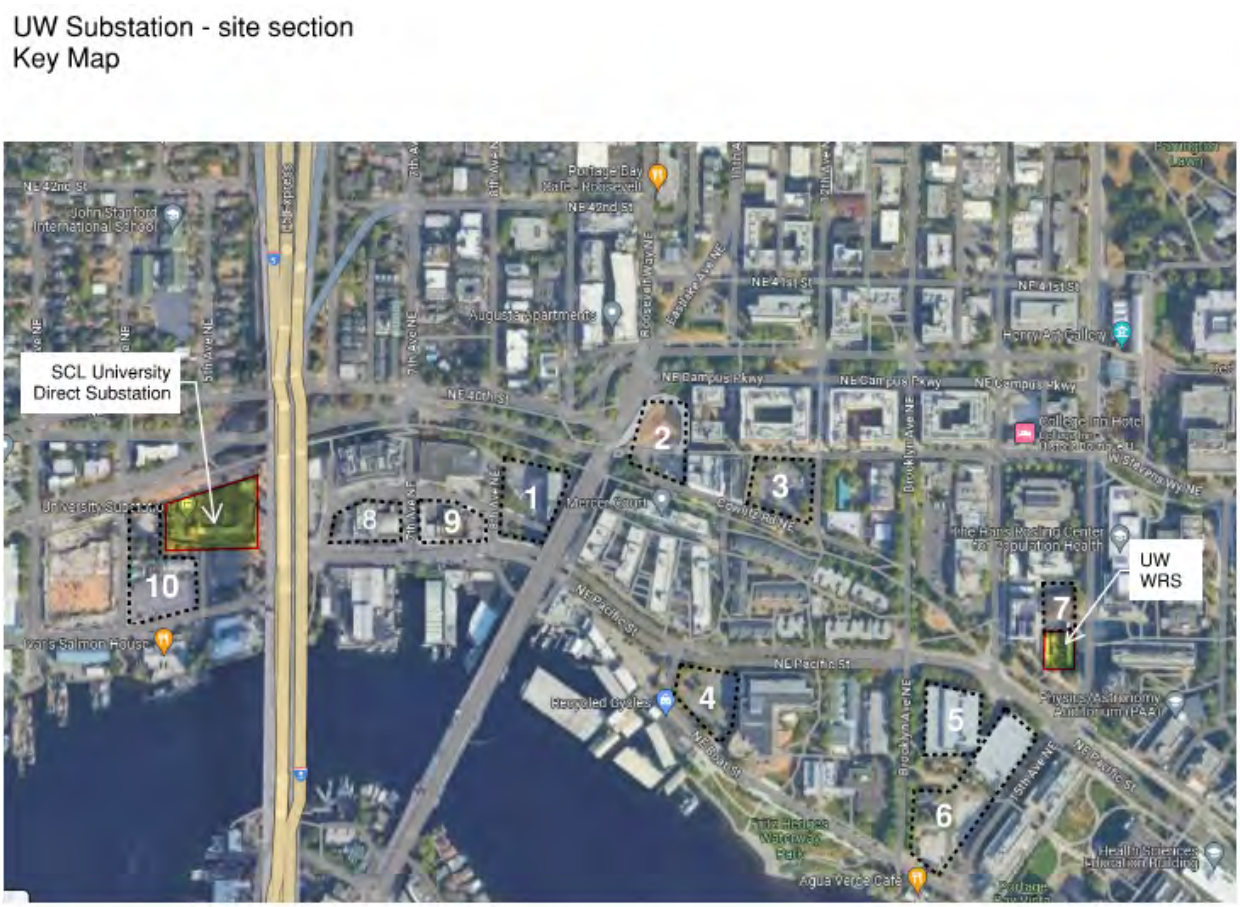


Figure 3 – Site Selection matrix



UW Substation Site Selection Matrix

Updated: 6/3/24

- Site meets criteria
- Site meets criteria with minimal risk mitigation
- Site does not meet criteria

Footprint required:	
Single level, air insulated switchgear	**41,000** SF
Single level, gas insulated switchgear	**28,000** SF
Double level, air insulated switchgear	**30,000** SF above ground + 20,000 SF below ground
Double level, gas insulated switchgear	**24,000** SF above ground + 22,000 SF below ground

Location Diagrams - not to scale

	Option 1.1 - Northlake	Option 1.2 - Northlake + (W37)	Option 2.1 - NE 40th Street off-ramp
	Site area: 28,258 SF 814 NE Northlake Place	Site area: 28,258+2,300+road = 44,643 NE Northlake Way	Site area: 15,240 SF
PREREQUISITE			
0.1 Site location is between SCL University District substation and West Receiving Station	Yes	Yes	Yes
0.2 Site is close to the SCL University District substation (shorter transmission line distance)	*950 ft*	950 ft	1245 ft
0.3 Site is close to the UW West Receiving station (WRS) (shorter secondary cable)	*3640 ft*	3640 ft	3440 ft
0.4 Is the site currently owned by the University of Washington?	Yes	Yes for land parcel, UW does not own the street right-of-way	Yes
Parcel Size			
Site can accommodate UW Substation layout (air insulated, single story)	no	yes	no
Site can accommodate UW Substation layout (**gas** insulated, single story)	yes	yes	no
Site can accommodate UW Substation layout (air insulated, double story)	no	yes	no
Site can accommodate UW Substation layout (**gas** insulated, double story)	yes	yes	no
			eliminated, no further review require
Access & configuration			
Site provides truck access to two entry points (for service vehicle access)	Yes	Yes	
Site provides fire truck access	Yes	Yes	
Is the parcel configuration usable for substation layout?	Yes	Yes	
Is the site adjacent to existing utility tunnels, duct banks?	no	no	
Is the site adjacent to proposed utility tunnels, duct banks	Yes, proposed direct bury along Burke-Gilman trail and then proposed tunnel	Yes, proposed direct bury along Burke-Gilman trail and then proposed tunnel	
Ability to get underground conduits in and out or substation	Yes	Yes	
If double story, will need a truck access to both level	Yes, site sloped	Yes, site sloped	

UW Substation Site Selection Matrix

Updated: 6/3/24

- Site meets criteria
- Site meets criteria with minimal risk mitigation
- Site does not meet criteria

Footprint required:	
Single level, air insulated switchgear	**41,000** SF
Single level, gas insulated switchgear	**28,000** SF
Double level, air insulated switchgear	**30,000** SF above ground + 20,000 SF below ground
Double level, gas insulated switchgear	**24,000** SF above ground + 22,000 SF below ground

Location Diagrams - not to scale

	Option 1.1 - Northlake	Option 1.2 - Northlake + (W37)	Option 2.1 - NE 40th Street off-ramp
	Site area: 28,258 SF 814 NE Northlake Place	Site area: 28,258+2,300+road = 44,643 NE Northlake Way	Site area: 15,240 SF
Existing structures/conditions			
Is there an existing building on site that will be demolished?	Yes	Yes	
Does the site have any known hazardous materials?	No	No	
Is there any parking on the site? General public or permit? # of stalls displaced?	Yes, 19 stalls, UW permit	Yes, 34 stalls, UW permit	
Is relocation of occupants required	Yes	Yes	
Water table height for the site			
Security			
Can a solid security wall be constructed around the substation?	Yes	Yes	
Can anyone access the site from above?	Could through stuff from University bridge overpass	Could through stuff from University bridge overpass	
Does a substation on this site create a "dead zone" (no eyes on the site)	No, along Burke Gilman trail	No, along Burke Gilman trail	
Entitlements			
Does the site require easements? From who?	no	no	
Does the site require a street or alley vacation?	no	yes, street vacation required	
Does the site require a lot boundary adjustment?	no	Likely, after street vacation	
Is substation a permitted use per land use code?			
Is the site within the Shoreline zone?	no	The southern P/L may touch the shoreline zone	
Height restrictions for substation?			
Zoning (for land not owned by UW)	N/A	N/A	
Set-back requirement from security wall			
Long Term Campus Benefits			
Is the site a potential development site (per Campus Master Plan)?	yes	yes,	
Opportunity cost : what could be developed on the site?	W37: 245,000 GSF potential, 14 floors, 160' height limit	W37: 245,000 GSF potential, 14 floors, 160' height limit	
A substation on this site does not create significant view impacts	No	No	
A substation on this site will not impede pedestrian corridors	No	No	
Does a substation on this site have the potential to impact future neighboring development?	No	No	

UW Substation Site Selection Matrix

Updated: 6/3/24

- Site meets criteria
- Site meets criteria with minimal risk mitigation
- Site does not meet criteria

Location Diagrams - not to scale

	Option 2.2 - NE 40th Street off-ramp	Option 3 - W10 Parking Lot (W24)	Option 4 - Fisheries Parking Lot (W36)
	Site area: With ramp, 21,000 SF. With Linc Way 22,000 SF	Site area: 32,400 SF campus parkway	Site area: SF NE Pacific Street
PREREQUISITE			
0.1 Site location is between SCL University District substation and West Receiving Station	Yes	Yes	Yes
0.2 Site is close to the SCL University District substation (shorter transmission line distance)	1245 ft	1650 ft	2025 ft
0.3 Site is close to the UW West Receiving station (WRS) (shorter secondary cable)	3440 ft	2470 ft	2160 ft* * - does not provide for separation between feeders for resiliency
0.4 Is the site currently owned by the University of Washington?	Yes, for the parcel but may require a street vacation of Lincoln Way & off ramp	Yes	Yes
Parcel Size			
Site can accommodate UW Substation layout (air insulated, single story)	no	no	no
Site can accommodate UW Substation layout (**gas** insulated, single story)	no	yes	yes
Site can accommodate UW Substation layout (air insulated, double story)	yes, lot size may depend on vacation of off ramp and Lincoln Way	yes	yes
Site can accommodate UW Substation layout (**gas** insulated, double story)	yes, lot size may depend on vacation of off ramp and Lincoln Way	yes	yes
Access & configuration			
Site provides truck access to two entry points (for service vehicle access)	Yes	Yes	Yes
Site provides fire truck access	Yes	Yes	Yes
Is the parcel configuration usable for substation layout?	Yes	Yes	Yes
Is the site adjacent to existing utility tunnels, duct banks?	No	Yes	no
Is the site adjacent to proposed utility tunnels, duct banks	No	Yes	Yes
Ability to get underground conduits in and out or substation	Yes	Yes	Yes
If double story, will need a truck access to both level	Yes, site sloped	Yes, will require an internal ramp	Yes, will require an internal ramp

UW Substation Site Selection Matrix

Updated: 6/3/24

- Site meets criteria
- Site meets criteria with minimal risk mitigation
- Site does not meet criteria

Location Diagrams - not to scale

	Option 2.2 - NE 40th Street off-ramp	Option 3 - W10 Parking Lot (W24)	Option 4 - Fisheries Parking Lot (W36)
	Site area: With ramp, 21,000 SF. With Linc Way 22,000 SF	Site area: 32,400 SF campus parkway	Site area: SF NE Pacific Street
Existing structures/conditions			
Is there an existing building on site that will be demolished?	No	No	No
Does the site have any known hazardous materials?	No	No	No
Is there any parking on the site? General public or permit? # of stalls displaced?	Yes, Traffic modification	Yes, 100 stalls, UW permit	Yes, 72 stalls, UW permit
Is relocation of occupants required	No	No	No
Water table height for the site			
Security			
Can a solid security wall be constructed around the substation?	Yes	Yes	Yes
Can anyone access the site from above?			
Does a substation on this site create a "dead zone" (no eyes on the site)		creates a dead zone in active residential area	
Entitlements			
Does the site require easements? From who?			
Does the site require a street or alley vacation?	yes, street vacation required		
Does the site require a lot boundary adjustment?	Likely, after street vacation		
Is substation a permitted use per land use code?			
Is the site within the Shoreline zone?	No	No	yes, southern half of the site is within Shoreline zone
Height restrictions for substation?			
Zoning (for land not owned by UW)	N/A	N/A	N/A
Set-back requirement from security wall			
Long Term Campus Benefits			
Is the site a potential development site (per Campus Master Plan)?	Maybe, could impact W23 development site (southern parking area)	yes, puts a hole in Portage Bay Crossing plan, one of the prime development sites	yes
Opportunity cost : what could be developed on the site?	W23: 345,000 GSF, 17 floors, 240' height limit	W24: 405,000, 17 floors, 240 ft height limit	W36: 90,000 GSF, 9 floors, 160/130' height limit
A substation on this site does not create significant view impacts	Right at "gateway" to University via University Bridge	yes	Maybe
A substation on this site will not impede pedestrian corridors	No	yes	
Does a substation on this site have the potential to impact future neighboring development?	No, adjacent to UW housing	Maybe	

UW Substation Site Selection Matrix

Updated: 6/3/24

- Site meets criteria
- Site meets criteria with minimal risk mitigation
- Site does not meet criteria

Location Diagrams - not to scale

Option 5 - Portage Bay Parking facility

Site area: SF
NE Pacific Street

Option 6 - Portage Bay Parking (W35) + Ocean Research +W33

Site area: SF
NE Pacific Street

Option 7 - LDS property

Site area: 16,480 SF
3925 15th Ave NE

PREREQUISITE						
0.1	Site location is between SCL University District substation and West Receiving Station		Yes		Yes	Yes, sort of
0.2	Site is close to the SCL University District substation (shorter transmission line distance)		2400 ft		2700 ft	2750 ft
0.3	Site is close to the UW West Receiving station (WRS) (shorter secondary cable)		550 ft		360 ft	Adjacent to WRS
0.4	Is the site currently owned by the University of Washington?		Yes		yes	No
Parcel Size						
	Site can accommodate UW Substation layout (air insulated, single story)		no		yes	no
	Site can accommodate UW Substation layout (**gas** insulated, single story)		yes		yes	no
	Site can accommodate UW Substation layout (air insulated, double story)		yes		yes	no
	Site can accommodate UW Substation layout (**gas** insulated, double story)		yes		yes	no
						eliminated, no further review required
Access & configuration						
	Site provides truck access to two entry points (for service vehicle access)		Yes		Yes	
	Site provides fire truck access		Yes		Yes	
	Is the parcel configuration usable for substation layout?		Yes		Yes	
	Is the site adjacent to existing utility tunnels, duct banks?		Yes		Yes	
	Is the site adjacent to proposed utility tunnels, duct banks		Yes		Yes	
	Ability to get underground conduits in and out or substation		Yes		Yes	
	If double story, will need a truck access to both level		Yes, will require an internal ramp		Yes, will require an internal ramp	

UW Substation Site Selection Matrix

Updated: 6/3/24

- Site meets criteria
- Site meets criteria with minimal risk mitigation
- Site does not meet criteria

Location Diagrams - not to scale

Option 5 - Portage Bay Parking facility

Site area: SF
NE Pacific Street

Option 6 - Portage Bay Parking (W35) + Ocean Research +W33

Site area: SF
NE Pacific Street

Option 7 - LDS property

Site area: 16,480 SF
3925 15th Ave NE

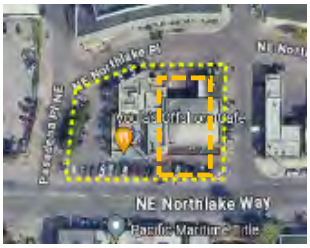
Existing structures/conditions			
Is there an existing building on site that will be demolished?	Yes	Yes	
Does the site have any known hazardous materials?	?	? Groundwater issues?	
Is there any parking on the site? General public or permit? # of stalls displaced?	Yes, parging garage, UW permit & some visitor,	Yes, parging garage, UW permit & some visitor,	
Is relocation of occupants required	?	Yes, child care facility	
Water table height for the site			
Security			
Can a solid security wall be constructed around the substation?	Yes	Yes	
Can anyone access the site from above?			
Does a substation on this site create a "dead zone" (no eyes on the site)			
Entitlements			
Does the site require easements? From who?			
Does the site require a street or alley vacation?			
Does the site require a lot boundary adjustment?			
Is substation a permitted use per land use code?			
Is the site within the Shoreline zone?	No	yes, only the southern part of the site (maybe 20')	No
Height restrictions for substation?			
Zoning (for land not owned by UW)	N/A	N/A	
Set-back requirement from security wall			
Long Term Campus Benefits			
Is the site a potential development site (per Campus Master Plan)?	yes	yes	
Opportunity cost : what could be developed on the site?	W34: 230,000 GSF, 14 floors, 160/130' height limit	W33: 235,000 GSF, 14 floors, 160/130 height limit W35: 225,000 GSF, 14 floors, 160/130' height limit	
A substation on this site does not create significant view impacts			
A substation on this site will not impede pedestrian corridors			
Does a substation on this site have the potential to impact future neighboring development?			

UW Substation Site Selection Matrix

Updated: 6/3/24

- Site meets criteria
- Site meets criteria with minimal risk mitigation
- Site does not meet criteria

Location Diagrams - not to scale



Option 8 - property south of Ben Hall

Site area: 8,500+2,928+8,925 = 20,393 SF
NE Northlake Way

Option 9 - property south of Publication Services

Site area: 8,175+ 6,900+3650 = 18,725 SF
NE Northlake Way

Option 10 - Adjacent to SCL Univ District Substation

Site area: 12,039+4,000+8,000+22,846+4,000 = 50,885 SF
NE Northlake Way

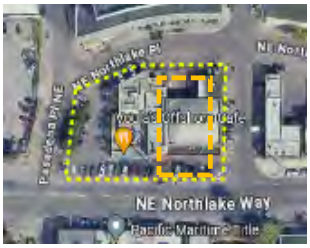
PREREQUISITE							
0.1	Site location is between SCL University District substation and West Receiving Station		Yes		Yes		No
0.2	Site is close to the SCL University District substation (shorter transmission line distance)		600 ft		900 ft		0 ft
0.3	Site is close to the UW West Receiving station (WRS) (shorter secondary cable)		5300 ft		4900 ft		5900 ft
0.4	Is the site currently owned by the University of Washington?		Yes, UW is purchasing the 688 NE Northlake Way property but does not own the other 2 parcels (Tavern & their parking lot)		Yes, UW owns the W40 parking lot, but does no not the other 2 parcels (SCL & Private)		No
Parcel Size							
	Site can accommodate UW Substation layout (air insulated, single story)		no		no		yes
	Site can accommodate UW Substation layout (**gas** insulated, single story)		no		no		yes
	Site can accommodate UW Substation layout (air insulated, double story)		no		no		yes
	Site can accommodate UW Substation layout (**gas** insulated, double story)		no		no		yes
Access & configuration							
	Site provides truck access to two entry points (for service vehicle access)		Yes		Yes		Yes
	Site provides fire truck access		Yes		Yes		Yes
	Is the parcel configuration usable for substation layout?		Yes		Yes		Yes
	Is the site adjacent to existing utility tunnels, duct banks?		no		no		no
	Is the site adjacent to proposed utility tunnels, duct banks		no		no		no
	Ability to get underground conduits in and out or substation		Yes		Yes		Yes
	If double story, will need a truck access to both level		Yes		Yes		Yes

UW Substation Site Selection Matrix

Updated: 6/3/24

- Site meets criteria
- Site meets criteria with minimal risk mitigation
- Site does not meet criteria

Location Diagrams - not to scale



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NE Northlake Way

Option 10 - Adjacent to SCL Univ District Substation

Site area: 12,039+4,000+8,000+22,846+4,000 = 50,885 SF
NE Northlake Way

Existing structures/conditions			
Is there an existing building on site that will be demolished?	Yes, current location of UW diesel engine testing lab	Yes	Yes
Does the site have any known hazardous materials?	Unknown	Yes, SCL property	Unknown
Is there any parking on the site? General public or permit? # of stalls displaced?	Yes, private - for the restaurant on-site	Yes, 20 stalls, UW permit	Yes, private
Is relocation of occupants required	Yes, restaurant & UW lab	Yes, private office space	Yes
Water table height for the site			
Security			
Can a solid security wall be constructed around the substation?			
Can anyone access the site from above?			
Does a substation on this site create a "dead zone" (no eyes on the site)			
Entitlements			
Does the site require easements? From who?			
Does the site require a street or alley vacation?			
Does the site require a lot boundary adjustment?			
Is substation a permitted use per land use code?			
Is the site within the Shoreline zone?	Yes, at least half of the site is within the Shoreline zone	Yes, at least half of the site is within the Shoreline zone	Maybe, southern edge may be in Shoreline zone
Height restrictions for substation?			
Zoning (for land not owned by UW)			
Set-back requirement from security wall			
Long Term Campus Benefits			
Is the site a potential development site (per Campus Master Plan)?	N/A, property was not included in the 2019 CMP	N/A, property was not included in the 2019 CMP	N/A, outside UW boundary
Opportunity cost : what could be developed on the site?			N/A, private development?
A substation on this site does not create significant view impacts			No, outside UW boundary
A substation on this site will not impede pedestrian corridors	No	No	No, outside UW boundary
Does a substation on this site have the potential to impact future neighboring development?	No	No	No, outside UW boundary

UW Clean Energy Transformation 25-27
Chiller Installation
Supporting Project Information

1. Sub-Project Name*:* Chiller Installation

2. Description of problem:

Chiller #5 was purchased in advance of new regulations which would have prevented the use of the same type of chiller that is currently in place. The chiller itself has been purchased with separate funds and this funding request is for the design and construction of the installation including additional supporting equipment required for the function of the new chiller.

The chiller is required to address deferred maintenance of stand-alone chiller equipment as well as to enable centralizing cooling. Centralized cooling is a more energy efficient approach and provides more reliability due to centralized maintenance.

3. Description of solution:

Chiller #5 will be installed in the West Campus Utility Plant (WCUP).

The project will provide the following to accommodate the new chiller:

- Installation of Chiller #5 (owner furnished, contractor installed)
- New 300 HP primary chilled water pump with VFD
- New 1750-ton cross flow cooling tower
- New 250 HP cooling tower pump with VFD
- New electrical substation, switchgear, relay, and meter, and feeders to new chiller, pumps, and cooling tower
- Extend the length of the existing 36” condenser water supply and return headers and provide future taps for connection to future cooling towers provided under SOW-P-7 WCUP HRCs and Cooling Towers
- Extend the length of the existing 20” CT equalizing line and provide future taps for connection to future cooling towers provided under SOW-P-7 WCUP HRCs and Cooling Towers
- 140 ft of 12” condenser water pipe
- 200 ft of 12” chilled water pipe
- Structural modifications and additions to support all new piping from foundation
- Controls as required for fully operational system
- HVAC upgrades to chiller room
- Electrical infrastructure for Chiller #5.
    - Chiller #5 (1500 tons): Install new 480V, 2000A, 3Ph feeder from existing switchboard E to chiller. Utilize existing space in SUB_C. Provide new 2000A SEL relay and meter.
    - Cooling Tower (100HP): Provide new 300A, 480V, 3 Ph feeder from existing SUB_B to CT-5. Replace the existing 800A spare circuit breaker with the new 300A circuit breaker. Provide connection to 12 FLA, 480v basin heater.

- PCWP (300HP VFD): Provide 600A, 480V, 3P breaker and 600A feeder from SUB_C. Provide new 600A, 480V, 3 Ph feeder. Replace the existing 800A spare circuit breaker with a new 600A circuit breaker.
- CT Water Pump (250HP): Provide 500A, 480V, 3P breaker and 500A feeder from SUB_A. Provide new 500A, 480V, 3 Ph feeder. Replace the existing 800A spare circuit breaker with a new 500A circuit breaker.

4. How does this project contribute to meeting the greenhouse gas emissions *limits established in RCW 70A.45.050 (Greenhouse gas emission limits for state agencies), Clean Buildings performance standards in RCW 19.27A.210, or other statewide goals to reduce carbon pollution and/or improve efficiency?*

Installation of Chiller #5 will represent an increase in cooling efficiency for the buildings which have building-level chillers that will be re-served by the central chilled water system. This represents an energy improvement that will reduce campus energy use and assist in compliance with the Clean Building performance standards. The reduction of the electrical power from this cooling efficiency reduces the campus scope 2 greenhouse gas emissions.

5. How does this project align with the UW Campus Master Plan and UW Energy Strategy?

All projects in the Clean Energy Transformation 25-27 request support the University's Energy strategy and Sustainability Action Plan to decarbonize the campus. This project aligns with the UW Energy Strategy for centralized cooling.

This project has no impact on the UW Campus Master Plan since it occurs within an existing building.

6. Schedule
The schedule for this request is:

Task	Date range
Funding available	July 2025
Contractor Selection Process	August 2025- November 2025
Design & Permit	November 2025 – May 2026
Construction	December 2027 – June 2028
Commissioning & Start-up	June 2028 – July 2028

- Note: Construction start date is being driven by the unit substation procurement (assumed 18 months).

A Gantt chart style schedule is provided in Figure 2.

7. Budgets

Capital budget	$13,500,000
O&M costs	Minor increase to O&M due to additional equipment to existing maintenance program.

A conceptual level cost estimate is provided in Appendix B.

8. Funding

All 25-27 Clean Energy Transformation projects will be initially funded through the Climate Commitment Act (CCA) and the subaccount labeled the Climate Commitment Account. In the current on-going Energy Renewal Program implementation plan, the team is exploring funding options and pairing projects with the funding sources. We are also structuring projects to optimize federal funding reimbursement opportunities. This project will seek partial cost reimbursement through federal programs via the Infrastructure Act and Inflation Reduction Act as applicable. The application for Federal cost reimbursement does not occur until the project is completed and in-service.

Figure 1 – Location diagram

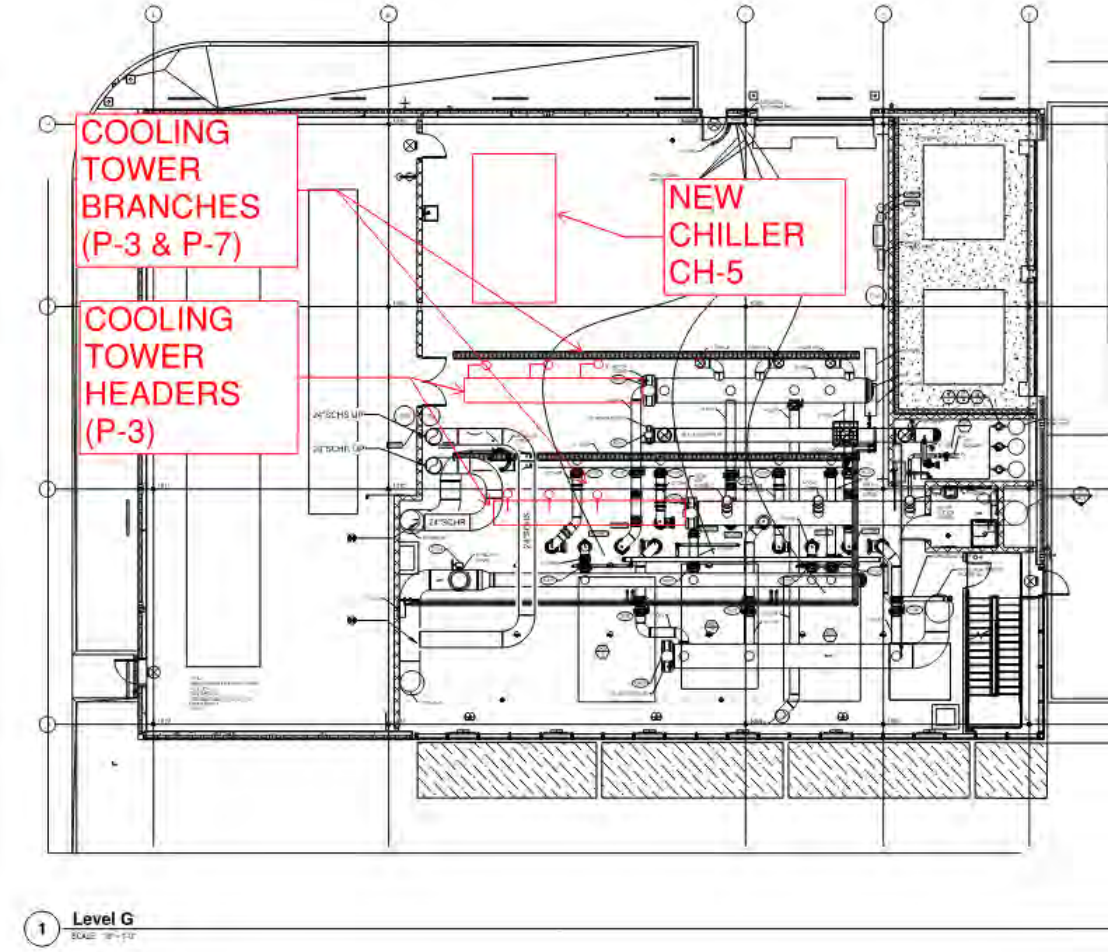
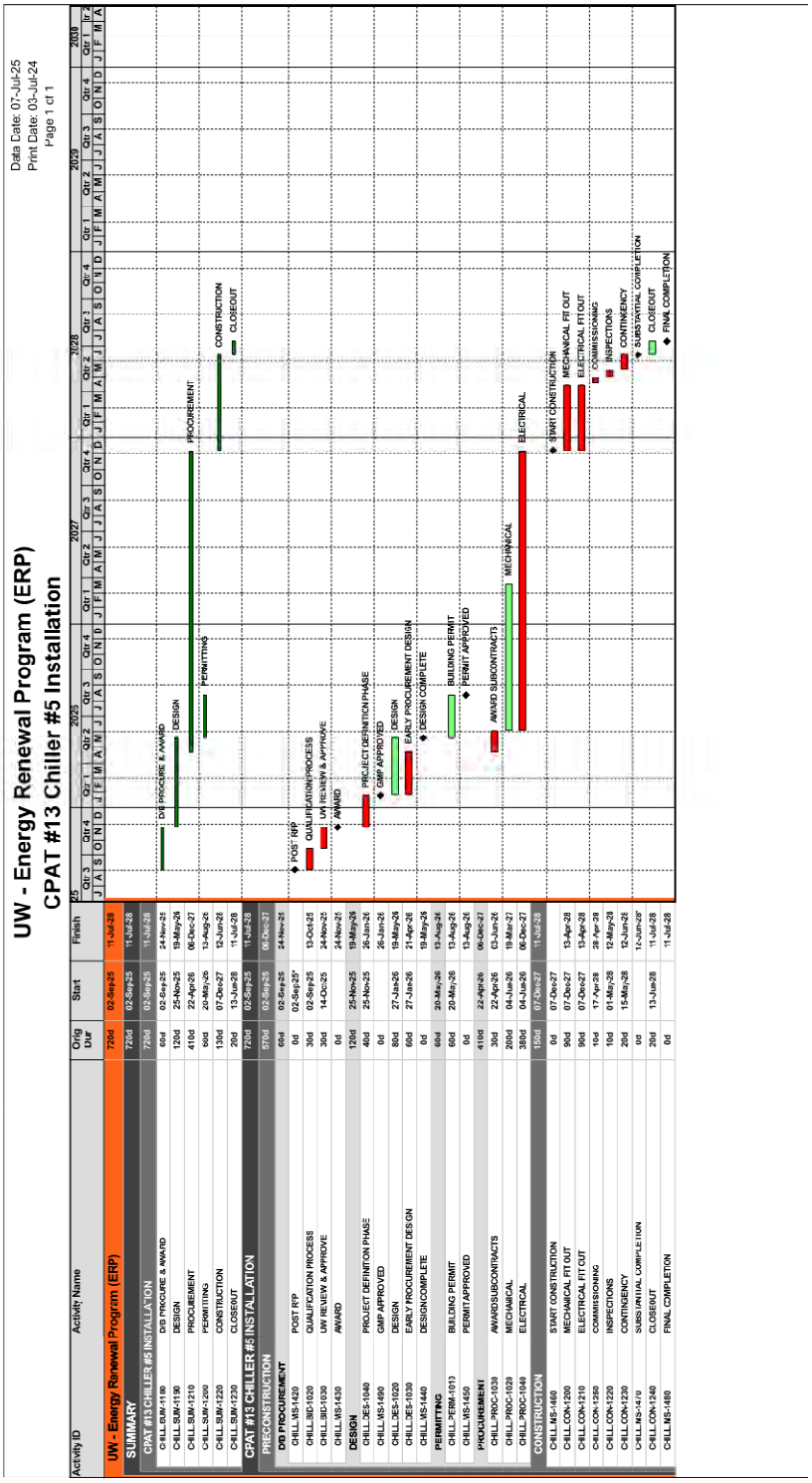


Figure 2 – Schedule



UW Clean Energy Transformation 25-27
District Energy Standards/Basis of Design
Supporting Project Information

1. Sub-Project Name: District Energy Standards/Basis of Design

2. Description of problem:

The UW Facility Design Guidelines do not currently cover key project elements associated with clean energy district systems such as direct bury hot water piping, heat recovery chillers and thermal energy storage systems. Additionally, the energy transformation projects will be designed and executed by multiple design and construction teams over a period of ten years. It is important that UW establish standards for consistent execution and to facilitate cost effective maintenance of the systems in the future. Based on previous experience with transforming campus energy systems, having consistency is crucial for long term effectiveness.

3. Description of solution:

UW will engage a third-party consulting engineer (Owner's Engineer) with expertise in district energy systems and civil engineering to develop a basis of design and design standards for the district energy system including hot water piping, heat exchangers, meters, and controls. To maintain the standards, the Owner's Engineer will review project designs and material submittals, review requests for deviations from the standards proposed by design-build teams and advise on approval or rejection of the deviation requests. This funding request seeks to cover the first two years of this effort.

4. How does this project contribute to meeting the greenhouse gas emissions limits *established in RCW 70A.45.050 (Greenhouse gas emission limits for state agencies), Clean Buildings performance standards in RCW 19.27A.210, or other statewide goals to reduce carbon pollution and/or improve efficiency?*

Not applicable.

5. How does this project align with the UW Campus Master Plan and UW Energy Strategy?

All projects in the Clean Energy Transformation 25-27 request support the University's Energy strategy and Sustainability Action Plan to decarbonize the campus. This project aligns with all components of the UW Energy Strategy.

6. Schedule
The schedule for this request is:

Task	Date range
Funding available	July 2025
Contractor Selection Process	August 2025- September 2025
Basis of Design Document	September 2025 – April 2026
On-going Construction Support	September 2025 – August 2027

7. Budgets

Capital budget (this phase)	$1,900,000
O&M costs	Not applicable

8. Funding

All 25-27 Clean Energy Transformation projects will be initially funded through the Climate Commitment Act (CCA) and the subaccount labeled the Climate Commitment Account. In the current on-going Energy Renewal Program implementation plan, the team is exploring funding options and pairing projects with the funding sources. It is unlikely this project will be eligible for IRA direct pay tax credits. However, there may be IRA funding available through the WA Department of Commerce grants or through the US Department of Energy.

1. Sub-Project Name: Lake Interface Advancement

2. Description of problem:

The Lake Interface project proposes to use cold water from Lake Washington from depths below 25 meters as a source of energy transfer for heating and cooling. The Lake Interface project will extract surface water approximately one (1) mile offshore in Lake Washington, pipe the water to an onshore heat exchanger and discharge the water in/near the Lake Washington Ship Canal or Portage Bay. Using heat pump technology, the University will then heat or cool buildings, depending on the time of the year. The Lake Interface project ideally, will contribute to mitigation of temperature-impacted water in Lake Washington Ship Canal in regard to salmon eco-systems.

Any interface with Lake Washington requires extensive permits and engagement with a broad range of internal and external stakeholders. The permitting and stakeholder engagement process, identified in the current implementation plan, will continue over multiple biennia.

To continue making progress on regulatory approvals for the non-consumptive use of lake water for campus heating and cooling, consulting support will be required beyond the duration of the current Energy Renewal Implementation Plan effort.

3. Description of solution:

UW Facilities will engage a consultant team to continue project definition, conceptual engineering for permits, coordination of environmental studies, coordination with Authority Having Jurisdiction (AHJ's), stakeholder and community engagement.

The third-party consultant will advance the design of the lake interface systems and lead the effort in establishing permitting requirements and timelines for federal, state, and local permits/approvals, including local critical areas and shoreline permits, SEPA/NEPA, WDFW Hydraulic Project Approval, Section 10 and Section 404 Corps permits, 401 Water Quality Certification, and Section 7 Endangered Species Act consultations.

The consultant team will have expertise in environmental consulting, permitting, and past installations of deep lake water cooling, campus infrastructure planning, water resources, environmental consulting, permitting construction-related and operation of surface water withdrawals/diversions and in-water utilities, and regulatory review.

See Appendix D – Lake Interface for a more in-depth discussion of entitlements, permitting requirements, stakeholder and community engagement.

4. How does this project contribute to meeting the greenhouse gas emissions limits *established in RCW 70A.45.050 (Greenhouse gas emission limits for state agencies), Clean Buildings performance standards in RCW 19.27A.210, or other statewide goals to reduce carbon pollution and/or improve efficiency?*

This phase of the project is not applicable.

5. How does this project align with the UW Campus Master Plan and UW Energy Strategy?

All projects in the Clean Energy Transformation 25-27 request support the University's Energy strategy and Sustainability Action Plan to decarbonize the campus. This project aligns with the central cooling and emerging technology components of the UW Energy Strategy.

6. Schedule
The schedule for this request is:

Task	**Date range**
Funding available	July 2025
Contractor Selection Process	August 2025- September 2025
Agency Coordination & Permitting	September 2025 – August 2027

7. Budgets

Capital budget (this phase)	$1,000,000
O&M costs	Not applicable

8. Funding

All 25-27 Clean Energy Transformation projects will be initially funded through the Climate Commitment Act (CCA) and the subaccount labeled the Climate Commitment Account. In the current on-going Energy Renewal Program implementation plan, the team is exploring funding options and pairing projects with the funding sources. We are also structuring projects to optimize federal funding reimbursement opportunities. It is unlikely that this project will be eligible for direct pay tax credits, however, we are exploring grant options either through the IRA or WA Department of Commerce.

Appendix B

Clean Energy Transformation 25-27

University of Washington
Agency 360
2025-2027
Capital Budget Request

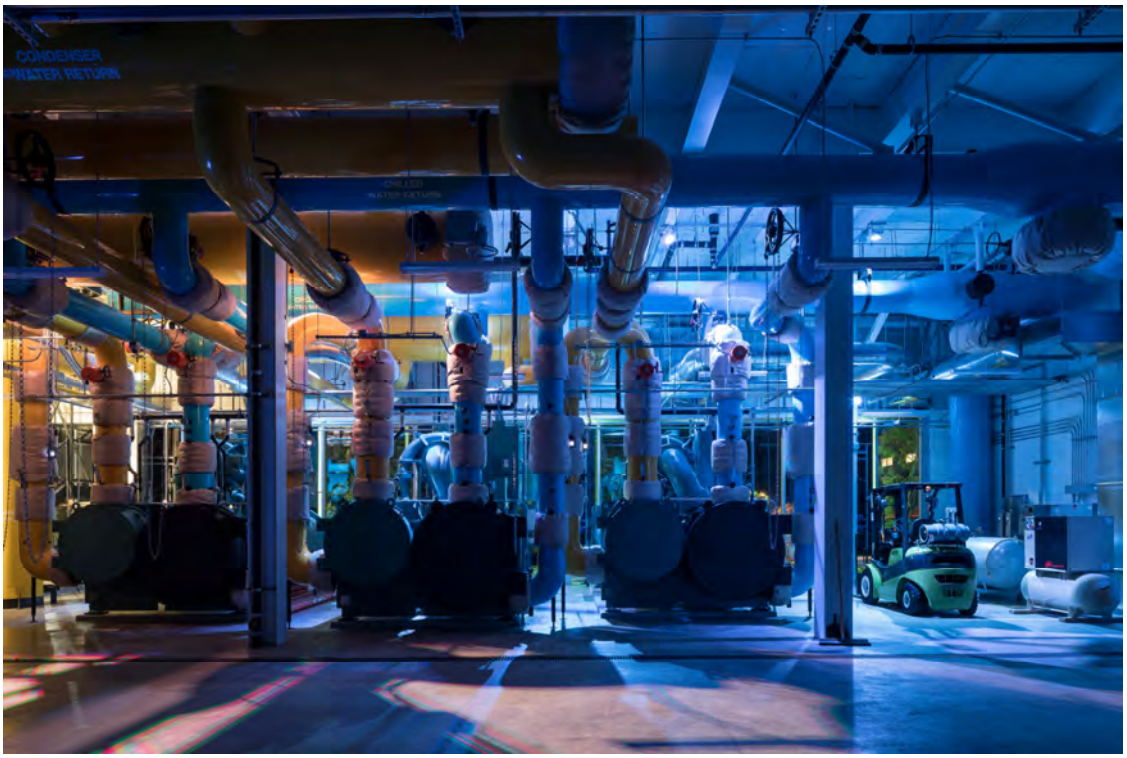


Table of Contents

0. Summary
1. Chilled Water Thermal Energy Storage
2. Power Plant Boiler Removal
3. Micro-district West Campus
4. Micro-district South of Pacific
5. Sewer Heat Recovery Site Piping
6. WCUP Heating System Improvements
7. West Receiving Station Electrical Infrastructure Upgrade
8. Chiller Installation

The Whiting-Turner Contracting Company
5285 Meadows Road, Suite #280
Lake Oswego, OR 97035
503-265-2000
www.whiting-turner.com

Project Name:	University of Washington - Energy Renewal Program (ERP)
Type of Estimate:	Initial Concept Budget - Phase I Rev 02
Estimate Date:	July 25, 2024
Project Location:	Seattle, WA
Client:	AEI
Architect/Engineer:	AEI
Whiting-Turner Contact:	Steve Thomas / Adam Smith / Patrick Kantor / Kodiak Waldal
Document Set:	CPAT Drafts - 12/11/23 + 12/23/23 + 1/10/2024
CPAT #6 - TES Tank Schedule:	32 Months - Preconstruction Through Construction
CPAT #7 Boiler Removal Schedule:	12 Months - Preconstruction Through Construction
CPAT #8 Micro-District West Schedule:	45 Months - Preconstruction Through Construction
CPAT #9 Micro-District South Schedule:	36 Months - Preconstruction Through Construction
CPAT #10 Sewer Heat Recovery Schedule:	30 Months - Preconstruction Through Construction
CPAT #11 WCUP Heating System Schedule:	25 Months - Preconstruction Through Construction
CPAT #12 West Receiving Station Schedule:	45 Months - Preconstruction Through Construction
CPAT #13 Chiller #5 Installation Schedule:	32 Months - Preconstruction Through Construction
Project Description:	Phase I of the University of Washington Energy Renewal Program includes eight different projects aimed at decarbonizing UW Energy Systems, expanding the campus cooling water system and upgrading electrical systems to provide additional capacity and improved reliability.

University of Washington - Energy Renewal Program (ERP)
Initial Concept Budget - Phase I Rev 02 - 07/25/2024

MASTERFORMAT SUMMARY

	CPAT #6 - CHW Thermal Energy Storage Tank			CPAT #7 - Power Plant Boiler Removal			CPAT #8 & #10 - Micro-District West Campus - 14'-0" x 8'-0" Tunnel & 9'-6" x 8'-0" Tunnel			CPAT #9 - Micro-District South of Pacific - Reuse of Existing Tunnels			CPAT #10 - Sewer Heat Recovery Site Piping - Direct-Bury Segment Only			CPAT #11 - WCUP Heating System Improvements			CPAT #12 - West Receiving Station Electrical Upgrades			CPAT #13 - Chiller #5 Installation at WCUP			PROJECT TOTAL	
	4,800,000	GAL	CPAT #6	1	BOILER	CPAT #7	3,125	LF TUNNEL	CPAT #8	1,800	LF TUNNEL	CPAT #9	1,500	LF TRENCH	CPAT #10	11,250	GSF	CPAT #11	90	MW	CPAT #12	1	CHILLER	CPAT #13	ALL CPATS	
DIVISION	**COST**	**$/GAL**	**% COW**	**COST**	**$/BOILER**	**% COW**	**COST**	**$/LF**	**% COW**	**COST**	**$/LF**	**% COW**	**COST**	**$/LF**	**% COW**	**COST**	**$/GSF**	**% COW**	**COST**	**$/MW**	**% COW**	**COST**	**$/CHILLER**	**% COW**	**COST**	**% COW**
01 General Requirements	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	0.00%
02 Existing Conditions	$ 1,486,817	$ 0.31	4.17%	$ 390,000	$ 390,000.00	50.32%	$ 242,586	$ 77.63	0.69%	$ 200,000	$ 111.11	1.59%	$ 97,500	$ 65.00	1.61%	$ -	$ -	0.00%	$ 679,363	$ 7,548.48	2.96%	$ -	$ -	0.00%	$ 3,096,266	2.34%
03 Concrete	$ 2,553,511	$ 0.53	7.16%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ 683,179	$ 60.73	5.22%	$ 668,056	$ 7,422.84	2.91%	$ -	$ -	0.00%	$ 3,904,746	2.96%
04 Masonry	$ 341,976	$ 0.07	0.96%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ 768,724	$ 68.33	5.88%	$ 1,091,329	$ 12,125.88	4.76%	$ -	$ -	0.00%	$ 2,202,029	1.67%
05 Metals	$ 1,963,500	$ 0.41	5.50%	$ 125,000	$ 125,000.00	16.13%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ 1,375,106	$ 122.23	10.51%	$ 129,000	$ 1,433.33	0.56%	$ 350,000	$ 350,000.00	5.81%	$ 3,942,606	2.98%
06 Wood, Plastics, and Composites	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	0.00%
07 Thermal & Moisture Protection	$ 307,540	$ 0.06	0.86%	$ -	$ -	0.00%	$ 889,740	$ 284.72	2.54%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ 863,313	$ 76.74	6.60%	$ 294,840	$ 3,276.00	1.28%	$ 8,125	$ 8,125.00	0.13%	$ 2,363,558	1.79%
08 Openings	$ 103,500	$ 0.02	0.29%	$ 35,000	$ 35,000.00	4.52%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ 345,900	$ 30.75	2.64%	$ 45,000	$ 500.00	0.20%	$ -	$ -	0.00%	$ 529,400	0.40%
09 Finishes	$ 3,697,018	$ 0.77	10.36%	$ 100,000	$ 100,000.00	12.90%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ 232,958	$ 20.71	1.78%	$ 269,998	$ 2,999.98	1.18%	$ -	$ -	0.00%	$ 4,299,974	3.25%
10 Specialties	$ 13,200	$ 0.00	0.04%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ 32,500	$ 2.89	0.25%	$ 13,000	$ 144.44	0.06%	$ -	$ -	0.00%	$ 58,700	0.04%
11 Equipment	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	0.00%
12 Furnishings	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	0.00%
13 Special Construction	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	0.00%
14 Conveying Systems	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	0.00%
21 Fire Suppression	$ 28,800	$ 0.01	0.08%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ 135,000	$ 12.00	1.03%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ 163,800	0.12%
22 Plumbing	$ 76,380	$ 0.02	0.21%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ 346,599	$ 30.81	2.65%	$ 20,000	$ 222.22	0.09%	$ -	$ -	0.00%	$ 442,979	0.34%
23 HVAC	$ 10,277,568	$ 2.14	28.81%	$ -	$ -	0.00%	$ 1,385,520	$ 443.37	3.96%	$ 1,817,240	$ 1,009.58	14.48%	$ -	$ -	0.00%	$ 4,888,738	$ 434.55	37.37%	$ 128,512	$ 1,427.91	0.56%	$ 2,535,270	$ 2,535,270.19	42.12%	$ 21,032,849	15.92%
25 Integrated Automation	$ 2,285,000	$ 0.48	6.40%	$ 50,000	$ 50,000.00	6.45%	$ 170,000	$ 54.40	0.49%	$ 370,000	$ 205.56	2.95%	$ 100,000	$ 66.67	1.65%	$ 275,000	$ 24.44	2.10%	$ 15,000	$ 166.67	0.07%	$ 150,000	$ 150,000.00	2.49%	$ 3,415,000	2.58%
26 Electrical	$ 3,357,325	$ 0.70	9.41%	$ 25,000	$ 25,000.00	3.23%	$ 425,000	$ 136.00	1.21%	$ 1,520,000	$ 844.44	12.11%	$ 50,000	$ 33.33	0.83%	$ 1,661,250	$ 147.67	12.70%	$ 9,626,000	$ 106,955.56	41.95%	$ 2,951,000	$ 2,951,000.00	49.02%	$ 19,615,575	14.85%
27 Communications	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	0.00%
28 Electronic Safety & Security	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	0.00%
31 Earthwork	$ 1,431,931	$ 0.30	4.01%	$ -	$ -	0.00%	$ 4,797,295	$ 1,535.13	13.70%	$ -	$ -	0.00%	$ 322,640	$ 215.09	5.33%	$ 1,268,278	$ 112.74	9.70%	$ 1,253,570	$ 13,928.56	5.46%	$ -	$ -	0.00%	$ 9,073,714	6.87%
32 Exterior Improvements	$ 256,170	$ 0.05	0.72%	$ 50,000	$ 50,000.00	6.45%	$ 771,903	$ 247.01	2.20%	$ -	$ -	0.00%	$ 888,402	$ 592.27	14.69%	$ 180,500	$ 16.04	1.38%	$ 1,237,475	$ 13,749.72	5.39%	$ 25,000	$ 25,000.00	0.42%	$ 3,409,450	2.58%
33 Site Utilities	$ 7,497,320	$ 1.56	21.01%	$ -	$ -	0.00%	$ 26,332,138	$ 8,426.28	75.20%	$ 8,642,078	$ 4,801.15	68.86%	$ 4,590,520	$ 3,060.35	75.89%	$ 24,000	$ 2.13	0.18%	$ 7,477,090	$ 83,078.78	32.58%	$ -	$ -	0.00%	$ 54,563,145	41.30%
SUBTOTAL - COST OF WORK (MACC)	**$ 35,677,557**	**$ 7.43**	**100.00%**	**$ 775,000**	**$ 775,000.00**	**100.00%**	**$ 35,014,182**	**$ 11,204.54**	**100.00%**	**$ 12,549,318**	**$ 6,971.84**	**100.00%**	**$ 6,049,062**	**$ 4,032.71**	**100.00%**	**$ 13,081,045**	**$ 1,162.76**	**100.00%**	**$ 22,948,232**	**$ 254,980.36**	**100.00%**	**$ 6,019,395**	**$ 6,019,395.19**	**100.00%**	**$ 132,113,790**	**100.00%**
Pre-Design Fees	$ 713,551	$ 0.15	2.00%	$ 15,500	$ 15,500.00	2.00%	$ 700,284	$ 224.09	2.00%	$ 250,986	$ 139.44	2.00%	$ 120,981	$ 80.65	2.00%	$ 261,621	$ 23.26	2.00%	$ 458,965	$ 5,099.61	2.00%	$ 120,388	$ 120,387.90	2.00%	$ 2,642,276	2.00%
Design Fees	$ 4,281,307	$ 0.89	12.00%	$ 93,000	$ 93,000.00	12.00%	$ 4,201,702	$ 1,344.54	12.00%	$ 1,505,918	$ 836.62	12.00%	$ 725,887	$ 483.92	12.00%	$ 1,569,725	$ 139.53	12.00%	$ 2,753,788	$ 30,597.64	12.00%	$ 722,327	$ 722,327.42	12.00%	$ 15,853,655	12.00%
Permits	$ 368,033	$ 0.08	Fixed	$ 500	$ 500.00	Fixed	$ 579,870	$ 185.56	Fixed	$ 116,562	$ 64.76	Fixed	$ 64,855	$ 43.24	Fixed	$ 109,719	$ 9.75	Fixed	$ 39,272	$ 436.36	Fixed	$ 64,780	$ 64,779.50	Fixed	$ 1,343,590	1.02%
Subcontractor Default Insurance (SDI)	$ 477,869	$ 0.10	1.30%	$ 10,283	$ 10,283.00	1.30%	$ 471,826	$ 150.98	1.30%	$ 167,919	$ 93.29	1.30%	$ 81,054	$ 54.04	1.30%	$ 174,881	$ 15.54	1.30%	$ 304,804	$ 3,386.71	1.30%	$ 80,659	$ 80,659.31	1.30%	$ 1,769,296	1.34%
General Requirements	$ 1,564,333	$ 0.33	Fixed	$ 102,500	$ 102,500.00	Fixed	$ 1,792,333	$ 573.55	Fixed	$ 1,599,167	$ 888.43	Fixed	$ 639,667	$ 426.44	Fixed	$ 1,209,667	$ 107.53	Fixed	$ 1,586,500	$ 17,627.78	Fixed	$ 310,500	$ 310,500.00	Fixed	$ 8,804,667	6.66%
Design Contingency	$ 4,308,265	$ 0.90	10.00%	$ 99,678	$ 99,678.30	10.00%	$ 4,276,020	$ 1,368.33	10.00%	$ 1,618,987	$ 899.44	10.00%	$ 768,151	$ 512.10	10.00%	$ 1,640,666	$ 145.84	10.00%	$ 2,809,156	$ 31,212.85	10.00%	$ 731,805	$ 731,804.93	10.00%	$ 16,252,727	10.00%
Construction Contingency	$ 2,369,546	$ 0.49	5.00%	$ 54,823	$ 54,823.07	5.00%	$ 2,351,811	$ 752.58	5.00%	$ 890,443	$ 494.69	5.00%	$ 422,483	$ 281.66	5.00%	$ 902,366	$ 80.21	5.00%	$ 1,545,036	$ 17,167.07	5.00%	$ 402,493	$ 402,492.71	5.00%	$ 8,939,000	5.00%
Escalation Contingency	$ 4,976,046	$ 1.04	10.00%	$ 86,346	$ 86,346.33	7.50%	$ 7,408,204	$ 2,370.63	15.00%	$ 2,804,895	$ 1,558.27	15.00%	$ 1,330,821	$ 887.21	15.00%	$ 1,894,969	$ 168.44	10.00%	$ 4,866,863	$ 54,076.26	15.00%	$ 1,267,852	$ 1,267,852.05	15.00%	$ 24,635,996	13.12%
General Conditions	$ 3,602,763	$ 0.75	Fixed	$ 241,700	$ 241,700.00	Fixed	$ 3,621,075	$ 1,158.74	Fixed	$ 2,969,277	$ 1,649.60	Fixed	$ 1,117,803	$ 745.20	Fixed	$ 1,609,551	$ 143.07	Fixed	$ 2,225,949	$ 24,732.77	Fixed	$ 786,459	$ 786,458.68	Fixed	$ 16,174,577	12.24%
General Liability Insurance	$ 554,223	$ 0.12	0.95%	$ 14,054	$ 14,053.64	0.95%	$ 573,964	$ 183.67	0.95%	$ 232,498	$ 129.17	0.95%	$ 107,547	$ 71.70	0.95%	$ 213,315	$ 18.96	0.95%	$ 375,616	$ 4,173.52	0.95%	$ 99,813	$ 99,813.25	0.95%	$ 2,171,031	0.95%
Professional Liability Insurance	$ 147,234	$ 0.03	0.25%	$ 3,733	$ 3,733.46	0.25%	$ 152,478	$ 48.79	0.25%	$ 61,765	$ 34.31	0.25%	$ 28,571	$ 19.05	0.25%	$ 56,669	$ 5.04	0.25%	$ 99,785	$ 1,108.73	0.25%	$ 26,516	$ 26,516.18	0.25%	$ 576,752	0.25%
General Contractor Bond	$ 472,326	$ 0.10	0.80%	$ 11,977	$ 11,976.94	0.80%	$ 489,150	$ 156.53	0.80%	$ 198,142	$ 110.08	0.80%	$ 91,655	$ 61.10	0.80%	$ 181,794	$ 16.16	0.80%	$ 320,112	$ 3,556.80	0.80%	$ 85,064	$ 85,063.90	0.80%	$ 1,850,219	0.80%
General Contractor Fee	$ 3,868,348	$ 0.81	6.50%	$ 98,091	$ 98,091.16	6.50%	$ 4,006,138	$ 1,281.96	6.50%	$ 1,622,782	$ 901.55	6.50%	$ 750,655	$ 500.44	6.50%	$ 1,488,889	$ 132.35	6.50%	$ 2,621,715	$ 29,130.17	6.50%	$ 696,673	$ 696,673.32	6.50%	$ 15,153,292	6.50%
Builder's Risk Insurance - By UW	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	$ -	0.00%	$ -	0.00%
Seattle, WA Sales Tax	$ 6,559,975	$ 1.37	10.35%	$ 166,344	$ 166,343.74	10.35%	$ 6,793,640	$ 2,173.96	10.35%	$ 2,751,926	$ 1,528.85	10.35%	$ 1,272,966	$ 848.64	10.35%	$ 2,524,870	$ 224.43	10.35%	$ 4,445,925	$ 49,399.16	10.35%	$ 1,181,424	$ 1,181,423.97	10.35%	$ 25,697,070	10.35%
WA State B & O Tax	$ 439,233	$ 0.09	0.693%	$ 11,138	$ 11,137.80	0.693%	$ 454,879	$ 145.56	0.693%	$ 184,259	$ 102.37	0.693%	$ 85,233	$ 56.82	0.693%	$ 169,056	$ 15.03	0.693%	$ 297,684	$ 3,307.60	0.693%	$ 79,104	$ 79,104.04	0.693%	$ 1,720,586	0.69%
CONSTRUCTION SUBTOTAL	**$ 70,380,608**	**$ 14.66**	**/ GAL**	**$ 1,784,667**	**$ 1,784,667**	**/ BOILER**	**$ 72,887,557**	**$ 23,324**	**/ LF TUNNEL**	**$ 29,524,844**	**$ 16,403**	**/ LF TUNNEL**	**$ 13,657,390**	**$ 9,105**	**/ LF TRENCH**	**$ 27,088,803**	**$ 2,408**	**/ GSF**	**$ 47,699,402**	**$ 529,993**	**/ MW**	**$ 12,675,252**	**$ 12,675,252**	**/ CHILLER**	**$ 275,698,523**	
UW PROJECT COSTS																										
UWF Project Management	$ 2,519,076	$ 0.52	3.58%	$ 134,013	$ 134,013.11	7.51%	$ 2,624,840	$ 839.95	3.60%	$ 1,413,170	$ 785.09	4.79%	$ 763,014	$ 508.68	5.59%	$ 1,283,879	$ 114.12	4.74%	$ 1,953,079	$ 21,700.88	4.09%	$ 708,806	$ 708,805.85	5.59%	$ 11,399,877	4.09%
UWF In-Plant Services	$ 140,761	$ 0.03	0.20%	$ 3,569	$ 3,569.33	0.20%	$ 145,775	$ 46.65	0.20%	$ 59,050	$ 32.81	0.20%	$ 27,315	$ 18.21	0.20%	$ 54,178	$ 4.82	0.20%	$ 95,399	$ 1,059.99	0.20%	$ 25,351	$ 25,350.50	0.20%	$ 551,397	0.20%
Other	$ 14,076	$ 0.00	0.02%	$ 357	$ 356.93	0.02%	$ 14,578	$ 4.66	0.02%	$ 5,905	$ 3.28	0.02%	$ 2,731	$ 1.82	0.02%	$ 5,418	$ 0.48	0.02%	$ 9,540	$ 106.00	0.02%	$ 2,535	$ 2,535.05	0.02%	$ 55,140	0.02%
ALTA & Topographic Survey	$ 20,000	$ 0.00	Fixed	$ -	$ -	Fixed	$ 115,000	$ 36.80	Fixed	$ -	$ -	Fixed	$ 105,000	$ 70.00	Fixed	$ 25,000	$ 2.22	Fixed	$ 150,000	$ 1,666.67	Fixed	$ -	$ -	Fixed	$ 415,000	Fixed
Lane Closure Fees	$ 25,000	$ 0.01	Fixed	$ -	$ -	Fixed	$ 346,752	$ 110.96	Fixed	$ -	$ -	Fixed	$ 84,129	$ 56.09	Fixed	$ 25,000	$ 2.22	Fixed	$ 84,129	$ 934.77	Fixed	$ 15,000	$ 15,000.00	Fixed	$ 580,010	Fixed
Builder's Risk Insurance	$ 176,064	$ 0.04	0.25%	$ 4,462	$ 4,461.67	0.25%	$ 183,373	$ 58.68	0.25%	$ 73,812	$ 41.01	0.25%	$ 34,616	$ 23.08	0.25%	$ 67,847	$ 6.03	0.25%	$ 119,834	$ 1,331.49	0.25%	$ 31,726	$ 31,725.63	0.25%	$ 691,734	0.25%
TOTAL PROJECT COST	**$ 73,275,585**	**$ 15.27**	**/ GAL**	**$ 1,927,068**	**$ 1,927,068**	**/ BOILER**	**$ 76,317,875**	**$ 24,422**	**/ LF TUNNEL**	**$ 31,076,780**	**$ 17,265**	**/ LF TUNNEL**	**$ 14,674,196**	**$ 9,783**	**/ LF TRENCH**	**$ 28,550,124**	**$ 2,538**	**/ GSF**	**$ 50,111,383**	**$ 556,793**	**/ MW**	**$ 13,458,669**	**$ 13,458,669**	**/ CHILLER**	**$ 289,391,681**	

University of Washington - Energy Renewal Program (ERP)
Initial Concept Budget - Phase I Rev 02 - 07/25/2024

UNIFORMAT SUMMARY

		CPAT #6 - CHW Thermal Energy Storage Tank				CPAT #7 - Power Plant Boiler Removal				CPAT #8 & #10 - Micro-District West Campus - 14'-0" x 8'-0" Tunnel & 9'-6" x 8'-0" Tunnel				CPAT #9 - Micro-District South of Pacific - Reuse of Existing Tunnels				CPAT #10 - Sewer Heat Recovery Site Piping - Direct-Bury Segment Only				CPAT #11 - WCUP Heating System Improvements				CPAT #12 - West Receiving Station Electrical Upgrades				CPAT #13 - Chiller #5 Installation at WCUP				PROJECT TOTAL	
		4,800,000	GAL		CPAT #6	1	BOILER		CPAT #7	3,725	LF TUNNEL		CPAT #8	1,800	LF TUNNEL		CPAT #9	1,500	LF TRENCH		CPAT #10	11,250	GSF		CPAT #11	90	MW		CPAT #12	1	CHILLER		CPAT #13	ALL CPATs		
	DIVISION	COST	$/GAL	% COW		COST	$/BOILER	% COW		COST	$/LF	% COW		COST	$/LF	% COW		COST	$/LF	% COW		COST	$/GSF	% COW		COST	$/MW	% COW		COST	$/CHILLER	% COW		COST	% COW
A	**Substructure**	$ 3,264,551	$ 0.68	9.15%		$ -	$ -	0.00%		$ 4,980,240	$ 1,336.98	14.22%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ 844,316	$ 75.05	6.45%		$ 1,239,096	$ 13,767.73	5.40%		$ -	$ -	0.00%		$ 10,328,202	7.82%
A10	Foundations	$ 3,037,511	$ 0.63	8.51%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ 222,116	$ 19.74	1.70%		$ 628,056	$ 6,978.40	2.74%		$ -	$ -	0.00%		$ 3,887,682	2.94%
A20	Subgrade Enclosures	$ -	$ -	0.00%		$ -	$ -	0.00%		$ 889,740	$ 238.86	2.54%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ 889,740	0.67%
A40	Slabs-on-Grade	$ 227,040	$ 0.05	0.64%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ 107,400	$ 9.55	0.82%		$ 98,040	$ 1,089.33	0.43%		$ -	$ -	0.00%		$ 432,480	0.33%
A60	Water and Gas Mitigation	$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	0.00%
A90	Substructure Related Activities	$ -	$ -	0.00%		$ -	$ -	0.00%		$ 4,090,500	$ 1,098.12	11.68%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ 514,800	$ 45.76	3.94%		$ 513,000	$ 5,700.00	2.24%		$ -	$ -	0.00%		$ 5,118,300	3.87%
B	**Shell**	$ 2,272,041	$ 0.47	6.37%		$ 135,000	$ 135,000.00	17.42%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ 2,819,547	$ 250.63	21.55%		$ 1,595,880	$ 17,732.00	6.95%		$ 358,125	$ 358,125.00	5.95%		$ 7,180,593	5.44%
B10	Superstructure	$ 1,916,800	$ 0.40	5.37%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ 1,553,213	$ 138.06	11.87%		$ 112,000	$ 1,244.44	0.49%		$ 350,000	$ 350,000.00	5.81%		$ 3,932,013	2.98%
B20	Exterior Vertical Enclosures	$ 277,541	$ 0.06	0.78%		$ 135,000	$ 135,000.00	17.42%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ 1,094,109	$ 97.25	8.36%		$ 1,294,080	$ 14,378.67	5.64%		$ -	$ -	0.00%		$ 2,800,730	2.12%
B30	Exterior Horizontal Enclosures	$ 77,700	$ 0.02	0.22%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ 172,225	$ 15.31	1.32%		$ 189,800	$ 2,108.89	0.83%		$ 8,125	$ 8,125.00	0.13%		$ 447,850	0.34%
C	**Interiors**	$ 3,933,653	$ 0.82	11.03%		$ 125,000	$ 125,000.00	16.13%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ 1,142,616	$ 101.57	8.73%		$ 184,247	$ 2,047.19	0.80%		$ -	$ -	0.00%		$ 5,385,516	4.08%
C10	Interior Construction	$ 3,773,935	$ 0.79	10.58%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ 504,103	$ 44.81	3.85%		$ 41,569	$ 461.88	0.18%		$ -	$ -	0.00%		$ 4,319,606	3.27%
C20	Interior Finishes	$ 159,718	$ 0.03	0.45%		$ 125,000	$ 125,000.00	16.13%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ 638,514	$ 56.76	4.88%		$ 142,678	$ 1,585.31	0.62%		$ -	$ -	0.00%		$ 1,065,910	0.81%
D	**Services**	$ 15,996,948	$ 3.33	44.84%		$ 75,000	$ 75,000.00	9.68%		$ 1,980,520	$ 531.68	5.66%		$ 2,187,240	$ 1,215.13	17.43%		$ 100,000	$ 66.67	1.65%		$ 7,306,588	$ 649.47	55.86%		$ 9,789,512	$ 108,772.36	42.66%		$ 5,636,270	$ 5,636,270.19	93.64%		$ 43,072,078	32.60%
D10	Conveying	$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	0.00%
D20	Plumbing	$ 76,380	$ 0.02	0.21%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ 346,599	$ 30.81	2.65%		$ 20,000	$ 222.22	0.09%		$ -	$ -	0.00%		$ 442,979	0.34%
D30	HVAC	$ 10,277,568	$ 2.14	28.81%		$ -	$ -	0.00%		$ 1,385,520	$ 371.95	3.96%		$ 1,817,240	$ 1,009.58	14.48%		$ -	$ -	0.00%		$ 4,888,738	$ 434.55	37.37%		$ 128,512	$ 1,427.91	0.56%		$ 2,535,270	$ 2,535,270.19	42.12%		$ 21,032,849	15.92%
D40	Fire Protection	$ 28,800	$ 0.01	0.08%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ 135,000	$ 12.00	1.03%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ 163,800	0.12%
D50	Electrical	$ 3,329,200	$ 0.69	9.33%		$ 25,000	$ 25,000.00	3.23%		$ 425,000	$ 114.09	1.21%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ 1,661,250	$ 147.67	12.70%		$ 9,626,000	$ 106,955.56	41.95%		$ 2,951,000	$ 2,951,000.00	49.02%		$ 18,017,450	13.64%
D60	Communications	$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	0.00%
D70	Electronic Safety and Security	$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	0.00%
D80	Integrated Automation	$ 2,285,000	$ 0.48	6.40%		$ 50,000	$ 50,000.00	6.45%		$ 170,000	$ 45.64	0.49%		$ 370,000	$ 205.56	2.95%		$ 100,000	$ 66.67	1.65%		$ 275,000	$ 24.44	2.10%		$ 15,000	$ 166.67	0.07%		$ 150,000	$ 150,000.00	2.49%		$ 3,415,000	2.58%
E	**Equipment & Furnishings**	$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	0.00%
E10	Equipment	$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	0.00%
E20	Furnishings	$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	0.00%
F	**Special Construction & Demolition**	$ 1,411,667	$ 0.29	3.96%		$ 365,000	$ 365,000.00	47.10%		$ 100,000	$ 26.85	0.29%		$ 200,000	$ 111.11	1.59%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ 415,538	$ 4,617.09	1.81%		$ -	$ -	0.00%		$ 2,492,205	1.89%
F10	Special Construction	$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	0.00%
F20	Facility & Site Remediation	$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	0.00%
F30	Demolition	$ 1,411,667	$ 0.29	3.96%		$ 365,000	$ 365,000.00	47.10%		$ 100,000	$ 26.85	0.29%		$ 200,000	$ 111.11	1.59%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ 415,538	$ 4,617.09	1.81%		$ -	$ -	0.00%		$ 2,492,205	1.89%
G	**Sitework**	$ 8,798,696	$ 1.83	24.66%		$ 75,000	$ 75,000.00	9.68%		$ 27,953,422	$ 7,504.27	79.83%		$ 10,162,078	$ 5,645.60	80.98%		$ 5,949,062	$ 3,966.04	98.35%		$ 967,978	$ 86.04	7.40%		$ 9,723,960	$ 108,044.00	42.37%		$ 25,000	$ 25,000.00	0.42%		$ 63,655,195	48.18%
G10	Site Preparation	$ 1,007,081	$ 0.21	2.82%		$ 25,000	$ 25,000.00	3.23%		$ 849,381	$ 228.02	2.43%		$ -	$ -	0.00%		$ 420,140	$ 280.09	6.95%		$ 753,478	$ 66.98	5.76%		$ 1,004,395	$ 11,159.94	4.38%		$ -	$ -	0.00%		$ 4,059,475	3.07%
G20	Site Improvements	$ 266,170	$ 0.06	0.75%		$ 50,000	$ 50,000.00	6.45%		$ 771,903	$ 207.22	2.20%		$ -	$ -	0.00%		$ 888,402	$ 592.27	14.69%		$ 190,500	$ 16.93	1.46%		$ 1,242,475	$ 13,805.28	5.41%		$ 25,000	$ 25,000.00	0.42%		$ 3,434,450	2.60%
G30	Liquid and Gas Site Utilities	$ 7,318,320	$ 1.52	20.51%		$ -	$ -	0.00%		$ 26,268,138	$ 7,051.85	75.02%		$ 8,642,078	$ 4,801.15	68.86%		$ 4,566,520	$ 3,044.35	75.49%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ 46,795,055	35.42%
G40	Electrical Site Improvements	$ 107,125	$ 0.02	0.30%		$ -	$ -	0.00%		$ 64,000	$ 17.18	0.18%		$ 1,520,000	$ 844.44	12.11%		$ 74,000	$ 49.33	1.22%		$ 24,000	$ 2.13	0.18%		$ 7,477,090	$ 83,078.78	32.58%		$ -	$ -	0.00%		$ 9,266,215	7.01%
G50	Site Communications	$ 100,000	$ 0.02	0.28%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ 100,000	0.08%
G90	Misc Site Construction	$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	0.00%
Z	**General**	$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	0.00%
Z10	General Requirements	$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	0.00%
	SUBTOTAL - COST OF WORK (MACC)	$ 35,677,557	$ 7.43	100.00%		$ 775,000	$ 775,000.00	100.00%		$ 35,014,182	$ 9,399.78	100.00%		$ 12,549,318	$ 6,971.84	100.00%		$ 6,049,062	$ 4,032.71	100.00%		$ 13,081,045	$ 1,162.76	100.00%		$ 22,948,232	$ 254,980.36	100.00%		$ 6,019,395	$ 6,019,395.19	100.00%		$ 132,113,790	100.00%
	Pre-Design Fees	$ 713,551	$ 0.15	2.00%		$ 15,500	$ 15,500.00	2.00%		$ 700,284	$ 188.00	2.00%		$ 250,986	$ 139.44	2.00%		$ 120,981	$ 80.65	2.00%		$ 261,621	$ 23.26	2.00%		$ 458,965	$ 5,099.61	2.00%		$ 120,388	$ 120,387.90	2.00%		$ 2,642,276	2.00%
	Design Fees	$ 4,281,307	$ 0.89	12.00%		$ 93,000	$ 93,000.00	12.00%		$ 4,201,702	$ 1,127.97	12.00%		$ 1,505,918	$ 836.62	12.00%		$ 725,887	$ 483.92	12.00%		$ 1,569,725	$ 139.53	12.00%		$ 2,753,788	$ 30,597.64	12.00%		$ 722,327	$ 722,327.42	12.00%		$ 15,853,655	12.00%
	Permits	$ 368,033	$ 0.08	Fixed		$ 500	$ 500.00	Fixed		$ 579,870	$ 155.67	Fixed		$ 116,562	$ 64.76	Fixed		$ 64,855	$ 43.24	Fixed		$ 109,719	$ 9.75	Fixed		$ 39,272	$ 436.36	Fixed		$ 64,780	$ 64,779.50	Fixed		$ 1,343,590	1.02%
	Subcontractor Default Insurance (SDI)	$ 477,869	$ 0.10	1.30%		$ 10,283	$ 10,283.00	1.30%		$ 471,826	$ 126.66	1.30%		$ 167,919	$ 93.29	1.30%		$ 81,054	$ 54.04	1.30%		$ 174,881	$ 15.54	1.30%		$ 304,804	$ 3,386.71	1.30%		$ 80,659	$ 80,659.31	1.30%		$ 1,769,296	1.30%
	General Requirements	$ 1,564,333	$ 0.33	Fixed		$ 102,500	$ 102,500.00	Fixed		$ 1,792,333	$ 481.16	Fixed		$ 1,599,167	$ 888.43	Fixed		$ 639,667	$ 426.44	Fixed		$ 1,209,667	$ 107.53	Fixed		$ 1,586,500	$ 17,627.78	Fixed		$ 310,500	$ 310,500.00	Fixed		$ 8,804,667	6.66%
	Design Contingency	$ 4,308,265	$ 0.90	10.00%		$ 99,678	$ 99,678.30	10.00%		$ 4,276,020	$ 1,147.92	10.00%		$ 1,618,987	$ 899.44	10.00%		$ 768,151	$ 512.10	10.00%		$ 1,640,666	$ 145.84	10.00%		$ 2,809,156	$ 31,212.85	10.00%		$ 731,805	$ 731,804.93	10.00%		$ 16,252,727	10.00%
	Construction Contingency	$ 2,369,546	$ 0.49	5.00%		$ 54,823	$ 54,823.07	5.00%		$ 2,351,811	$ 631.36	5.00%		$ 890,443	$ 494.69	5.00%		$ 422,483	$ 281.66	5.00%		$ 902,366	$ 80.21	5.00%		$ 1,545,036	$ 17,167.07	5.00%		$ 402,493	$ 402,492.71	5.00%		$ 8,939,000	5.00%
	Escalation Contingency	$ 4,976,046	$ 1.04	10.00%		$ 86,346	$ 86,346.33	7.50%		$ 7,408,204	$ 1,988.78	15.00%		$ 2,804,895	$ 1,558.27	15.00%		$ 1,330,821	$ 887.21	15.00%		$ 1,894,969	$ 168.44	10.00%		$ 4,866,863	$ 54,076.26	15.00%		$ 1,267,852	$ 1,267,852.05	15.00%		$ 24,635,996	13.12%
	General Conditions	$ 3,602,763	$ 0.75	Fixed		$ 241,700	$ 241,700.00	Fixed		$ 3,621,075	$ 972.10	Fixed		$ 2,969,277	$ 1,649.60	Fixed		$ 1,117,803	$ 745.20	Fixed		$ 1,609,551	$ 143.07	Fixed		$ 2,225,949	$ 24,732.77	Fixed		$ 786,459	$ 786,458.68	Fixed		$ 16,174,577	12.24%
	General Liability Insurance	$ 554,223	$ 0.12	0.95%		$ 14,054	$ 14,053.64	0.95%		$ 573,964	$ 154.08	0.95%		$ 232,498	$ 129.17	0.95%		$ 107,547	$ 71.70	0.95%		$ 213,315	$ 18.96	0.95%		$ 375,616	$ 4,173.52	0.95%		$ 99,813	$ 99,813.25	0.95%		$ 2,171,031	0.95%
	Professional Liability Insurance	$ 147,234	$ 0.03	0.25%		$ 3,733	$ 3,733.46	0.25%		$ 152,478	$ 40.93	0.25%		$ 61,765	$ 34.31	0.25%		$ 28,571	$ 19.05	0.25%		$ 56,669	$ 5.04	0.25%		$ 99,785	$ 1,108.73	0.25%		$ 26,516	$ 26,516.18	0.25%		$ 576,752	0.25%
	General Contractor Bond	$ 472,326	$ 0.10	0.80%		$ 11,977	$ 11,976.94	0.80%		$ 489,150	$ 131.32	0.80%		$ 198,142	$ 110.08	0.80%		$ 91,655	$ 61.10	0.80%		$ 181,794	$ 16.16	0.80%		$ 320,112	$ 3,556.80	0.80%		$ 85,064	$ 85,063.90	0.80%		$ 1,850,219	0.80%
	General Contractor Fee	$ 3,868,348	$ 0.81	6.50%		$ 98,091	$ 98,091.16	6.50%		$ 4,006,138	$ 1,075.47	6.50%		$ 1,622,782	$ 901.55	6.50%		$ 750,655	$ 500.44	6.50%		$ 1,488,889	$ 132.35	6.50%		$ 2,621,715	$ 29,130.17	6.50%		$ 696,673	$ 696,673.32	6.50%		$ 15,153,292	6.50%
	Builder's Risk Insurance - By UW	$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	$ -	0.00%		$ -	0.00%
	Seattle, WA Sales Tax	$ 6,559,975	$ 1.37	10.35%		$ 166,344	$ 166,343.74	10.35%		$ 6,793,640	$ 1,823.80	10.35%		$ 2,751,926	$ 1,528.85	10.35%		$ 1,272,966	$ 848.64	10.35%		$ 2,524,870	$ 224.43	10.35%		$ 4,445,925	$ 49,399.16	10.35%		$ 1,181,424	$ 1,181,423.97	10.35%		$ 25,697,070	10.35%
	WA State B & O Tax	$ 439,233	$ 0.09	0.69%		$ 11,138	$ 11,137.80	0.69%		$ 454,879	$ 122.12	0.69%		$ 184,259	$ 102.37	0.69%		$ 85,233	$ 56.82	0.69%		$ 169,056	$ 15.03	0.69%		$ 297,684	$ 3,307.60	0.69%		$ 79,104	$ 79,104.04	0.69%		$ 1,720,586	0.69%
	CONSTRUCTION SUBTOTAL	$70,380,608	$14.66	/ GAL		$1,784,667	$ 1,784,667	/ BOILER		$ 72,887,557	$ 19,567	/ LF TUNNEL		$29,524,844	$ 16,403	/ LF TUNNEL		$13,657,390	$ 9,105	/ LF TRENCH		$27,088,803	$ 2,408	/ GSF		$47,699,402	$ 529,993	/ MW		$12,675,252	$ 12,675,252	/ CHILLER		$275,698,523	
	UW PROJECT MANAGEMENT																																		
	UWF Project Management	$ 2,519,076	$ 0.52	3.58%		$ 134,013	$ 134,013.11	7.51%		$ 2,624,840	$ 704.66	3.60%		$ 1,413,170	$ 785.09	4.79%		$ 763,014	$ 508.68	5.59%		$ 1,283,879	$ 114.12	4.74%		$ 1,953,079	$ 21,700.88	4.09%		$ 708,806	$ 708,805.85	5.59%		$ 11,399,877	4.09%
	UWF In-Plant Services	$ 140,761	$ 0.03	0.20%		$ 3,569	$ 3,569.33	0.20%		$ 145,775	$ 39.13	0.20%		$ 59,050	$ 32.81	0.20%		$ 27,315	$ 18.21	0.20%		$ 54,178	$ 4.82	0.20%		$ 95,399	$ 1,059.99	0.20%		$ 25,351	$ 25,350.50	0.20%		$ 551,397	0.20%
	Other	$ 14,076	$ 0.00	0.02%		$ 357	$ 356.93	0.02%		$ 14,578	$ 3.91	0.02%		$ 5,905	$ 3.28	0.02%		$ 2,731	$ 1.82	0.02%		$ 5,418	$ 0.48	0.02%		$ 9,540	$ 106.00	0.02%		$ 2,535	$ 2,535.05	0.02%		$ 55,140	0.02%
	ALTA & Topographic Survey	$ 20,000	$ 0.00	Fixed		$ -	$ -	Fixed		$ 115,000	$ 30.87	Fixed		$ -	$ -	Fixed		$ 105,000	$ 70.00	Fixed		$ 25,000	$ 2.22	Fixed		$ 150,000	$ 1,666.67	Fixed		$ -	$ -	Fixed		$ 415,000	Fixed
	Lane Closure Fees	$ 25,000	$ 0.01	Fixed		$ -	$ -	Fixed		$ 346,752	$ 93.09	Fixed		$ -	$ -	Fixed		$ 84,129	$ 56.09	Fixed		$ 25,000	$ 2.22	Fixed		$ 84,129	$ 934.77	Fixed		$ 15,000	$ 15,000.00	Fixed		$ 580,010	Fixed
	Builder's Risk Insurance	$ 176,064	$ 0.04	0.25%		$ 4,462	$ 4,461.67	0.25%		$ 183,373	$ 49.23	0.25%		$ 73,812	$ 41.01	0.25%		$ 34,616	$ 23.08	0.25%		$ 67,847	$ 6.03	0.25%		$ 119,834	$ 1,331.49	0.25%		$ 31,726	$ 31,725.63	0.25%		$ 691,734	0.25%
	TOTAL PROJECT COST	$73,275,585	$15.27	/ GAL		$1,927,068	$ 1,927,068	/ BOILER		$ 76,317,875	$ 20,488	/ LF TUNNEL		$31,076,780	$ 17,265	/ LF TUNNEL		$14,674,196	$ 9,783	/ LF TRENCH		$28,550,124	$ 2,538	/ GSF		$50,111,383	$ 556,793	/ MW		$13,458,669	$ 13,458,669	/ CHILLER		$289,391,681	

CPAT #6 - CHW Thermal Energy Storage Tank

DESCRIPTION	QTY	UNIT	UNIT $	TOTAL	COMMENTS
01 GENERAL REQUIREMENTS					
01551300 Maintenance of Traffic					
Temporary Vehicular & Pedestrian Detours		LS		$ -	
01552300 Temporary Roads and Parking Lots					
Temporary Access Roads		LS		$ -	
01562600 Construction Fence					
Perimeter Fencing & Barricades - Chain link		LF		$ -	Temp Chain link Fence
Perimeter Fencing & Barricades - Gates		EA		$ -	Temp Chain link Fence Type - Per Set
01563900 Temporary Protection Landscaping					
Tree Protection Allowance		LS		$ -	
01581300 Temporary Exterior Project Signs					
Temporary Site Signage		LS		$ -	
01742300 Final Clean Up					
Final Cleaning Allowance		LS		$ -	Site Cleaning/Road Wash down
TOTAL - DIV 1				**$ -**	
02 EXISTING CONDITIONS					
02411305 Utility Demolition					
Demo Overhead Electric Service		LF		None Assumed	
Existing Underground Utility Demo & Relocate Allowance		ALLOW		Included in Div. 33	
02411315 Selective Site Demolition					
Asphalt Paving Demolition	16,700	SF	$ 4.50	$ 75,150.00	
02411600 Building Demolition					
Building Demolition	11,600	GSF	$ 9.29	$ 107,768.54	
Building Abatement	11,600	GSF	$ 6.37	$ 73,898.43	
MEP Safe-Off	1	LS	$ 30,000.00	$ 30,000.00	
Building Level Modifications					
MEP Demo per Building	24	EA	$ 50,000.00	$ 1,200,000.00	
02800200 Hazardous Material Site Remediation					
Hazardous Materials Remediation Allowance		LS		Allowance Included in Div. 31	
TOTAL - DIV 2				**$ 1,486,816.96**	
03 CONCRETE					
03 30 00 Cast in Place Concrete					
Foundations					
Slab-on-Grade	1,600	SF	$ 12.00	$ 19,200.00	
Slab-on-Grade Reinforcing @ 5 PSF	8,000	LBS	$ 1.14	$ 9,120.00	
Spread Footings	36	CY	$ 400.00	$ 14,222.22	
Spread Footing Reinforcing @ 150 PCY	5,333	LBS	$ 1.14	$ 6,080.00	
Concrete Pad @ TES Tank - 8' Thick	4,444	CY	$ 275.00	$ 1,222,222.22	
Concrete Pad Reinforcing @ TES Tank - 250 PCY	1,111,111	LBS	$ 1.14	$ 1,266,666.67	
Deep Foundations				Included in Div. 31 Below	
Elevated Decks					
SOMD	1,600	SF	$ 10.00	$ 16,000.00	
TOTAL - DIV 3				**$ 2,553,511.11**	
04 MASONRY					
04 20 00 Unit Masonry					
CMU Exterior Walls	4,300	SF	$ 42.00	$ 180,600.00	Includes 42" Parapet
CMU Exterior Wall Reinforcing @ 7 PSF	30,100	LBS	$ 1.41	$ 42,441.00	
CMU Interior Walls	2,700	SF	$ 37.00	$ 99,900.00	Assumes 150 LF of interior walls
CMU Interior Wall Reinforcing @ 5 PSF	13,500	LBS	$ 1.41	$ 19,035.00	
TOTAL - DIV 4				**$ 341,976.00**	
05 METALS					
05 10 00 Structural Metal Framing					
Structural Steel @ 15 PSF	12	TONS	$ 6,000.00	$ 72,000.00	
Building Level Modifications					
Structural Modifications per Building	24	EA	$ 75,000.00	$ 1,800,000.00	
05 30 00 Metal Decking					
Metal Decking	1,600	SF	$ 18.00	$ 28,800.00	
05 50 00 Metal Fabrications					
Misc. Steel	1,600	SF	$ 20.00	$ 32,000.00	
Misc. Steel - MEP Equipment Supports	1	LS	$ 10,000.00	$ 10,000.00	
Rooftop Ship Ladder	1	LS	$ 8,200.00	$ 8,200.00	
Bollards	10	EA	$ 1,250.00	$ 12,500.00	
TOTAL - DIV 5				**$ 1,963,500.00**	
07 THERMAL & MOISTURE PROTECTION					
07 10 00 Dampproofing & Waterproofing					
Continuous Waterproofing at TES Tank Pad	18,920	SF	$ 12.00	$ 227,040.00	
07 50 00 Membrane Roofing					
Single-Ply TPO Membrane Roofing	1,600	SF	$ 38.00	$ 60,800.00	
Roof Protection & Patching	1	LS	$ 7,500.00	$ 7,500.00	
Coping Cap	200	LF	$ 35.00	$ 7,000.00	

CPAT #6 - CHW Thermal Energy Storage Tank

DESCRIPTION	QTY	UNIT	UNIT $	TOTAL	COMMENTS
07 60 00 Flashing and Sheet Metal					
Aluminum Flashing & Counterflashing	1,600	GSF	$ 1.50	$ 2,400.00	
07 80 00 Fire and Smoke Protection					
Additional Fire Sealants	1,600	GSF	$ 1.00	$ 1,600.00	
Spray Applied Fireproofing				None Assumed	
07 90 00 Joint Protection					
Interior Architectural Caulking	1,600	GSF	$ 0.75	$ 1,200.00	
TOTAL - DIV 7				**$ 307,540.00**	
08 OPENINGS					
08 10 00 Doors and Frames					
Exterior HM/HM Double Door	2	LEAF	$ 4,250.00	$ 8,500.00	
Exterior HM/HM Single Door	4	EA	$ 4,500.00	$ 18,000.00	
Interior HM/HM Double Door	6	LEAF	$ 3,500.00	$ 21,000.00	
Interior HM/HM Single Door	8	EA	$ 3,500.00	$ 28,000.00	
08 30 00 Specialty Doors and Frames					
Overhead Coiling Door - 8'-0" x 10'-0"	1	EA	$ 16,000.00	$ 16,000.00	
08 40 00 Entrances, Storefronts, and Curtainwalls					
Exterior Windows	8	EA	$ 1,500.00	$ 12,000.00	
TOTAL - DIV 8				**$ 103,500.00**	
09 FINISHES					
09 20 00 Plaster and Gypsum Board					
Exterior Stud Wall Assemblies				None Assumed	
Building Level Modifications					
Architectural Modifications per Building	24	EA	$ 150,000.00	$ 3,600,000.00	
09 60 00 Flooring					
MEP Building Sealed Concrete Floors	1,200	SF	$ 2.00	$ 2,400.00	Assumes 75% of footprint receives sealed concrete
MEB Building Epoxy Flooring	400	SF	$ 20.00	$ 8,000.00	Assumes 25% of footprint receives epoxy flooring
MEP Building Final Cleaning	1,600	GSF	$ 4.00	$ 6,400.00	
09 90 00 Paintings and Coatings					
Wall & Deck Paint	11,300	SF	$ 1.50	$ 16,950.00	
Paint / Stain Door Frames	20	EA	$ 220.00	$ 4,400.00	
Paint Touch-Up	80	HRS	$ 235.85	$ 18,868.00	
Paint MEP	1	LS	$ 40,000.00	$ 40,000.00	
TOTAL - DIV 9				**$ 3,697,018.00**	
10 SPECIALTIES					
10140005 Exterior Signage					
Site Signage	1	ALLOW	$ 10,000.00	$ 10,000.00	
MEP Building Signage	1,600	GSF	$ 2.00	$ 3,200.00	
10750000 Flagpoles					
Ground Set Flag Poles		EA		None Assumed	
TOTAL - DIV 10				**$ 13,200.00**	
13 SPECIAL CONSTRUCTION					
13121300 Exterior Fountains					
Exterior Fountains		SF		None Assumed	
TOTAL - DIV 13				**$ -**	
21 FIRE SUPPRESSION					
21 10 Water Based Fire Suppression Systems					
MEP Building Fire Suppression System	1,600	GSF	$ 18.00	$ 28,800.00	
TOTAL - DIV 21				**$ 28,800.00**	
22 PLUMBING					
22 00 00 General Plumbing					
Plumbing Trade Permits	1	LS	$ 380.00	$ 380.00	
Temporary Water Setup	1	LS	$ 20,000.00	$ 20,000.00	
22 10 00 Plumbing Piping					
MEP Building Plumbing Piping	1,600	GSF	$ 25.00	$ 40,000.00	Domestic Water, Sanitary Waste, Storm Water
22 30 00 Plumbing Equipment					
MEP Building Plumbing Fixture Allowance	1,600	GSF	$ 10.00	$ 16,000.00	
TOTAL - DIV 22				**$ 76,380.00**	
23 HVAC					
23 00 00 General HVAC					
HVAC Trade Permits	1	LS	$ 40,946.49	$ 40,946.49	
23 20 00 HVAC Piping					
Above Ground Piping in/Around Power Plant for Connection to Existing Piping Svstems	300	LF	$ 923.14	$ 276,941.95	
23 30 00 HVAC Air Distribution					
MEP Building Ductwork	1,600	GSF	$ 40.00	$ 64,000.00	

CPAT #6 - CHW Thermal Energy Storage Tank

DESCRIPTION	QTY	UNIT	UNIT $	TOTAL	COMMENTS
23 70 00 Central HVAC Equipment					
MEP Building HVAC Equipment	1,600	GSF	$ 75.00	$ 120,000.00	
CHW Pumps - 125 HP	4	EA	$ 253,920.00	$ 1,015,680.00	
Building Level Modifications					
Provide (3) Building Side Pumps per Building	72	EA	$ 75,000.00	$ 5,400,000.00	
Provide (2) Heat Exchangers per Building	48	EA	$ 25,000.00	$ 1,200,000.00	
Decoupled Chilled Water Loop per Building	24	EA	$ 90,000.00	$ 2,160,000.00	
TOTAL - DIV 23				**$ 10,277,568.44**	
25 INTEGRATED AUTOMATION					
25 50 00 Integrated Automation Facility Controls					
Automated Building Controls	1	LS	$ 125,000.00	$ 125,000.00	
Building Level Modifications					
Rework Building Controls	24	EA	$ 90,000.00	$ 2,160,000.00	
TOTAL - DIV 25				**$ 2,285,000.00**	
26 ELECTRICAL					
26 00 00 General Electrical					
Temporary Construction Power & Lighting	1,600	GSF	$ 5.00	$ 8,000.00	
SCCAF Study & NETA Testing	1	LS	$ 30,000.00	$ 30,000.00	
26 20 00 Electrical Distribution					
Normal Power Transformer	1	LS	$ 110,000.00	$ 110,000.00	
Emergency Power Transformer	1	LS	$ 110,000.00	$ 110,000.00	
Automatic Transfer Switch	1	LS	$ 150,000.00	$ 150,000.00	
2000A Switchboard	1	LS	$ 900,000.00	$ 900,000.00	Located at MEP Building, Feeds Pumps
Normal Power Service from East Receiving Station				Included	
Emergency Power Service from East Receiving Station				Included	
Electrical Feeds to 125 HP Pumps	4	EA	$ 30,000.00	$ 120,000.00	
Add: Normal Power Redundancy	1	LS	$ 700,000.00	$ 700,000.00	Assumes individual 4160V:480V XFMRs for both normal feeds upstream of 2000A SWBD. 480V normal feeds hit ATS upstream of 2000A SWBD. Assumes 2400V:480V emergency power XFMR upstream of 200A SWBD. Assumes 2000A SWBD includes tie breaker to automatically transfer between normal and emergency power.
MEP Building House Power & Branch Distribution	1,600	GSF	$ 60.00	$ 96,000.00	
Building Level Modifications					
Feed (3) Building Side Pumps per Building	72	EA	$ 15,000.00	$ 1,080,000.00	
Provide 150A Circuit Breakers at Existing Panels	72	EA	$ 350.00	$ 25,200.00	
26 40 00 Electrical Protection					
MEP Building Grounding				Included	
26 50 00 Lighting					
Site Lighting	22,500	SF	$ 1.25	$ 28,125.00	
MEP Building Lighting				Included	
TOTAL - DIV 26				**$ 3,357,325.00**	
31 EARTHWORK					
31110000 Clearing and Grubbing					
Clear and Grub		AC		Included	
Remove Large Tree (18"-30")		EA		Included	
Remove Extra Large Tree (>30")		EA		Included	
31200000 Earthwork					
Strip Site	22,500	SF	$ 2.00	$ 45,000.00	
Spread Footing Excavation & Export	36	CY	$ 60.00	$ 2,133.33	
TES Tank Pad Excavation & Export	5,468	CY	$ 52.50	$ 287,089.47	Includes support of drilling deep foundations contractor and associated spoils export
Rough & Fine Grade Site	22,500	SF	$ 4.50	$ 101,250.00	
Structural Backfill	980	TON	$ 65.00	$ 63,700.00	Assumes Laying Back TES Tank Pad
Rock Excavation and Removal		CY		None Assumed	
Unforeseen Conditions or Hazardous Materials Allowance	826	CY - ALLOW	$ 150.00	$ 123,838.35	Assumes 15% of Excavated Soils
Construction Surveying	1	LS	$ 75,000.00	$ 75,000.00	
Add: ALTA & Topographic Survey	-	LS	$ 20,000.00	By UW	
Additional Street Sweeping	1	LS	$ 20,000.00	$ 20,000.00	
Lane Closure Fees	-	LS	$ 25,000.00	By UW	
31231900 Dewatering					
Construction Dewatering	1	LS	$ 15,000.00	$ 15,000.00	
31250000 Erosion and Sedimentation Controls					
TESC Install & Maintenance	1	LS	$ 80,000.00	$ 80,000.00	Furnish, install, maintain, remove
Additional Erosion Control Measures	1	LS	$ 30,000.00	$ 30,000.00	
CESCL Monitoring & Reporting	16	MO	$ 5,400.00	$ 88,920.00	
31311300 Building Pad Soil Treatment					
Termite Control Soil Treatment		SF		None Assumed	Bldg. Footprint
31410000 Sheeting and Shoring					
Sheeting and Shoring		SF		None Assumed	
31660000 Special Foundations					
Drilled Shafts at TES Tank Pad	10	EA	$ 50,000.00	$ 500,000.00	Assumes 4' diam x 40' deep
TOTAL - DIV 31				**$ 1,431,931.15**	

CPAT #6 - CHW Thermal Energy Storage Tank

DESCRIPTION	QTY	UNIT	UNIT $	TOTAL	COMMENTS
32 EXTERIOR IMPROVEMENTS					
32100000 Roadway Pavement					
Asphalt Pavement - Light Duty (Parking Lots)	4,425	SF	$ 11.00	$ 48,675.00	Assumes 75% of Remaining Site Area is AC Paving
Pavement Markings & Signage	1	LS	$ 5,000.00	$ 5,000.00	Surface Markings and Vehicle Directional
Rock Base @ Asphalt	4,425	SF	$ 3.50	$ 15,487.50	
AC Paving Restoration for CW Trench	3,000	SF	$ 11.00	$ 33,000.00	Assumes 10' Wide Cut
Rock Base @ Asphalt for CW Trench	3,000	SF	$ 3.50	$ 10,500.00	
32100010 Pedestrian Pavement					
Concrete Paving Walkpaths	885	SF	$ 14.00	$ 12,390.00	Assumes 15% of Remaining Site Area is Concrete Walkpath
Rock Base @ Concrete Paving Walkpaths	885	SF	$ 3.50	$ 3,097.50	
32160000 Site Concrete					
Concrete Paving		SF		Concrete Walkpaths Assumed Only	
32310000 Fences and Gates					
Chain Link Security Gate @ TES Tank	490	LF	$ 120.00	$ 58,800.00	
Entry Gates	2	EA	$ 12,000.00	$ 24,000.00	
32320000 Retaining Walls					
CIP Site retaining walls		CY		None Assumed	
32390000 Site Specialties					
Site Furnishings Allowance	1	EA	$ 25,000.00	$ 25,000.00	
32391300 Site Metal Bollards					
Bollards	8	EA	$ 1,200.00	$ 9,600.00	
32800000 Irrigation					
Sprinkler Irrigation including power feed		SF		Included	
Planting Drip Irrigation including power feed		SF		Included	
32900000 Landscaping					
Landscape & Irrigation	590	SF	$ 18.00	$ 10,620.00	Assumes 10% of Remaining Site Area is Landscape
TOTAL - DIV 32				**$ 256,170.00**	
33 UTILITIES					
33110005 Chilled Water Utility Service					
Chilled Water Supply & Return Piping	600	LF	$ 769.28	$ 461,569.92	Assumes that the TES Tank is located ~300' from the existing power plant
Chilled Water Supply & Return Piping Trenching, Excavation & Backfill	300	LF	$ 805.00	$ 241,500.00	
Traffic Control for CW Trenching	1	MO	$ 15,000.00	$ 15,000.00	
Existing Utility Relocates	500	LF	$ 500.00	$ 250,000.00	
33300000 Sanitary Sewerage Utilities					
Sanitary Sewer to MEP Building	75	LF	$ 400.00	$ 30,000.00	
33 20 00 Wells					
Thermal Energy Storage Tank	4,800,000	GAL	$ 1.31	$ 6,300,000.00	
33400000 Storm Drain Utilities					
Stormdrain to MEP Building	75	LF	$ 270.00	$ 20,250.00	
33510000 Site Natural Gas Distribution					
Natural Gas - Tie Into Existing		EA		None Assumed	
33717300 Site Electrical Utility Services					
Normal Power Service from East Receiving Station				Included in Div. 26	
Emergency Power Service from East Receiving Station				Included in Div. 26	
Trenching & Excavation for Electrical Service from East Receiving Station	200	LF	$ 275.00	$ 55,000.00	Includes concrete encasement / FTB Unit rate increased to account for dual normal power service
Site Lighting Trenching	750	LF	$ 32.00	$ 24,000.00	
33800000 Site Communications Utilities					
Site Communication Distribution Allowance	1	ALLOW	$ 100,000.00	$ 100,000.00	
TOTAL - DIV 33				**$ 7,497,319.92**	
TOTAL CPAT #6 - CHW Thermal Energy Storage Tank				**$ 35,677,556.59**	

CPAT #7 - Power Plant Boiler Removal

DESCRIPTION	QTY	UNIT	UNIT $	TOTAL	COMMENTS
01 GENERAL REQUIREMENTS					
TOTAL - DIV 1				**$ -**	
02 EXISTING CONDITIONS					
02411305 Utility Demolition					
Demo Overhead Electric Service		LF		None Assumed	
Existing Underground Utility Demo & Relocate Allowance		ALLOW		None Assumed	
Boiler #3 Demolition					
Pre & Post Demolition Surveys	1	LS	$ 10,000.00	$ 10,000.00	
Remove & Replace Existing Metal Grating to Facilitate Boiler Hoisting	1	LS	$ 75,000.00	$ 75,000.00	
Electrical Safe-Off	1	LS	$ 50,000.00	$ 50,000.00	
Relocate Mechanical Piping to Facilitate Boiler Disassembly				Included	
Relocate Fire Alarm / Fire Suppression to Facilitate Boiler Hoisting	1	LS	$ 30,000.00	$ 30,000.00	
Boiler Disassembly	1	LS	$ 50,000.00	$ 50,000.00	
Boiler Hoisting & Removal	1	LS	$ 150,000.00	$ 150,000.00	
02411315 Selective Site Demolition					
Site Demolition to Facilitate Boiler Removal	1	ALLOW	$ 25,000.00	$ 25,000.00	
02411600 Building Demolition					
Building Demolition				None Assumed	
Building Abatement				None Assumed	
02800200 Hazardous Material Site Remediation					
Hazardous Materials Remediation Allowance		LS		None Assumed	
TOTAL - DIV 2				**$ 390,000.00**	
03 CONCRETE					
03 30 00 Cast in Place Concrete					
Foundations				None Assumed	
TOTAL - DIV 3				**$ -**	
04 MASONRY					
04 20 00 Unit Masonry					
CMU Exterior Walls				None Assumed	
TOTAL - DIV 4				**$ -**	
05 METALS					
05 10 00 Structural Metal Framing					
Structural Steel				None Assumed	
05 30 00 Metal Decking					
Metal Decking				None Assumed	
05 50 00 Metal Fabrications					
Structural Modifications to Facilitate Safe As-Left Condition	1	LS	$ 125,000.00	$ 125,000.00	
TOTAL - DIV 5				**$ 125,000.00**	
07 THERMAL & MOISTURE PROTECTION					
07 10 00 Dampproofing & Waterproofing					
Continuous Waterproofing				None Assumed	
07 50 00 Membrane Roofing					
Single-Ply TPO Membrane Roofing				None Assumed	
07 60 00 Flashing and Sheet Metal					
Aluminum Flashing & Counterflashing				None Assumed	
07 80 00 Fire and Smoke Protection					
Additional Fire Sealants				None Assumed	
Spray Applied Fireproofing				None Assumed	
07 90 00 Joint Protection					
Interior Architectural Caulking				None Assumed	
TOTAL - DIV 7				**$ -**	
08 OPENINGS					
08 10 00 Doors and Frames					
Exterior HM/HM Single Door				None Assumed	
Interior HM/HM Single Door				None Assumed	
08 30 00 Specialty Doors and Frames					
Overhead Coiling Door - 8'-0" x 10'-0"				None Assumed	
08 40 00 Entrances, Storefronts, and Curtainwalls					
Remove & Replace Exterior Curtainwall to Facilitate Boiler Removal	200	SF	$ 175.00	$ 35,000.00	
TOTAL - DIV 8				**$ 35,000.00**	
09 FINISHES					
09 20 00 Plaster and Gypsum Board					
Architectural Modifications	1	LS	$ 100,000.00	$ 100,000.00	
09 60 00 Flooring					

CPAT #7 - Power Plant Boiler Removal

DESCRIPTION	QTY	UNIT	UNIT $	TOTAL	COMMENTS
Flooring				None Assumed	
TOTAL - DIV 9				**$ 100,000.00**	
10 SPECIALTIES					
10140005 Exterior Signage					
Site Signage				None Assumed	
Building Signage				None Assumed	
10750000 Flagpoles					
Ground Set Flag Poles		EA		None Assumed	
TOTAL - DIV 10				**$ -**	
13 SPECIAL CONSTRUCTION					
13121300 Exterior Fountains					
Exterior Fountains		SF		None Assumed	
TOTAL - DIV 13				**$ -**	
21 FIRE SUPPRESSION					
21 10 Water Based Fire Suppression Systems					
MEP Building Fire Suppression System				None Assumed	
TOTAL - DIV 21				**$ -**	
22 PLUMBING					
22 00 00 General Plumbing					
Plumbing Trade Permits				None Assumed	
22 10 00 Plumbing Piping					
MEP Building Plumbing Piping				None Assumed	Domestic Water, Sanitary Waste, Storm Water
22 30 00 Plumbing Equipment					
MEP Building Plumbing Fixture Allowance				None Assumed	
TOTAL - DIV 22				**$ -**	
23 HVAC					
23 00 00 General HVAC					
HVAC Trade Permits				None Assumed	
23 30 00 HVAC Air Distribution					
MEP Building Ductwork				None Assumed	
23 70 00 Central HVAC Equipment					
MEP Building HVAC Equipment				None Assumed	
TOTAL - DIV 23				**$ -**	
25 INTEGRATED AUTOMATION					
25 50 00 Integrated Automation Facility Controls					
Rework Controls due to Boiler #3 Removal	1	LS	$ 50,000.00	$ 50,000.00	
TOTAL - DIV 25				**$ 50,000.00**	
26 ELECTRICAL					
26 00 00 General Electrical					
Temporary Construction Power & Lighting	1	LS	$ 25,000.00	$ 25,000.00	Assumes utilizing existing CUP electrical equipment for temp loads
26 20 00 Electrical Distribution					
Electrical Distribution				None Assumed	
26 40 00 Electrical Protection					
MEP Building Grounding				None Assumed	
26 50 00 Lighting					
Site Lighting				None Assumed	
TOTAL - DIV 26				**$ 25,000.00**	
31 EARTHWORK					
31110000 Clearing and Grubbing					
Clear and Grub				None Assumed	
31200000 Earthwork					
Strip Site				None Assumed	
Excavation & Offhaul				None Assumed	
Unforeseen Conditions or Hazardous Materials Allowance				None Assumed	
31231900 Dewatering					
Construction Dewatering				None Assumed	
31250000 Erosion and Sedimentation Controls					
TESC Install & Maintenance				None Assumed	Furnish, install, maintain, remove
CESCL Monitoring & Reporting				None Assumed	
31311300 Building Pad Soil Treatment					

CPAT #7 - Power Plant Boiler Removal

DESCRIPTION	QTY	UNIT	UNIT $	TOTAL	COMMENTS
Termite Control Soil Treatment		SF		None Assumed	Bldg. Footprint
31410000 Sheeting and Shoring					
Sheeting and Shoring		SF		None Assumed	
31660000 Special Foundations					
Structure Underpinning		CY		None Assumed	
TOTAL - DIV 31				$ -	
32 EXTERIOR IMPROVEMENTS					
32100000 Roadway Pavement					
Miscellaneous Street Repairs	1	LS	$ 25,000.00	$ 25,000.00	
32100010 Pedestrian Pavement					
Miscellaneous Site Hardscape Repairs	1	LS	$ 25,000.00	$ 25,000.00	
32160000 Site Concrete					
Concrete Paving					
32310000 Fences and Gates					
Chain link Fence w/ 3 Strands Barbed Wire				None Assumed	
Cantilever Automatic Sliding Gate				None Assumed	
Drop Arm Gate				None Assumed	
32320000 Retaining Walls					
CIP Site retaining walls				None Assumed	
32390000 Site Specialties					
32391300 Site Metal Bollards					
32800000 Irrigation					
Sprinkler Irrigation including power feed				None Assumed	
Planting Drip Irrigation including power feed				None Assumed	
32900000 Landscaping					
Landscape & Irrigation				None Assumed	
TOTAL - DIV 32				$ 50,000.00	
33 UTILITIES					
33110005 Chilled Water Utility Service					
Chilled Water Supply & Return Piping				None Assumed	
Chilled Water Supply & Return Piping Trenching, Excavation & Backfill				None Assumed	
Traffic Control for CW Trenching				None Assumed	
33300000 Sanitary Sewerage Utilities					
Sanitary Sewer				None Assumed	
33 20 00 Wells					
Thermal Energy Storage Tank				None Assumed	
33400000 Storm Drain Utilities					
Stormdrain				None Assumed	
33510000 Site Natural Gas Distribution					
Natural Gas - Tie Into Existing				None Assumed	
33717300 Site Electrical Utility Services					
Site Electrical Service				None Assumed	
33800000 Site Communications Utilities					
Site Telecom Service				None Assumed	
TOTAL - DIV 33				$ -	
TOTAL CPAT #7 - Power Plant Boiler Removal				$ 775,000.00	

CPAT #8 & #10 - Micro-District West Campus - 14'-0" x 8'-0" Tunnel & 9'-6" x 8'-0" Tunnel

DESCRIPTION	QTY	UNIT	UNIT $	TOTAL	COMMENTS
01 GENERAL REQUIREMENTS					
TOTAL - DIV 1				$ -	
02 EXISTING CONDITIONS					
02411305 Utility Demolition					
Utility Demolition		LF		Existing Utility Relocates Included in Div. 33	
02411315 Selective Site Demolition					
Hardscape Demolition	24,953	SF	$ 4.50	$ 112,286.25	
Sawcut for Paving Demolition	3,030	LF	$ 10.00	$ 30,300.00	
Retaining Wall & Stair Demo at Terry Hall	-	LS	$ 100,000.00	$ -	None assumed - reuse existing tunnels in this location
02411600 Building Demolition					
Building Demolition		CF		None Assumed	
Building Level Modifications					
MEP Demo at (2) Buildings	2	EA	$ 50,000.00	$ 100,000.00	
02800200 Hazardous Material Site Remediation					
Hazardous Materials Remediation Allowance		LS		Allowance Included in Div. 33	
TOTAL - DIV 2				**$ 242,586.25**	
07 THERMAL & MOISTURE PROTECTION					
07100000 Waterproofing					
Waterproofing Membrane @ 14'-0" x 8'-0" Tunnel	52,000	SF	$ 12.00	$ 624,000.00	
Waterproofing Membrane @ 9'-6" x 8'-0" Tunnel	22,145	SF	$ 12.00	$ 265,740.00	
TOTAL - DIV 07				**$ 889,740.00**	
10 SPECIALTIES					
10140005 Exterior Signage					
Site Signage		EA		Site Furnishings Allowance Included in Div. 33	
10750000 Flagpoles					
Ground Set Flag Poles		EA		None Assumed	
TOTAL - DIV 10				$ -	
13 SPECIAL CONSTRUCTION					
13121300 Exterior Fountains					
Exterior Fountains		SF		None Assumed	
TOTAL - DIV 13				$ -	
23 HVAC					
23 00 00 General HVAC					
HVAC Trade Permits	1	LS	$ 5,520.00	$ 5,520.00	
23 30 00 HVAC Air Distribution					
MEP Building Ductwork				None Assumed	
23 70 00 Central HVAC Equipment					
Building Level Modifications					
Provide Hot Water to Hot Water Heat Exchangers at (3) Buildings	6	EA	$ 25,000.00	$ 150,000.00	
Replace AHU Motors & VFDs at (2) Buildings	8	EA	$ 35,000.00	$ 280,000.00	Assumes (4) AHUs per Building
Upsize Existing Pumps at (2) Buildings	6	EA	$ 75,000.00	$ 450,000.00	Assume (3) Pumps per Building
23 20 00 HVAC Piping					
HVAC Trade Permits					
Vertical Condenser Water Piping into WCUP	1	LS	$ 500,000.00	$ 500,000.00	Moved from CPAT #10 to CPAT #8
TOTAL - DIV 23				**$ 1,385,520.00**	
25 INTEGRATED AUTOMATION					
25 50 00 Integrated Automation Facility Controls					
Building Level Modifications					
Rework Building Controls for Hot Water Heat Exchangers at (3) Buildings	6	EA	$ 15,000.00	$ 90,000.00	Assume (2) Heat Exchangers per Building
Rework Building Controls at AHUs at (2) Buildings	8	EA	$ 10,000.00	$ 80,000.00	Assumes (4) AHUs per Building
Add: Leak Detection - Controls Integration Allowance	-	ALLOW	$ 100,000.00	$ -	
TOTAL - DIV 25				**$ 170,000.00**	
26 ELECTRICAL					
26 20 00 Electrical Distribution					
Building Level Modifications					
Refeed Building Level AHU Motors, VFDs and Pumps	2	BLDG	$ 212,500.00	$ 425,000.00	Assumes (4) AHUs per Building
Add: Leak Detection - Electrical Connections	-	LS	$ 70,000.00	$ -	
TOTAL - DIV 26				**$ 425,000.00**	
31 EARTHWORK					
31110000 Clearing and Grubbing					

CPAT #8 & #10 - Micro-District West Campus - 14'-0" x 8'-0" Tunnel & 9'-6" x 8'-0" Tunnel

DESCRIPTION	QTY	UNIT	UNIT $	TOTAL	COMMENTS
Clear and Grub		AC		None Assumed	
Tree Removal	130	EA	$ 200.00	$ 26,000.00	
31200000 Earthwork					
Topsoil Strip and Stockpile		CY		None Assumed	
Mass Excavation & Export		CY		None Assumed	
31231900 Dewatering					
Construction Dewatering	1	LS	$ 313,625.00	$ 313,625.00	
31250000 Erosion and Sedimentation Controls					
TESC Install & Maintenance	1	LS	$ 276,450.00	$ 276,450.00	Furnish, install, maintain, remove
CESCL Monitoring & Reporting	17	MO	$ 5,400.00	$ 90,720.00	
31311300 Building Pad Soil Treatment					
Termite Control Soil Treatment		SF		None Assumed	
31410000 Sheeting and Shoring					
Soldier Pile, Lagging & Tieback Tunnel Shoring	45,450	SF	$ 90.00	$ 4,090,500.00	
31660000 Special Foundations					
Structure Underpinning		CY		None Assumed	
TOTAL - DIV 31				**$ 4,797,295.00**	
32 EXTERIOR IMPROVEMENTS					
32100000 Roadway Pavement					
Asphalt Pavement - Roadways (8")	5,205	SF	$ 10.00	$ 52,046.25	
Vehicular Concrete Pavement	-	SF	$ 22.00	$ -	
Asphalt Pavement - BGT	7,380	SF	$ 9.00	$ 66,420.00	
Concrete Walkpaths - BGT	5,535	SF	$ 10.20	$ 56,457.00	
Tapered Curb & BGT	615	LF	$ 42.00	$ 25,830.00	
Rock Base at AC Pavement & Vehicular Concrete	18,120	SF	$ 3.50	$ 63,418.69	
Misc Street Repairs	1,515	SF	$ 20.00	$ 30,300.00	Based on LF of Trenching
Pavement Markings	1	LS	$ 60,000.00	$ 60,000.00	Surface Markings and Vehicle Directional
32100010 Pedestrian Pavement					
Sidewalk at University Way	3,090	SF	$ 14.70	$ 45,423.00	
Rock Base at Sidewalk	3,090	SF	$ 3.50	$ 10,815.00	
32160000 Site Concrete					
Rebuild CIP Stair System at Terry Hall	-	SF	$ 130.00	$ -	None assumed - reuse existing tunnels in this location
CIP Site Concrete at Terry Hall	-	SF	$ 10.00	$ -	None assumed - reuse existing tunnels in this location
Concrete Curb & Gutter	785	LF	$ 30.00	$ 23,550.00	
32310000 Fences and Gates					
Fences & Gates		LF		None Assumed	
32320000 Retaining Walls					
CIP Site Retaining Walls at Terry Hall		SF	$ 125.00	$ -	None assumed - reuse existing tunnels in this location
32390000 Site Specialties					
Site Furnishings - Replace Misc. Street Signs	1	LS	$ 30,000.00	$ 30,000.00	
32391300 Site Metal Bollards					
Bollards	20	EA	$ 1,200.00	$ 24,000.00	
32800000 Irrigation					
Sprinkler Irrigation including power feed		SF		Included Below	
Planting Drip Irrigation including power feed		SF		Included Below	
32900000 Landscaping					
Miscellaneous Landscaping & Irrigation	3,743	SF	$ 15.00	$ 56,143.13	Assumes 15% of Disturbed Area
Replace City of ROW Seattle Trees	130	EA	$ 750.00	$ 97,500.00	Updated to 2:1 Ratio per UW Direction
Tree Ratio Approach at New 4'-0" x 8'-0" Tunnel	130	EA	$ 1,000.00	$ 130,000.00	
TOTAL - DIV 32				**$ 771,903.06**	
33 UTILITIES					
33110005 Chilled Water & Heating Hot Water Utility Service					
Chilled Water Supply & Return Piping (14")	2,000	LF	$ 1,085.74	$ 2,171,485.65	Sch 10 Insulated Steel Piping
Heating Hot Water Supply & Return Piping (12")	2,000	LF	$ 1,025.42	$ 2,050,847.55	Sch 10 Insulated Steel Piping
24" Condenser Water Piping within Tunnel	2,000	LF	$ 1,507.98	$ 3,015,952.29	Sch 10 Insulated Steel Piping
14" Chilled Water Piping within Existing Tunnel - CP-8 to CP-5	1,350	LF	$ 1,085.74	$ 1,465,749.00	
12" Heating Hot Water Piping within Existing Tunnel - CP-8 to CP-5	1,350	LF	$ 1,025.42	$ 1,384,317.00	
Demo Steam Supply & Return Piping Between CP-8 & CP-5	1,350	LF	$ 250.00	$ 337,500.00	
12" Heating Hot Water Piping within Existing Tunnel - CP-5 to New Tunnel	1,350	LF	$ 1,025.42	$ 1,384,317.00	
Demo Steam Supply & Return Piping Between CP 5 & New Tunnel	1,350	LF	$ 250.00	$ 337,500.00	
12" Heating Hot Water Piping within New Tunnel - CP-2.5 to WT-5-1	1,030	LF	$ 1,127.96	$ 1,161,800.86	
12" Heating Hot Water Piping within Existing Tunnel - WT 5-1 to WT 5	520	LF	$ 1,025.42	$ 533,218.40	
Demo Steam Supply & Return Piping Between WT 5-1 & WT 5	520	LF	$ 20.00	$ 10,400.00	
Add: Leak Detection System	1	LS	$ -	$ -	
Provide, Install & Backfill 14'-0" x 8'-0" Tunnel	1,000	LF	$ 6,230.00	$ 6,230,000.00	
Provide, Install & Backfill 9'-6" x 8'-0" Tunnel	515	LF	$ 4,900.00	$ 2,523,500.00	
Trenching & Excavation at Heating Hot Water & Chilled Water (Yellow Line)	-	LF	$ 750.00	$ -	12' W x 5'-6" D
Trenching & Excavation at Heating Hot Water Only (Green Line)	-	LF	$ 560.00	$ -	6' W x 5'-6" D
Furnish, Install & Backfill 812 Vaults	8	EA	$ 46,000.00	$ 368,000.00	
Chilled Water Connection at CP-5	1	LS	$ 50,000.00	$ 50,000.00	
Utility Locating - Test pits / Potholing Allowance	61	EA	$ 2,000.00	$ 121,200.00	
Existing Utility Relocates - 14'-0" x 8'-0" Tunnel	1,000	LF	$ 1,000.00	$ 1,000,000.00	

CPAT #8 & #10 - Micro-District West Campus - 14'-0" x 8'-0" Tunnel & 9'-6" x 8'-0" Tunnel

DESCRIPTION	QTY	UNIT	UNIT $	TOTAL	COMMENTS
Existing Utility Relocates - 9'-6" x 8'-0" Tunnel	515	LF	$ 1,000.00	$ 515,000.00	
Construction Surveying	101	STAKE	$ 1,500.00	$ 151,500.00	
Construction Surveying for Soldier Pile Layout	379	STAKE	$ 1,500.00	$ 568,125.00	
Add: ALTA & Topographic Survey	-	LS	$ 115,000.00	By UW	
Unforeseen Conditions or Hazardous Materials Allowance	1,827	CY	$ 150.00	$ 274,031.25	Assumes 15% of Excavated Soils
Traffic Control Plan & Devices	200	SHFT	$ 2,360.00	$ 472,000.00	
Lane Closure Permits	-	LS	$ 346,751.70	By UW	
Lighting at Tunnel	18,893	SF	$ 7.50	$ 141,693.75	
33300000 Sanitary Sewerage Utilities					
Sanitary Sewer Piping		LF		None Assumed, Relocates Included Above	
33400000 Storm Drain Utilities					
Stormwater Piping		LF		None Assumed, Relocates Included Above	
33510000 Site Natural Gas Distribution					
Natural Gas		LF		None Assumed, Relocates Included Above	
33717300 Site Electrical Utility Services					
Vault Electrical Provisions	8	EA	$ 8,000.00	$ 64,000.00	
33800000 Site Communications Utilities					
Site Communication Distribution		LF		None Assumed, Relocates Included Above	
TOTAL - DIV 33				**$ 26,332,137.75**	
TOTAL CPAT #8 & #10 - Micro-District West Campus - 14'-0" x 8'-0" Tunnel & 9'-6" x 8'-0" Tunnel				**$ 35,014,182.06**	

CPAT #9 - Micro-District South of Pacific - Reuse of Existing Tunnels

DESCRIPTION	QTY	UNIT	UNIT $	TOTAL	COMMENTS
01 GENERAL REQUIREMENTS					
TOTAL - DIV 1				$ -	
02 EXISTING CONDITIONS					
02411305 Utility Demolition					
Utility Demolition		LF		Existing Utility Relocates Included in Div. 33	
02411315 Selective Site Demolition					
Hardscape Demolition	-	SF	$ 4.50	$ -	
Sawcut for Paving Demolition	-	LF	$ 10.00	$ -	
02411600 Building Demolition					
Building Demolition		CF		None Assumed	
Building Level Modifications					
MEP Demo at (4) Buildings	4	EA	$ 50,000.00	$ 200,000.00	
02800200 Hazardous Material Site Remediation					
Hazardous Materials Remediation Allowance		LS		Allowance Included in Div. 33	
TOTAL - DIV 2				**$ 200,000.00**	
10 SPECIALTIES					
10140005 Exterior Signage					
Site Signage		EA		Site Furnishings Allowance Included in Div. 33	
10750000 Flagpoles					
Ground Set Flag Poles		EA		None Assumed	
TOTAL - DIV 10				$ -	
13 SPECIAL CONSTRUCTION					
13121300 Exterior Fountains					
Exterior Fountains		SF		None Assumed	
TOTAL - DIV 13				$ -	
23 HVAC					
23 00 00 General HVAC					
HVAC Trade Permits	1	LS	$ 7,240.00	$ 7,240.00	
23 70 00 Central HVAC Equipment					
Building Level Modifications					
Provide Hot Water to Hot Water Heat Exchangers at (7) Buildings	14	EA	$ 25,000.00	$ 350,000.00	
Replace AHU Motors & VFDs at (4) Buildings	16	EA	$ 35,000.00	$ 560,000.00	
Upsize Existing Pumps at (4) Buildings	12	EA	$ 75,000.00	$ 900,000.00	
TOTAL - DIV 23				**$ 1,817,240.00**	
25 INTEGRATED AUTOMATION					
25 50 00 Integrated Automation Facility Controls					
Building Level Modifications					
Rework Building Controls for Hot Water Heat Exchangers at (7) Buildings	14	EA	$ 15,000.00	$ 210,000.00	Assume (2) Heat Exchangers per Building
Rework Building Controls at AHUs at (4) Buildings	16	EA	$ 10,000.00	$ 160,000.00	Assume (4) AHUs per building
Add: Leak Detection - Controls Integration Allowance	-	ALLOW	$ 100,000.00	$ -	
TOTAL - DIV 25				**$ 370,000.00**	
26 ELECTRICAL					
26 20 00 Electrical Distribution					
Building Level Modifications					
Refeed Building Level AHU Motors, VFDs and Pumps	4	BLDG	$ 212,500.00	$ 850,000.00	
Add: Leak Detection - Electrical Connections	-	LS	$ 35,000.00	$ -	
Electrical Service to Temporary Steam Skids	1	LS	$ 670,000.00	$ 670,000.00	
TOTAL - DIV 26				**$ 1,520,000.00**	
31 EARTHWORK					
31110000 Clearing and Grubbing					
Clear and Grub		AC		None Assumed	
Tree Removal	-	EA	$ 200.00	$ -	
31200000 Earthwork					
Topsoil Strip and Stockpile		CY		None Assumed	
Mass Excavation & Export		CY		None Assumed	
31231900 Dewatering					
Construction Dewatering	-	LS	$ 100,000.00	$ -	
31250000 Erosion and Sedimentation Controls					
TESC Install & Maintenance	-	LS	$ 138,000.00	$ -	Furnish, install, maintain, remove
CESCL Monitoring & Reporting	-	MO	$ 5,400.00	$ -	
31311300 Building Pad Soil Treatment					
Termite Control Soil Treatment		SF		None Assumed	Bldg. Footprint
31410000 Sheeting and Shoring					

CPAT #9 - Micro-District South of Pacific - Reuse of Existing Tunnels

DESCRIPTION	QTY	UNIT	UNIT $	TOTAL	COMMENTS
Sheeting and Shoring		SF		Trench Shoring Included in Div. 33	
31660000 Special Foundations					
Structure Underpinning		CY		None Assumed	
TOTAL - DIV 31				**$ -**	
32 EXTERIOR IMPROVEMENTS					
32100000 Roadway Pavement					
Asphalt Pavement - Roadways (8")		SF		None Assumed, all either Vehicular Concrete or Sidewalk	
Vehicular Concrete Pavement	-	SF	$ 22.00	$ -	
Rock Base at AC Pavement & Vehicular Concrete	-	SF	$ 3.50	$ -	
Misc Street Repairs	-	LF	$ 20.00	$ -	Based on LF of Trenching
Pavement Markings	-	LS	$ 40,000.00	$ -	
32100010 Pedestrian Pavement					
Sidewalk	-	SF	$ 14.70	$ -	
Rock Base at Sidewalk	-	SF	$ 3.50	$ -	
32160000 Site Concrete					
Concrete Curb & Gutter	-	LF	$ 30.00	$ -	
32310000 Fences and Gates					
Chain link Fence w/ 3 Strands Barbed Wire		LF		None Assumed	
32320000 Retaining Walls					
CIP Site retaining walls		CY		None Assumed	
32390000 Site Specialties					
Site Furnishings - Replace Misc. Street Signs	-	LS	$ 20,000.00	$ -	
32391300 Site Metal Bollards					
Bollards	-	EA	$ 1,200.00	$ -	
32800000 Irrigation					
Sprinkler Irrigation including power feed		SF		Included Below	
Planting Drip Irrigation including power feed		SF		Included Below	
32900000 Landscaping					
Miscellaneous Landscaping & Irrigation	-	SF	$ 15.00	$ -	Assumes 15% of Disturbed Area
Replace City of ROW Seattle Trees	-	SF	$ 750.00	$ -	Updated to 2:1 Ratio per UW Direction
TOTAL - DIV 32				**$ -**	
33 UTILITIES					
33110005 Heating Hot Water Utility Service					
Heating Hot Water Supply & Return Piping (18")	3,300	LF	$ 1,206.38	$ 3,981,057.02	
Demo Existing Steam & Condensate Piping	4,740	LF	$ 250.00	$ 1,185,000.00	
6" Heating Hot Water Piping	1,440	LF	$ 337.79	$ 486,412.78	
Provide (5) Sets of Future HHW Stubs	5	EA	$ 50,000.00	$ 250,000.00	
Temporary Steam Boilers to Maintain Service to (7) Buildings	7	EA	$ 275,744.00	$ 1,930,208.00	
Temporary Steam & Condensate Piping Connections				Included	
Temporary Gas Piping Connections				Included	
Condensate Neutralization Kits & Associated Condensate Drain Piping				Included	
Propane Tanks				Included	
Retrofit Existing Piping Supports for 6" HHW Install	1,440	LF	$ 20.00	$ 28,800.00	
Retrofit Existing Piping Supports for 18" HHW Install	3,300	LF	$ 20.00	$ 66,000.00	
Disposal of Demolished Materials	4,740	LF	$ 40.00	$ 189,600.00	
Temporary Enclosures for Temporary Steam Skids	7	EA	$ 75,000.00	$ 525,000.00	
Add: Leak Detection System	-	LS	$ 45,000.00	$ -	
Trenching & Excavation at Heating Hot Water Only (Purple Line)	-	LF	$ 610.00	$ -	8' W x 5'-6" D
Furnish, Install & Backfill Vaults	-	EA	$ 53,280.00	$ -	
Utility Locating - Test pits / Potholing Allowance	-	EA	$ 2,000.00	$ -	Assumes pothole every 25' of trenching
Existing Utility Relocates - Purple Line	-	LF	$ 500.00	$ -	
Construction Surveying	-	STAKE	$ 1,500.00	$ -	
Add: ALTA & Topographic Survey	-	LS	$ -	By UW	
Unforeseen Conditions or Hazardous Materials Allowance	-	CY	$ 150.00	$ -	
Traffic Control Plan & Devices	-	SHFT	$ 2,360.00	$ -	
Lane Closure Permits	-	LS	$ -	By UW	
33300000 Sanitary Sewerage Utilities					
Sanitary Sewer Piping		LF		None Assumed, Relocates Included Above	
33400000 Storm Drain Utilities					
Stormwater Piping		LF		None Assumed, Relocates Included Above	
33510000 Site Natural Gas Distribution					
Natural Gas		EA		None Assumed, Relocates Included Above	
33717300 Site Electrical Utility Services					
Vault Electrical Provisions	-	EA	$ 8,000.00	$ -	
33800000 Site Communications Utilities					
Site Communication Distribution		EA		None Assumed, Relocates Included Above	
TOTAL - DIV 33				**$ 8,642,077.80**	
TOTAL CPAT #9 - Micro-District South of Pacific - Reuse of Existing Tunnels				**$ 12,549,317.80**	

CPAT #10 - Sewer Heat Recovery Site Piping - Direct-Bury Segment Only

DESCRIPTION	QTY	UNIT	UNIT $	TOTAL	COMMENTS
01 GENERAL REQUIREMENTS					
TOTAL - DIV 1				$ -	
02 EXISTING CONDITIONS					
02411305 Utility Demolition					
Utility Demolition		LF		Existing Utility Relocates Included in Div. 33	
02411315 Selective Site Demolition					
Hardscape Demolition	15,000	SF	$ 4.50	$ 67,500.00	Includes curb & gutter
Sawcut for Paving Demolition	3,000	LF	$ 10.00	$ 30,000.00	
02411600 Building Demolition					
Building Demolition		CF		None Assumed	
02800200 Hazardous Material Site Remediation					
Hazardous Materials Remediation Allowance		LS		Allowance Included in Div. 33	
TOTAL - DIV 2				**$ 97,500.00**	
10 SPECIALTIES					
10140005 Exterior Signage					
Site Signage		EA		Site Furnishings Allowance Included in Div. 33	
10750000 Flagpoles					
Ground Set Flag Poles		EA		None Assumed	
TOTAL - DIV 10				$ -	
13 SPECIAL CONSTRUCTION					
13121300 Exterior Fountains					
Exterior Fountains		SF		None Assumed	
TOTAL - DIV 13				$ -	
23 HVAC					
23 20 00 HVAC Piping					
HVAC Trade Permits	1	LS	$ -	$ -	
Vertical Condenser Water Piping into WCUP		LS	$ 500,000.00	$ -	Included in CPAT #8
TOTAL - DIV 23				$ -	
25 INTEGRATED AUTOMATION					
25 50 00 Integrated Automation Facility Controls					
Add: Leak Detection - Controls Integration Allowance	1	ALLOW	$ 100,000.00	$ 100,000.00	
TOTAL - DIV 25				**$ 100,000.00**	
26 ELECTRICAL					
26 20 00 Electrical Distribution					
Add: Leak Detection - Electrical Connections	1	LS	$ 50,000.00	$ 50,000.00	
TOTAL - DIV 26				**$ 50,000.00**	
31 EARTHWORK					
31110000 Clearing and Grubbing					
Clear and Grub		AC		None Assumed	Light Density
Tree Removal	105	EA	$ 200.00	$ 21,000.00	
31200000 Earthwork					
Topsoil Strip and Stockpile		CY		None Assumed	
Mass Excavation & Export		CY		None Assumed	
31231900 Dewatering					
Construction Dewatering	1	LS	$ 125,000.00	$ 125,000.00	
31250000 Erosion and Sedimentation Controls					
TESC Install & Maintenance	1	LS	$ 140,280.00	$ 140,280.00	Furnish, install, maintain, remove
CESCL Monitoring & Reporting	7	MO	$ 5,400.00	$ 36,360.00	
31311300 Building Pad Soil Treatment					
Termite Control Soil Treatment		SF		None Assumed	Bldg. Footprint
31410000 Sheeting and Shoring					
Sheeting and Shoring		SF		None Assumed	
31660000 Special Foundations					
Structure Underpinning		CY		None Assumed	
TOTAL - DIV 31				**$ 322,640.00**	
32 EXTERIOR IMPROVEMENTS					
32100000 Roadway Pavement					
Asphalt Pavement - BGT	18,000	SF	$ 9.00	$ 162,000.00	Assumes 12' Wide AC Paving at BGT
Concrete Walkpaths - BGT	13,500	SF	$ 10.20	$ 137,700.00	Assumes 9' Wide Concrete at BGT
Tapered Curb & BGT	1,500	LF	$ 42.00	$ 63,000.00	
Vehicular Concrete Pavement	3,232	SF	$ 30.00	$ 96,960.00	
Rock Base at BGT & Vehicular Concrete	36,232	SF	$ 3.50	$ 126,812.00	
Misc Street Repairs	1,500	SF	$ 20.00	$ 30,000.00	Based on LF of Trenching
Pavement Markings & Signage	1	LS	$ 50,000.00	$ 50,000.00	Surface Markings and Vehicle Directional

CPAT #10 - Sewer Heat Recovery Site Piping - Direct-Bury Segment Only

DESCRIPTION	QTY	UNIT	UNIT $	TOTAL	COMMENTS
32100010 Pedestrian Pavement					
Sidewalk		SF		Included with BGT Pricing	
Rock Base at Sidewalk		SF		Included with BGT Pricing	
32160000 Site Concrete					
Concrete Curb & Gutter	40	LF	$ 32.00	$ 1,280.00	
32310000 Fences and Gates					
Chain link Fence w/ 3 Strands Barbed Wire		LF		None Assumed	
32320000 Retaining Walls					
CIP Site retaining walls		CY		None Assumed	
32390000 Site Specialties					
Site Furnishings - Replace Misc. Street Signs	1	LS	$ 15,000.00	$ 15,000.00	
32391300 Site Metal Bollards					
Bollards	12	EA	$ 1,200.00	$ 14,400.00	
32800000 Irrigation					
Sprinkler Irrigation including power feed		SF		Included Below	
Planting Drip Irrigation including power feed		SF		Included Below	
32900000 Landscaping					
Miscellaneous Landscaping & Irrigation	2,250	SF	$ 15.00	$ 33,750.00	
Replace City of ROW Seattle Trees	210	EA	$ 750.00	$ 157,500.00	Updated to 2:1 Ratio per UW Direction
TOTAL - DIV 32				**$ 888,402.00**	
33 UTILITIES					
33110005 Condenser Water Utility Service					
Condenser Water Supply & Return Piping (24")	3,000	LF	$ 769.28	$ 2,307,849.60	
Add: Leak Detection System	1	LS	$ 75,000.00	$ 75,000.00	
Trenching & Excavation at Condenser Hot Water Only (Red Line)	1,500	LF	$ 530.00	$ 795,000.00	6'W x 5'6" D
Furnish, Install & Backfill Vaults	3	EA	$ 64,300.00	$ 192,900.00	
Utility Locating - Test pits / Potholing Allowance	60	EA	$ 2,000.00	$ 120,000.00	Assumes pothole every 25' of trenching
Existing Utility Relocates (Red Line)	1,500	LF	$ 500.00	$ 750,000.00	
Construction Surveying	100	STAKE	$ 1,500.00	$ 150,000.00	
Add: ALTA & Topographic Survey	-	LS	$ 105,000.00	By UW	
Unforeseen Conditions or Hazardous Materials Allowance	275	CY	$ 150.00	$ 41,250.00	Assumes 15% of Excavated Soils
Traffic Control Plan & Devices	57	SHFT	$ 2,360.00	$ 134,520.00	
Lane Closure Permits	-	LS	$ 84,129.00	By UW	Assumes routing along BGT
33300000 Sanitary Sewerage Utilities					
Sanitary Sewer Piping		LF		None Assumed, Relocates Included Above	
33400000 Storm Drain Utilities					
Stormwater Piping		LF		None Assumed, Relocates Included Above	
33510000 Site Natural Gas Distribution					
Natural Gas		LF		None Assumed, Relocates Included Above	
33717300 Site Electrical Utility Services					
Vault Electrical Provisions	3	EA	$ 8,000.00	$ 24,000.00	
33800000 Site Communications Utilities					
Site Communication Distribution		LF		None Assumed, Relocates Included Above	
TOTAL - DIV 33				**$ 4,590,519.60**	
TOTAL CPAT #10 - Sewer Heat Recovery Site Piping - Direct-Bury Segment Only				**$ 6,049,061.60**	

CPAT #11 - WCUP Heating System Improvements

DESCRIPTION	QTY	UNIT	UNIT $	TOTAL	COMMENTS
01 GENERAL REQUIREMENTS					
TOTAL - DIV 1				**$ -**	
02 EXISTING CONDITIONS					
02411305 Utility Demolition					
Demo Overhead Electric Service		LF		None Assumed	
Existing Underground Utility Demo & Relocate Allowance				Included in Div. 31	
02411315 Selective Site Demolition					
Asphalt Paving Demolition		SF		None Assumed	Includes curb & gutter
02411600 Building Demolition					
Building Demolition				None Assumed	
Building Abatement				None Assumed	
02800200 Hazardous Material Site Remediation					
Hazardous Materials Remediation Allowance		LS		Allowance Included in Div. 31	
TOTAL - DIV 2				**$ -**	
03 CONCRETE					
03 30 00 Cast in Place Concrete					
Foundations					
Slab-on-Grade	3,750	SF	$ 12.00	$ 45,000.00	
Slab-on-Grade Reinforcing @ 5 PSF	18,750	LBS	$ 1.14	$ 21,375.00	
Spread Footings	185	CY	$ 400.00	$ 74,074.07	
Spread Footing Reinforcing @ 150 PCY	27,778	LBS	$ 1.14	$ 31,666.67	
Housekeeping Pads	1	LS	$ 50,000.00	$ 50,000.00	
Elevated Decks					
SOMD	7,500	SF	$ 10.00	$ 75,000.00	
Panfilled Egress Stairs	3	FLOOR	$ 5,794.50	$ 17,383.49	
Walls					
Basement Perimeter Walls	5,200	SF	$ 55.00	$ 286,000.00	
Basement Perimeter Wall Reinforcing @ 10PSF	52,000	LBS	$ 1.59	$ 82,680.00	
TOTAL - DIV 3				**$ 683,179.23**	
04 MASONRY					
04 20 00 Unit Masonry					
CMU Exterior Walls	9,470	SF	$ 42.00	$ 397,740.00	Includes 42" Parapet
CMU Exterior Wall Reinforcing @ 7 PSF	66,290	LBS	$ 1.41	$ 93,468.90	
CMU Interior Walls	6,300	SF	$ 37.00	$ 233,100.00	
CMU Interior Wall Reinforcing @ 5PSF	31,500	LBS	$ 1.41	$ 44,415.00	
TOTAL - DIV 4				**$ 768,723.90**	
05 METALS					
05 10 00 Structural Metal Framing					
Structural Steel @ 15 PSF	84	TONS	$ 6,000.00	$ 506,250.00	
Metal Screenwall Support Structure @ 13.5 PSF	53	TONS	$ 6,000.00	$ 315,900.00	
05 30 00 Metal Decking					
Metal Decking	7,500	SF	$ 18.00	$ 135,000.00	
05 50 00 Metal Fabrications					
Misc. Steel	11,250	SF	$ 20.00	$ 225,000.00	
Misc. Steel - MEP Equipment Supports	1	LS	$ 25,000.00	$ 25,000.00	
Egress Stairs	6	FLIGHT	$ 25,909.26	$ 155,455.56	2 Flights per Level, Basement to Roof
Bollards	10	EA	$ 1,250.00	$ 12,500.00	
TOTAL - DIV 5				**$ 1,375,105.56**	
07 THERMAL & MOISTURE PROTECTION					
07 10 00 Dampproofing & Waterproofing					
Continuous Waterproofing at Basement	8,950	SF	$ 12.00	$ 107,400.00	
07 40 00 Metal Panels					
Exterior Screenwall System	7,800	SF	$ 55.00	$ 429,000.00	Assumes 30' Tall ; Match Design Intent of WCUP
07 50 00 Membrane Roofing					
Single-Ply TPO Membrane Roofing	3,750	SF	$ 38.00	$ 142,500.00	
Roof Protection & Patching	1	LS	$ 15,000.00	$ 15,000.00	
Coping Cap	260	LF	$ 35.00	$ 9,100.00	
07 60 00 Flashing and Sheet Metal					
Aluminum Flashing & Counterflashing	3,750	GSF	$ 1.50	$ 5,625.00	
07 80 00 Fire and Smoke Protection					
Additional Fire Sealants	11,250	GSF	$ 1.00	$ 11,250.00	
Intumescent Paint	11,250	GSF	$ 12.00	$ 135,000.00	
07 90 00 Joint Protection					
Interior Architectural Caulking	11,250	GSF	$ 0.75	$ 8,437.50	
TOTAL - DIV 7				**$ 863,312.50**	
08 OPENINGS					
08 10 00 Doors and Frames					
Exterior HM/HM Double Door	4	LEAF	$ 4,250.00	$ 17,000.00	
Exterior HM/HM Single Door	8	EA	$ 4,500.00	$ 36,000.00	
Interior HM/HM Double Door	18	LEAF	$ 3,500.00	$ 63,000.00	
Interior HM/HM Single Door	24	EA	$ 3,500.00	$ 84,000.00	

CPAT #11 - WCUP Heating System Improvements

DESCRIPTION	QTY	UNIT	UNIT $	TOTAL	COMMENTS
08 30 00 Specialty Doors and Frames					
Overhead Coiling Door - 8'-0" x 10'-0"	2	EA	$ 24,000.00	$ 48,000.00	
08 40 00 Entrances, Storefronts, and Curtainwalls					
Exterior Curtainwall	540	SF	$ 135.00	$ 72,900.00	
Interior Glazing	1	LS	$ 25,000.00	$ 25,000.00	
TOTAL - DIV 8				**$ 345,900.00**	
09 FINISHES					
09 20 00 Plaster and Gypsum Board					
Exterior Stud Wall Assemblies				None Assumed	
Interior Stud Wall Assemblies	360	SF	$ 30.00	$ 10,800.00	Assume (1) 10' x 8' Restroom
GWP Ceilings	80	SF	$ 20.00	$ 1,600.00	
09 60 00 Flooring					
Sealed Concrete Floors	5,625	SF	$ 2.00	$ 11,250.00	Assumes 75% of building gets sealed concrete
MEB Building Epoxy Flooring	1,500	SF	$ 20.00	$ 30,000.00	Assumes 25% of building gets epoxy flooring
09 90 00 Paintings and Coatings					
Wall Paint	22,790	SF	$ 1.50	$ 34,185.00	
Paint / Stain Door Frames	54	EA	$ 220.00	$ 11,880.00	
Paint Decks	11,250	SF	$ 1.50	$ 16,875.00	
Paint Touch-Up	80	HRS	$ 235.85	$ 18,868.00	Includes labor and materials
Paint MEP	1	LS	$ 75,000.00	$ 75,000.00	
Final Clean					
Pre-Final Clean	11,250	GSF	$ 0.50	$ 5,625.00	
Final Clean	11,250	GSF	$ 1.50	$ 16,875.00	
TOTAL - DIV 9				**$ 232,958.00**	
10 SPECIALTIES					
10140005 Exterior Signage					
Site Signage	1	ALLOW	$ 10,000.00	$ 10,000.00	
Building Signage	11,250	GSF	$ 2.00	$ 22,500.00	
10750000 Flagpoles					
Ground Set Flag Poles		EA		None Assumed	
TOTAL - DIV 10				**$ 32,500.00**	
13 SPECIAL CONSTRUCTION					
13121300 Exterior Fountains					
Exterior Fountains		SF		None Assumed	
TOTAL - DIV 13				**$ -**	
21 FIRE SUPPRESSION					
21 10 Water Based Fire Suppression Systems					
Building Fire Suppression System	11,250	GSF	$ 12.00	$ 135,000.00	
TOTAL - DIV 21				**$ 135,000.00**	
22 PLUMBING					
22 00 00 General Plumbing					
Plumbing Trade Permits	1	LS	$ 1,724.38	$ 1,724.38	
Temporary Water Setup	1	LS	$ 40,000.00	$ 40,000.00	
22 10 00 Plumbing Piping					
Building Plumbing Piping	11,250	GSF	$ 17.10	$ 192,375.00	Domestic Water, Sanitary Waste, Storm Water
22 30 00 Plumbing Equipment					
Building Plumbing Fixture Allowance	11,250	GSF	$ 10.00	$ 112,500.00	
TOTAL - DIV 22				**$ 346,599.38**	
23 HVAC					
23 00 00 General HVAC					
HVAC Trade Permits - WCUP Expansion per CPAT #11	1	LS	$ 18,037.05	$ 18,037.05	
HVAC Trade Permits - WCUP Support Space Fit-Out	1	LS	$ 1,440.00	$ 1,440.00	
23 30 00 HVAC Air Distribution					
Building Ductwork	11,250	GSF	$ 12.00	$ 135,000.00	
23 70 00 Central HVAC Equipment					
Building HVAC Equipment	11,250	GSF	$ 20.00	$ 225,000.00	
Steam-to-Hot Water Converters (42,000 lbs/hr / 4,200 GPM)	3	EA	$ 300,000.00	$ 900,000.00	
Heating Hot Water Pumps (4,200 GPM)	3	EA	$ 253,920.00	$ 761,760.00	
Air Separator	1	EA	$ 25,000.00	$ 25,000.00	
Expansion Tank	1	EA	$ 50,000.00	$ 50,000.00	
Associated Plant Piping, Valves, Hangers, Insulation, etc.	1	LS	$ 1,250,000.00	$ 1,250,000.00	
10" HPS to WT 5	1	LS	$ 90,000.00	$ 90,000.00	
4" Condensate to WT 5	1	LS	$ 40,000.00	$ 40,000.00	
Additional Scope Associated with Electric Boilers					
4 MW Electric Boilers	2	EA	$ 506,666.67	$ 1,013,333.33	Alpha pricing for 3MW electric boiler escalated by (4/3)
40 HP Primary HHW Pumps	2	EA	$ 64,584.00	$ 129,168.00	Alpha pricing for 100HP pump factored by (40/100)
Chemical Treatment System	1	LS	$ 250,000.00	$ 250,000.00	
Building Level Modifications				None Assumed	
TOTAL - DIV 23				**$ 4,888,738.38**	

CPAT #11 - WCUP Heating System Improvements

DESCRIPTION	QTY	UNIT	UNIT $	TOTAL	COMMENTS
25 INTEGRATED AUTOMATION					
25 50 00 Integrated Automation Facility Controls					
Automated Building Controls	1	LS	$ 275,000.00	$ 275,000.00	
Building Level Modifications					
Rework Building Controls				None Assumed	
TOTAL - DIV 25				**$ 275,000.00**	
26 ELECTRICAL					
26 00 00 General Electrical					
Temporary Construction Power & Lighting	11,250	GSF	$ 5.00	$ 56,250.00	
SCCAF Study & NETA Testing				Included	
26 20 00 Electrical Distribution					
Normal Power Transformer	1	LS	$ 110,000.00	$ 110,000.00	
Emergency Power Transformer	1	LS	$ 110,000.00	$ 110,000.00	
Automatic Transfer Switch	1	LS	$ 130,000.00	$ 130,000.00	
1200A Switchboard & 4,200 GPM Pump Feeds	1	LS	$ 175,000.00	$ 175,000.00	
House Power, Branch Distribution, Lighting, Fire Alarm, Security, etc.	11,250	GSF	$ 64.00	$ 720,000.00	
Additional Scope Associated with Electric Boilers					
Provide (2) 4160V, 600A Breakers at Existing Switchgear	2	EA	$ 65,000.00	$ 130,000.00	
MV Feeds to New Boilers	2	EA	$ 100,000.00	$ 200,000.00	
Electrical Feeds to New HHW Pumps	2	EA	$ 15,000.00	$ 30,000.00	
Building Level Modifications				None Assumed	
26 40 00 Electrical Protection					
Building Grounding				Included	
26 50 00 Lighting					
Site Lighting				Included	
Building Lighting				Included	
TOTAL - DIV 26				**$ 1,661,250.00**	
31 EARTHWORK					
31110000 Clearing and Grubbing					
Clear and Grub	6,000	SF	$ 2.00	$ 12,000.00	
Tree Removal		EA		Included	
31200000 Earthwork					
Strip Site	6,000	SF	$ 2.50	$ 15,000.00	
Spread Footing Excavation & Export	185	CY	$ 66.30	$ 12,277.78	
Mass Excavation	2,778	CY	$ 52.50	$ 145,833.33	
Rough & Fine Grade Site	6,000	SF	$ 6.50	$ 39,000.00	
Structural Backfill				None Assumed (Neat Cut Footings)	
Existing Utility Relocates	1	LS	$ 125,000.00	$ 125,000.00	
Rock Excavation and Removal				None Assumed	
Unforeseen Conditions or Hazardous Materials Allowance	444	CY - ALLOW	$ 150.00	$ 66,666.67	Assumes 15% of Excavated Soils
Construction Surveying	1	LS	$ 125,000.00	$ 125,000.00	
Add: ALTA & Topographic Survey	-	LS	$ 25,000.00	By UW	
Lane Closure Fees	-	LS	$ 25,000.00	By UW	
31231900 Dewatering					
Wellpoint Dewatering System Design	1	LS	$ 7,500.00	$ 7,500.00	
Dewatering Wells	5	EA	$ 9,500.00	$ 47,500.00	
System Operation & Maintenance	6	MO	$ 5,000.00	$ 30,000.00	
31250000 Erosion and Sedimentation Controls					
TESC Install & Maintenance	1	LS	$ 56,600.00	$ 56,600.00	Furnish, install, maintain, remove
CESCL Monitoring & Reporting	13	MO	$ 5,400.00	$ 71,100.00	
31311300 Building Pad Soil Treatment					
Termite Control Soil Treatment		SF		None Assumed	Bldg. Footprint
31410000 Sheeting and Shoring					
Soldier Pile, Tieback & Lagging Wall	5,720	SF	$ 90.00	$ 514,800.00	
31660000 Special Foundations					
Structure Underpinning		CY		None Assumed	
TOTAL - DIV 31				**$ 1,268,277.78**	
32 EXTERIOR IMPROVEMENTS					
32100000 Roadway Pavement					
Miscellaneous Street Repairs	1	LS	$ 20,000.00	$ 20,000.00	
Pavement Markings & Signage	1	LS	$ 5,000.00	$ 5,000.00	
32100010 Pedestrian Pavement					
Sidewalk	1,000	SF	$ 14.00	$ 14,000.00	Assumes 15% of Remaining Site Area is Concrete Walkpath
Rock Base @ Sidewalk	1,000	SF	$ 3.50	$ 3,500.00	
32160000 Site Concrete					
Concrete Paving		SF		Included	
32310000 Fences and Gates					
Fences & Gates				None Assumed	
32320000 Retaining Walls					
CIP Site retaining walls		CY		None Assumed	

CPAT #11 - WCUP Heating System Improvements

DESCRIPTION	QTY	UNIT	UNIT $	TOTAL	COMMENTS
32390000 Site Specialties					
Site Furnishings	1	LS	$ 75,000.00	$ 75,000.00	
32391300 Site Metal Bollards					
Bollards		EA		Included	
32800000 Irrigation					
Sprinkler Irrigation including power feed		SF		Included	
Planting Drip Irrigation including power feed		SF		Included	
32900000 Landscaping					
Landscape & Irrigation	2,250	SF	$ 18.00	$ 40,500.00	Assumes 10% of Remaining Site Area is Landscape
Install New Trees	30	EA	$ 750.00	$ 22,500.00	Previous QTY has been doubled - further study will be required to confirm how many trees will be removed during clear & grub but doubling previous assumption to be conservative
TOTAL - DIV 32				**$ 180,500.00**	
33 UTILITIES					
33110005 Domestic Water Utility Service					
Domestic Water				None Assumed ; Assume Tie Into from WCUP	
33300000 Sanitary Sewerage Utilities					
Sanitary Sewer				None Assumed ; Assume Tie Into from WCUP	
33 20 00 Wells					
Thermal Energy Storage Tank				None Assumed	
33400000 Storm Drain Utilities					
Stormdrain				None Assumed ; Assume Tie Into from WCUP	
33510000 Site Natural Gas Distribution					
Natural Gas - Tie Into Existing		EA		None Assumed	
33717300 Site Electrical Utility Services					
Site Electrical Distribution				None Assumed, Pulling Feeds from WCUP	
Site Lighting Trenching	750	LF	$ 32.00	$ 24,000.00	
33800000 Site Communications Utilities					
Site Communications Distribution				None Assumed, Pulling Feeds from WCUP	
TOTAL - DIV 33				**$ 24,000.00**	
TOTAL CPAT #11 - WCUP Heating System Improvements				**$ 13,081,044.72**	

CPAT #12 - West Receiving Station Electrical Upgrades

DESCRIPTION	QTY	UNIT	UNIT $	TOTAL	COMMENTS
01 GENERAL REQUIREMENTS					
TOTAL - DIV 1				$ -	
02 EXISTING CONDITIONS					
02411305 Utility Demolition					
Demo Overhead Electric Service		LF		None Assumed	
Existing Underground Utility Demo & Relocate Allowance		ALLOW		Included in Div. 33	
02411315 Selective Site Demolition					
Hardscape Demolition for Transmission Line & UW Substation	42,450	SF	$ 4.50	$ 191,025.00	Includes curb & gutter
Sawcut for Paving Demolition & UW Substation	7,280	LF	$ 10.00	$ 72,800.00	
02411600 Building Demolition					
Building Demolition	24,300	GSF	$ 9.29	$ 225,747.00	
Building Abatement	24,300	GSF	$ 6.37	$ 154,791.00	
MEP Safe-Off	1	LS	$ 35,000.00	$ 35,000.00	
02800200 Hazardous Material Site Remediation					
Hazardous Materials Remediation Allowance		LS		$ -	
TOTAL - DIV 2				**$ 679,363.00**	
03 CONCRETE					
03 30 00 Cast in Place Concrete					
Foundations					
Slab-on-Grade	4,000	SF	$ 12.00	$ 48,000.00	
Slab-on-Grade Reinforcing @ 5 PSF	20,000	LBS	$ 1.22	$ 24,400.00	
Spread Footings	89	CY	$ 400.00	$ 35,555.56	
Spread Footing Reinforcing @ 150 PCY	13,333	LBS	$ 1.22	$ 16,266.67	
Blast Rated Wall Strip Footings	544	CY	$ 400.00	$ 217,777.78	
Blast Rated Wall Strip Footing Reinforcing @ 250 PCY	136,111	LBS	$ 1.22	$ 166,055.56	
Housekeeping Pads	1	LS	$ 120,000.00	$ 120,000.00	
Elevated Decks					
SOMD	4,000	SF	$ 10.00	$ 40,000.00	
Panfilled Egress Stairs				None Assumed	
Walls					
Basement Perimeter Walls				None Assumed	
Basement Perimeter Wall Reinforcing @ 10PSF				None Assumed	
TOTAL - DIV 3				**$ 668,055.56**	
04 MASONRY					
04 20 00 Unit Masonry					
CMU Blast Rated Walls	13,600	SF	$ 65.00	$ 884,000.00	Includes 42" Parapet
CMU Exterior Wall Reinforcing @ 10 PSF	136,000	LBS	$ 1.41	$ 191,760.00	
CMU Interior Walls	240	SF	$ 55.00	$ 13,200.00	
CMU Interior Wall Reinforcing @ 7PSF	1,680	LBS	$ 1.41	$ 2,368.80	
TOTAL - DIV 4				**$ 1,091,328.80**	
05 METALS					
05 10 00 Structural Metal Framing					
Structural Steel @ 15 PSF				None Assumed	
05 30 00 Metal Decking					
Metal Decking	4,000	SF	$ 18.00	$ 72,000.00	
05 50 00 Metal Fabrications					
Misc. Steel	4,000	SF	$ 8.00	$ 32,000.00	
Misc. Steel - MEP Equipment Supports	1	LS	$ 25,000.00	$ 25,000.00	
Egress Stairs				None Assumed	2 Flights per Level, Basement to Roof
Bollards				None Assumed	
TOTAL - DIV 5				**$ 129,000.00**	
07 THERMAL & MOISTURE PROTECTION					
07 10 00 Dampproofing & Waterproofing					
Continuous Waterproofing at Tunnel	8,170	SF	$ 12.00	$ 98,040.00	
07 40 00 Metal Panels					
Metal Panels				None Assumed	
07 50 00 Membrane Roofing					
Single-Ply TPO Membrane Roofing	4,000	SF	$ 38.00	$ 152,000.00	
Roof Protection & Patching	1	LS	$ 15,000.00	$ 15,000.00	
Coping Cap	480	LF	$ 35.00	$ 16,800.00	
07 60 00 Flashing and Sheet Metal					
Aluminum Flashing & Counterflashing	4,000	GSF	$ 1.50	$ 6,000.00	
07 80 00 Fire and Smoke Protection					
Additional Fire Sealants	4,000	GSF	$ 1.00	$ 4,000.00	
Spray Applied Fireproofing				None Assumed	
07 90 00 Joint Protection					
Interior Architectural Caulking	4,000	GSF	$ 0.75	$ 3,000.00	
TOTAL - DIV 7				**$ 294,840.00**	
08 OPENINGS					
08 10 00 Doors and Frames					

CPAT #12 - West Receiving Station Electrical Upgrades

	DESCRIPTION	QTY	UNIT	UNIT $	TOTAL	COMMENTS
	Exterior HM/HM Double Door	8	LEAF	$ 4,250.00	$ 34,000.00	
	Exterior HM/HM Single Door				None Assumed	
	Interior HM/HM Double Door				None Assumed	
	Interior HM/HM Single Door	2	EA	$ 5,500.00	$ 11,000.00	
08 30 00	**Specialty Doors and Frames**					
	Overhead Coiling Door - 8'-0" x 10'-0"				None Assumed	
08 40 00	**Entrances, Storefronts, and Curtainwalls**					
	Exterior Curtainwall				None Assumed	
	Interior Glazing				None Assumed	
	TOTAL - DIV 8				**$ 45,000.00**	
09	**FINISHES**					
09 20 00	**Plaster and Gypsum Board**					
	Interior Furring	10,240	SF	$ 18.00	$ 184,320.00	At all walls and ceilings
09 60 00	**Flooring**					
	Sealed Concrete Floors	5,625	SF	$ 2.00	$ 11,250.00	Assumes 75% of building gets sealed concrete
	MEB Building Epoxy Flooring	1,500	SF	$ 20.00	$ 30,000.00	Assumes 25% of building gets epoxy flooring
09 90 00	**Paintings and Coatings**					
	Wall & Ceiling Paint	10,240	SF	$ 1.50	$ 15,360.00	
	Paint / Stain Door Frames	10	EA	$ 220.00	$ 2,200.00	
	Paint Decks				Included	
	Paint Touch-Up	80	HRS	$ 235.85	$ 18,868.00	Includes labor and materials
	Paint MEP				None Assumed	
	Final Clean					
	Pre-Final Clean	4,000	GSF	$ 0.50	$ 2,000.00	
	Final Clean	4,000	GSF	$ 1.50	$ 6,000.00	
	TOTAL - DIV 9				**$ 269,998.00**	
10	**SPECIALTIES**					
10140005	**Exterior Signage**					
	Site Signage	1	ALLOW	$ 5,000.00	$ 5,000.00	
	Building Signage	4,000	GSF	$ 2.00	$ 8,000.00	
10750000	**Flagpoles**					
	Ground Set Flag Poles		EA		None Assumed	
	TOTAL - DIV 10				**$ 13,000.00**	
13	**SPECIAL CONSTRUCTION**					
13121300	**Exterior Fountains**					
	Exterior Fountains		SF		None Assumed	
	TOTAL - DIV 13				**$ -**	
21	**FIRE SUPPRESSION**					
21 10	**Water Based Fire Suppression Systems**					
	Building Fire Suppression System				None Assumed	
	TOTAL - DIV 21				**$ -**	
22	**PLUMBING**					
22 00 00	**General Plumbing**					
	Plumbing Trade Permits				None Assumed	
	Temporary Water Setup	1	LS	$ 20,000.00	$ 20,000.00	
22 10 00	**Plumbing Piping**					
	Building Plumbing Piping				None Assumed	
22 30 00	**Plumbing Equipment**					
	Plumbing Fixture Allowance				None Assumed	
	TOTAL - DIV 22				**$ 20,000.00**	
23	**HVAC**					
23 00 00	**General HVAC**					
	HVAC Trade Permits	1	LS	$ 512.00	$ 512.00	
23 30 00	**HVAC Air Distribution**					
	Building Air Distribution	4,000	GSF	$ 12.00	$ 48,000.00	
23 70 00	**Central HVAC Equipment**					
	Building HVAC Equipment	4,000	GSF	$ 20.00	$ 80,000.00	
	Building Level Modifications				None Assumed	
	TOTAL - DIV 23				**$ 128,512.00**	
25	**INTEGRATED AUTOMATION**					
25 50 00	**Integrated Automation Facility Controls**					
	Automated Building Controls	1	LS	$ 15,000.00	$ 15,000.00	
	Building Level Modifications					
	Rework Building Controls				None Assumed	
	TOTAL - DIV 25				**$ 15,000.00**	

CPAT #12 - West Receiving Station Electrical Upgrades

DESCRIPTION	QTY	UNIT	UNIT $	TOTAL	COMMENTS
26 ELECTRICAL					
26 00 00 General Electrical					
Temporary Construction Power & Lighting	4,000	GSF	$ 5.00	$ 20,000.00	
SCCAF Study & NETA Testing	1	LS	$ 50,000.00	$ 50,000.00	House power a downstream feeds only ; Assumes SCL performs NETA testing on SCL provided gear
26 20 00 Electrical Distribution					
Substation Distribution Equipment Allowance (Transformers, Switchgear, Primary Wiring, Metering, Electrical Testing, Protection Networks, etc.)	1	ALLOW	$ 9,000,000.00	$ 9,000,000.00	
House Power, Branch Distribution, Lighting, Fire Alarm, Security, etc.	4,000	GSF	$ 64.00	$ 256,000.00	
Building Level Modifications				None Assumed	
26 40 00 Electrical Protection					
Substation Grounding System	1	LS	$ 300,000.00	$ 300,000.00	
26 50 00 Lighting					
Site Lighting				Included	
Building Lighting				Included	
TOTAL - DIV 26				**$ 9,626,000.00**	
31 EARTHWORK					
31110000 Clearing and Grubbing					
Clear and Grub				Included	
Tree Removal	250	EA	$ 250.00	$ 62,500.00	
31200000 Earthwork					
Strip Site	20,400	SF	$ 2.00	$ 40,800.00	
Spread Footing Excavation & Export	633	CY	$ 66.30	$ 41,990.00	
Mass Excavation				None Assumed	
Rough & Fine Grade Site	20,400	SF	$ 6.50	$ 132,600.00	
Structural Backfill	500	TON	$ 65.00	$ 32,500.00	
Rock Excavation and Removal				None Assumed	
31231900 Dewatering					
Construction Dewatering	1	LS	$ 150,000.00	$ 150,000.00	
31250000 Erosion and Sedimentation Controls					
TESC Install & Maintenance	1	LS	$ 190,000.00	$ 190,000.00	Furnish, install, maintain, remove
CESCL Monitoring & Reporting	17	MO	$ 5,400.00	$ 90,180.00	
31311300 Building Pad Soil Treatment					
Termite Control Soil Treatment		SF		None Assumed	Bldg. Footprint
31410000 Sheeting and Shoring					
Soldier Pile, Tieback & Lagging Wall & Tunnel	5,700	SF	$ 90.00	$ 513,000.00	At Tunnel Between UW Owned Substation & WRS
31660000 Special Foundations					
Structure Underpinning		CY		None Assumed	
TOTAL - DIV 31				**$ 1,253,570.00**	
32 EXTERIOR IMPROVEMENTS					
32100000 Roadway Pavement					
Vehicular Concrete	7,000	SF	$ 22.00	$ 154,000.00	
Asphalt Pavement - Roadways (8")	12,950	SF	$ 10.00	$ 129,500.00	
Rock Base at AC Pavement & Vehicular Concrete	19,950	SF	$ 3.50	$ 69,825.00	
Misc Street Repairs	3,350	LF	$ 20.00	$ 67,000.00	Based on LF of Trenching
Pavement Markings & Signage	1	LS	$ 60,000.00	$ 60,000.00	Surface Markings and Vehicle Directional
32100010 Pedestrian Pavement					
UW Substation Walkpaths	1,000	SF	$ 14.00	$ 14,000.00	Assumes 15% of Remaining Site Area is Concrete Walkpath
Rock Base @ UW Substation	1,000	SF	$ 3.50	$ 3,500.00	
Gravel @ UW Owned Substation	5,350	SF	$ 4.00	$ 21,400.00	
32160000 Site Concrete					
Concrete Stairs on Grade	1	LS	$ 20,000.00	$ 20,000.00	
32310000 Fences and Gates					
UW Substation Gates	2	EA	$ 15,000.00	$ 30,000.00	
32320000 Retaining Walls					
CIP Site retaining walls		CY		None Assumed	
32390000 Site Specialties					
Site Furnishings - Replace Misc. Street Signs	1	LS	$ 30,000.00	$ 30,000.00	
32391300 Site Metal Bollards					
Bollards		EA		None Assumed	
32800000 Irrigation					
Sprinkler Irrigation including power feed		SF		Included	
Planting Drip Irrigation including power feed		SF		Included	
32900000 Landscaping					
Landscape & Irrigation	17,550	SF	$ 15.00	$ 263,250.00	
Install New Trees	500	EA	$ 750.00	$ 375,000.00	Updated to 2:1 Ratio per UW Direction
TOTAL - DIV 32				**$ 1,237,475.00**	

CPAT #12 - West Receiving Station Electrical Upgrades

	DESCRIPTION	QTY	UNIT	UNIT $	TOTAL	COMMENTS
33	**UTILITIES**					
	33110005 Domestic Water Utility Service					
	Domestic Water				None Assumed	
	33300000 Sanitary Sewerage Utilities					
	Sanitary Sewer				None Assumed	
33 20 00	**Wells**					
	Thermal Energy Storage Tank				None Assumed	
	33400000 Storm Drain Utilities					
	Stormdrain				None Assumed	
	33510000 Site Natural Gas Distribution					
	Natural Gas - Tie Into Existing		EA		None Assumed	
	33717300 Site Electrical Utility Services					
	Pull Conduit from I-5 Intersection to UW Owned Substation	26,800	LF	$ 20.00	$ 536,000.00	Assumes (8) Conduits
	Electrical Service Duct Bank (Civil - Excavation, Backfill, Concrete Encasement)	3,350	LF	$ 575.00	$ 1,926,250.00	
	New feeders from SCL provided, UW owned gear to WRS	16	FEEDS	$ 46,875.00	$ 750,000.00	Assumes (16) 500kcmil 15kV cables
	Pulling Vaults	14	EA	$ 31,650.00	$ 443,100.00	
	9'-6" x 8'-0" Tunnel from UW Substation to WRS	100	LF	$ 6,600.00	$ 660,000.00	
	9'-6" x 8'-0" Tunnel Connecting Electrical Buildings	90	LF	$ 6,600.00	$ 594,000.00	
	Construction Surveying	230	STAKE	$ 1,500.00	$ 345,000.00	
	Add: ALTA & Topographic Survey	-	LS	$ 150,000.00	By UW	
	Utility Locating - Test pits / Potholing Allowance	142	EA	$ 2,000.00	$ 283,200.00	
	Existing Utility Relocates - SCL Feed	3,350	LF	$ 500.00	$ 1,675,000.00	
	Existing Utility Relocates - Tunnel	190	LF	$ 1,000.00	$ 190,000.00	
	Unforeseen Conditions or Hazardous Materials Allowance	892	CY	$ 80.00	$ 71,340.00	
	Site Lighting Trenching	100	LF	$ 32.00	$ 3,200.00	
	Lane Closure Permits	-	LS	$ 84,129.00	By UW	Assumes routing along BGT
	33800000 Site Communications Utilities					
	Site Communications Distribution				None Assumed	
	TOTAL - DIV 33				**$ 7,477,090.00**	
	TOTAL CPAT #12 - West Receiving Station Electrical Upgrades				**$ 22,948,232.36**	

CPAT #13 - Chiller #5 Installation at WCUP

DESCRIPTION	QTY	UNIT	UNIT $	TOTAL	COMMENTS
01 GENERAL REQUIREMENTS					
TOTAL - DIV 1				$ -	
02 EXISTING CONDITIONS					
02411305 Utility Demolition					
Existing Utility Demolition		LF		None Assumed	
Existing Underground Utility Demo & Relocate Allowance		ALLOW		None Assumed	
02411315 Selective Site Demolition					
Site Demolition				None Assumed	
02411600 Building Demolition					
Building Demolition				None Assumed	
Building Abatement				None Assumed	
02800200 Hazardous Material Site Remediation					
Hazardous Materials Remediation Allowance		LS		None Assumed	
TOTAL - DIV 2				$ -	
03 CONCRETE					
03 30 00 Cast in Place Concrete					
Foundations				None Assumed	
TOTAL - DIV 3				$ -	
04 MASONRY					
04 20 00 Unit Masonry					
CMU Exterior Walls				None Assumed	
TOTAL - DIV 4				$ -	
05 METALS					
05 10 00 Structural Metal Framing					
Structural Modifications to Facilitate Piping Systems	1,800	SF	$ 111.11	$ 200,000.00	
Roof Structure for Cooling Tower	1	LS	$ 150,000.00	$ 150,000.00	
05 30 00 Metal Decking					
Metal Decking				None Assumed	
05 50 00 Metal Fabrications					
Structural Modifications to Facilitate Safe As-Left Condition				$ -	
TOTAL - DIV 5				**$ 350,000.00**	
07 THERMAL & MOISTURE PROTECTION					
07 10 00 Dampproofing & Waterproofing					
Continuous Waterproofing				None Assumed	
07 50 00 Membrane Roofing					
Roof Penetrations	25	EA	$ 325.00	$ 8,125.00	
07 60 00 Flashing and Sheet Metal					
Aluminum Flashing & Counterflashing				None Assumed	
07 80 00 Fire and Smoke Protection					
Additional Fire Sealants				None Assumed	
Spray Applied Fireproofing				None Assumed	
07 90 00 Joint Protection					
Interior Architectural Caulking				None Assumed	
TOTAL - DIV 7				**$ 8,125.00**	
08 OPENINGS					
08 10 00 Doors and Frames					
Exterior HM/HM Single Door				None Assumed	
Interior HM/HM Single Door				None Assumed	
08 30 00 Specialty Doors and Frames					
Overhead Coiling Door - 8'-0" x 10'-0"				None Assumed	
08 40 00 Entrances, Storefronts, and Curtainwalls					
Glass & Glazing				None Assumed	
TOTAL - DIV 8				$ -	
09 FINISHES					
09 20 00 Plaster and Gypsum Board					
Architectural Modifications				None Assumed	
09 60 00 Flooring					
Flooring				None Assumed	
TOTAL - DIV 9				$ -	
10 SPECIALTIES					
10140005 Exterior Signage					
Site Signage				None Assumed	
Building Signage				None Assumed	

CPAT #13 - Chiller #5 Installation at WCUP

DESCRIPTION	QTY	UNIT	UNIT $	TOTAL	COMMENTS
10750000 Flagpoles					
Ground Set Flag Poles		EA		None Assumed	
TOTAL - DIV 10				**$ -**	
13 SPECIAL CONSTRUCTION					
13121300 Exterior Fountains					
Exterior Fountains		SF		None Assumed	
TOTAL - DIV 13				**$ -**	
21 FIRE SUPPRESSION					
21 10 Water Based Fire Suppression Systems					
MEP Building Fire Suppression System				None Assumed	
TOTAL - DIV 21				**$ -**	
22 PLUMBING					
22 00 00 General Plumbing					
Plumbing Trade Permits				None Assumed	
22 10 00 Plumbing Piping					
MEP Building Plumbing Piping				None Assumed	Domestic Water, Sanitary Waste, Storm Water
22 30 00 Plumbing Equipment					
MEP Building Plumbing Fixture Allowance				None Assumed	
TOTAL - DIV 22				**$ -**	
23 HVAC					
23 00 00 General HVAC					
HVAC Trade Permits	1	LS	$ 10,100.68	$ 10,100.68	
23 20 00 HVAC Piping					
Piping To/From CCW Header (12" Pipe)	280	LF	$ 603.19	$ 168,893.33	
Piping To/From Cooling Tower (12" Pipe)	400	LF	$ 603.19	$ 241,276.18	
23 70 00 Central HVAC Equipment					
1500 Ton Chiller Installation (Furnished by UW)	1	LS	$ 200,000.00	$ 200,000.00	Includes receiving, unloading & installation
1750 Ton Counter-Flow Cooling Tower	1	LS	$ 965,000.00	$ 965,000.00	
400 HP Primary Chilled Water Pump	1	LS	$ 475,000.00	$ 475,000.00	
200 HP Cooling Tower Water Pump	1	LS	$ 300,000.00	$ 300,000.00	
Existing HVAC Modifications Allowance	1	LS	$ 175,000.00	$ 175,000.00	
TOTAL - DIV 23				**$ 2,535,270.19**	
25 INTEGRATED AUTOMATION					
25 50 00 Integrated Automation Facility Controls					
Controls Allowance	1	LS	$ 150,000.00	$ 150,000.00	
TOTAL - DIV 25				**$ 150,000.00**	
26 ELECTRICAL					
26 00 00 General Electrical					
Temporary Construction Power & Lighting	1	LS	$ 25,000.00	$ 25,000.00	Assumes utilizing existing CUP electrical equipment for temp loads
26 20 00 Electrical Distribution					
2500/3325 kVA Unit Substation (4160V to 480V Secondary)	1	LS	$ 1,750,000.00	$ 1,750,000.00	
4160V (3) 500 kcmil feeders from power plant to new Unit Sub	1	LS	$ 700,000.00	$ 700,000.00	
Update: 4160V, 600A, 3Ph Feeder From Existing Switchboard to Chiller	1	LS	$ 140,000.00	$ 140,000.00	Voltage Adjusted to 4160V
600A SEL Relay & Meter	1	LS	$ 70,000.00	$ 70,000.00	
300A Feeder to Cooling Tower	1	LS	$ 45,000.00	$ 45,000.00	
Feeder to 12 FLA, 480V Basin Heater	1	LS	$ 21,000.00	$ 21,000.00	
800A Feeder to 300 HP Chilled Water Pump	1	LS	$ 115,000.00	$ 115,000.00	
600A Feed to 250 HP Cooling Tower Pump	1	LS	$ 85,000.00	$ 85,000.00	
26 40 00 Electrical Protection					
MEP Building Grounding				None Assumed	
26 50 00 Lighting					
Site Lighting				None Assumed	
TOTAL - DIV 26				**$ 2,951,000.00**	
31 EARTHWORK					
31110000 Clearing and Grubbing					
Clear and Grub				None Assumed	
31200000 Earthwork					
Strip Site				None Assumed	
Excavation & Offhaul				None Assumed	
Unforeseen Conditions or Hazardous Materials Allowance				None Assumed	
31231900 Dewatering					
Construction Dewatering				None Assumed	
31250000 Erosion and Sedimentation Controls					
TESC Install & Maintenance				None Assumed	Furnish, install, maintain, remove
CESCL Monitoring & Reporting				None Assumed	

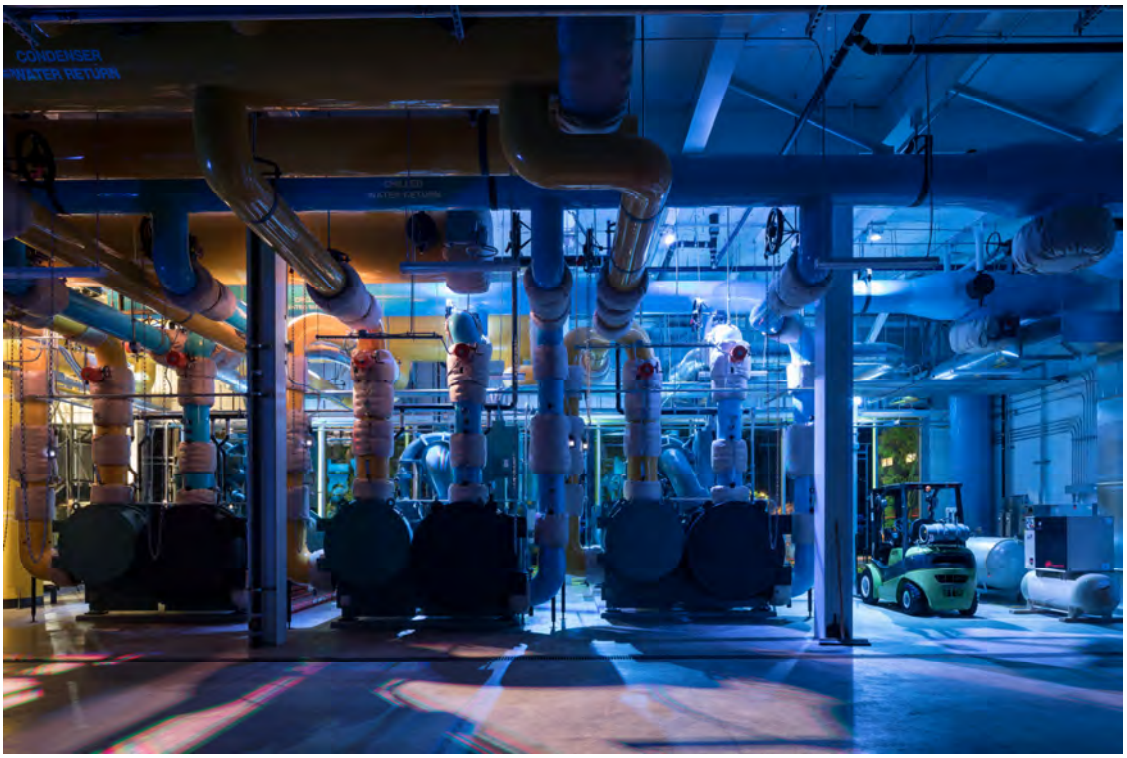
CPAT #13 - Chiller #5 Installation at WCUP

DESCRIPTION	QTY	UNIT	UNIT $	TOTAL	COMMENTS
31311300 Building Pad Soil Treatment					
Termite Control Soil Treatment		SF		None Assumed	Bldg. Footprint
31410000 Sheeting and Shoring					
Sheeting and Shoring		SF		None Assumed	
31660000 Special Foundations					
Structure Underpinning		CY		None Assumed	
TOTAL - DIV 31				**$ -**	
32 EXTERIOR IMPROVEMENTS					
32100000 Roadway Pavement					
Miscellaneous Street Repairs	1	LS	$ 25,000.00	$ 25,000.00	
Lane Use Fees & Traffic Control for Chiller & Cooling Tower Deliveries	-	LS	$ 15,000.00	By UW	
32100010 Pedestrian Pavement					
Pedestrian Pavement				None Assumed	
32160000 Site Concrete					
Concrete Paving					
32310000 Fences and Gates					
Chain link Fence w/ 3 Strands Barbed Wire				None Assumed	
Cantilever Automatic Sliding Gate				None Assumed	
Drop Arm Gate				None Assumed	
32320000 Retaining Walls					
CIP Site retaining walls				None Assumed	
32390000 Site Specialties					
32391300 Site Metal Bollards					
32800000 Irrigation					
Sprinkler Irrigation including power feed				None Assumed	
Planting Drip Irrigation including power feed				None Assumed	
32900000 Landscaping					
Landscape & Irrigation				None Assumed	
TOTAL - DIV 32				**$ 25,000.00**	
33 UTILITIES					
33110005 Chilled Water Utility Service					
Chilled Water Supply & Return Piping				None Assumed	
Chilled Water Supply & Return Piping Trenching, Excavation & Backfill				None Assumed	
Traffic Control for CW Trenching				None Assumed	
33300000 Sanitary Sewerage Utilities					
Sanitary Sewer				None Assumed	
33 20 00 Wells					
Thermal Energy Storage Tank				None Assumed	
33400000 Storm Drain Utilities					
Stormdrain				None Assumed	
33510000 Site Natural Gas Distribution					
Natural Gas - Tie Into Existing				None Assumed	
33717300 Site Electrical Utility Services					
Site Electrical Service				None Assumed	
33800000 Site Communications Utilities					
Site Telecom Service				None Assumed	
TOTAL - DIV 33				**$ -**	
TOTAL CPAT #13 - Chiller #5 Installation at WCUP				**$ 6,019,395.19**	

Appendix C

Clean Energy Transformation 25-27

University of Washington
Agency 360
2025-2027
Capital Budget Request



UNIVERSITY of WASHINGTON

FAST FACTS 2023-2024

uw.edu

PROFILE

The University of Washington's three campuses offer more than:

473 programs

846 degree options

Average time to degree is 3.8 years.

83% of entering freshmen graduate within six years.

19.3% change in freshman applications to all three campuses.

28% of entering freshmen are first generation four-year degree seeking students.

6,621 (15%) of undergraduate students transferred from a Washington State community college.

TUITION

Washington resident undergraduate tuition and fees $12,643

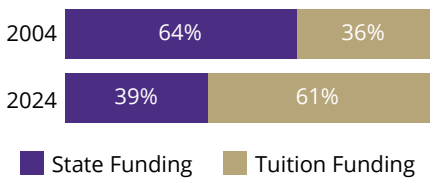
BUDGET

Annual budget: $10.4 Billion

$1.3 Billion General Operating Fund: supporting the University's academic mission.

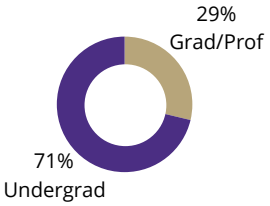
FUNDING

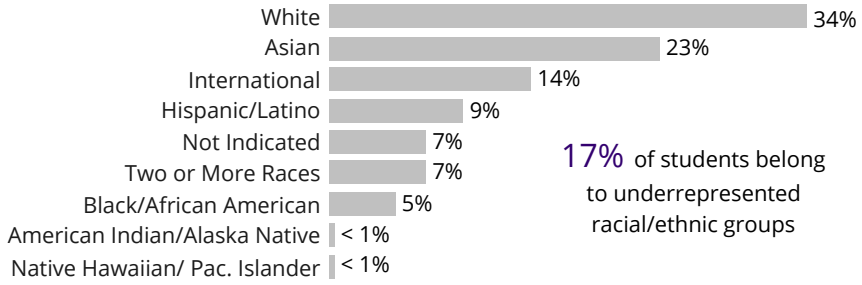
Tuition Revenue & State Funds (% of Total):



FALL 2023 TOTAL ENROLLMENT

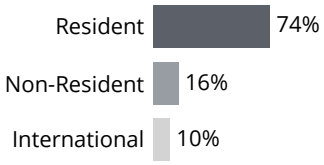
	Seattle	Bothell	Tacoma	TOTAL
Undergrad	33,973	5,255	4,027	43,255
Grad/Prof	16,124	561	763	17,448
TOTAL	50,097	5,816	4,790	60,703



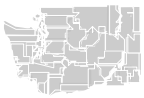


17% of students belong to underrepresented racial/ethnic groups

UNDERGRADUATE RESIDENCY



50 of 50 states are represented at the UW.



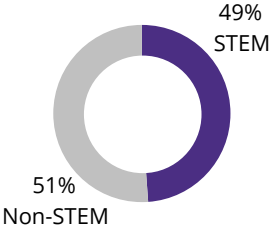
39 of 39 Washington counties are represented at the UW.

DEGREES AWARDED 2022-23

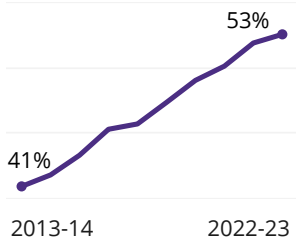
	Seattle	Bothell	Tacoma	TOTAL
Bachelor	8,434	1,651	1,447	11,532
Master	4,765	206	326	5,297
Doctorate	870		16	886
Professional	594			594
TOTAL	14,663	1,857	1,789	18,309

STEM STUDENTS

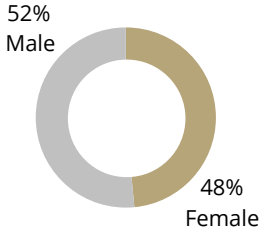
MAJORS



% OF ALL DEGREES



SEX



UNIVERSITY of WASHINGTON

PRIDE POINTS 2023-2024

uw.edu

AFFORDABILITY AND ACCESS

- In 2022–23, **68% of all UW undergraduates graduated with no known debt**, and those who borrowed still graduated with less debt than the national average.
- In 2022–23, **22% of UW undergraduates were eligible for Federal Pell Grant funding**. As of the most recent data (2022–23), more than 9,600 UW undergraduates received Pell Grants.
- In 2022–23, **22% of UW undergraduates from Washington (approximately 6,800) were eligible for the Husky Promise**, which covers the tuition and fees of students with financial need.
- Since the Husky Promise began in 2007, **more than 60,000 students across the UW's three campuses** have received support from the program.
- In 2022–23, about **64% of UW undergraduates received some form of financial aid**, approximately $450 million.
- In 2022–23, the UW **awarded more than $120 million in institutional grants and scholarships to Washington residents**.
- In 2022–23, **approximately 13,700 UW students received funds from the Washington College Grant**.

AWARDS AND HONORS

- **The UW** is **one of the best universities in the world, ranked No. 6 globally and No. 2 among U.S. public institutions by U.S. News & World Report.** In addition, the UW is ranked No.18 globally by the Academic Ranking of World Universities.
- The UW's graduate and professional degree programs were widely recognized as **among the best in the nation** according to U.S. News & World Report's 2023 Best Graduate School rankings, where **15 programs and over 25 specialities placed in the top 10.**
- The UW **is home to 7 Nobel Prize winners**; **19** MacArthur Fellows; **201** members of the National Academies of Sciences, Engineering, and Medicine; and **202** fellows in the American Association for the Advancement of Science.
- In 2022-23, the UW was recognized as a **top producer of Fulbright U.S. Students and Scholars.** Ten UW students received Fulbright awards and 8 faculty members were named Fulbright Scholars.
- The UW was ranked **third in the nation** among public universities on the **Washington Monthly 2023 National University Rankings**, which ranks schools based on their contribution to the public good.

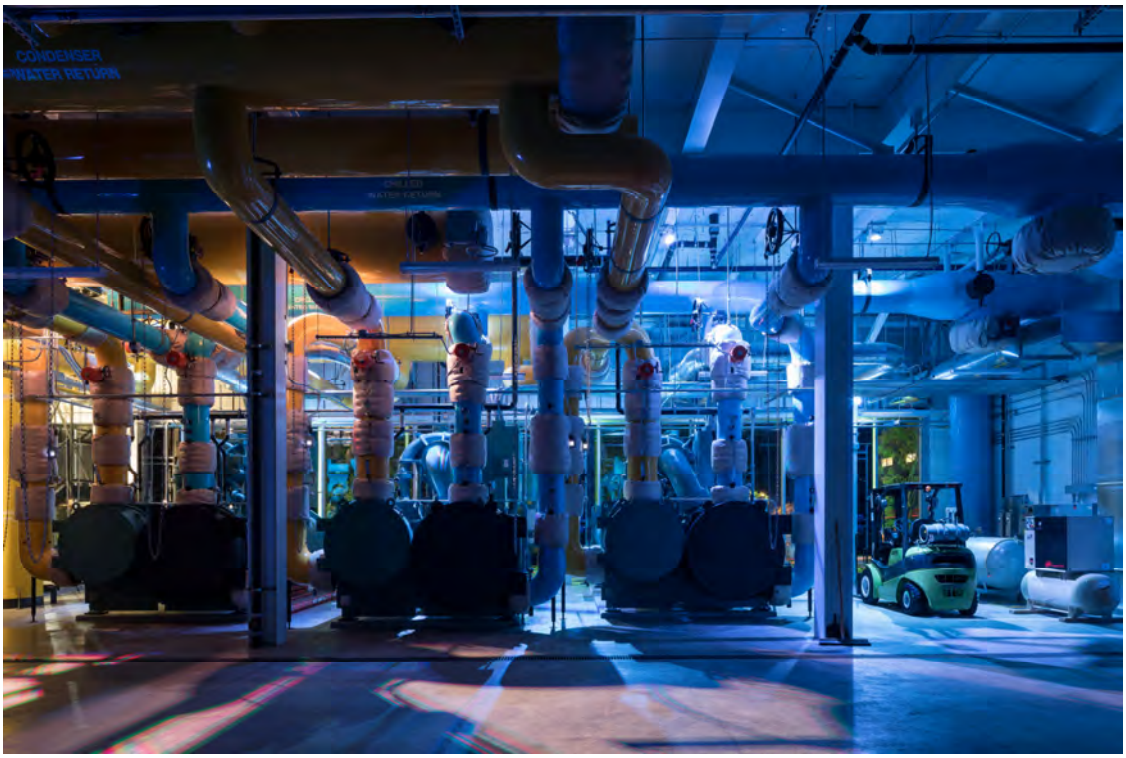
RESEARCH AND SERVICE

- **The UW receives more federal research dollars than any other U.S. public university;** in FY23, the UW received $1.87 billion in total research awards (federal and non-federal sources).
- According to the 2019 UW Economic Impact Report, as the 5th largest employer in Washington State, **the UW supports or sustains a total of 100,520 jobs** - one out of every 37 jobs in the state, **with an annual economic impact of $15.7 billion**.
- Since 1991, CoMotion spinoffs have raised over $8.7 billion in funding, with $4.1 billion secured over the past 5 years alone. As of July 2023, there are **110 active UW spinoffs with over 1,000 employees**.
- The UW is ranked the **No. 1 most innovative public university in the world by Reuters**, which examines scholarly articles and patent applications.
- **Over 40 UW-affiliated experts** are included in the **Highly Cited Researchers 2023** list from Clarivate. The annual list identifies researchers who demonstrated signficiant influence in their field through the publication of multiple highly-cited papers during the last decade.

Appendix D

Clean Energy Transformation 25-27

University of Washington
Agency 360
2025-2027
Capital Budget Request



SUBMITTED TO:
Affiliated Engineers NW, Inc.
Westlake Center Office Tower
1601 Fifth Avenue, Suite 1400
Seattle, WA 98101

BY:
Shannon & Wilson
400 N. 34th Street, Suite 100
Seattle, WA 98103
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PRELIMINARY PERMITTING/ENVIRONMENTAL CONSIDERATIONS

UW Energy Renewal Program – Deep Lake Cooling

UNIVERSITY OF WASHINGTON, SEATTLE, WASHINGTON

February 16, 2024

Shannon & Wilson No: 111679-009

SHANNON & WILSON

Submitted To: Affiliated Engineers NW, Inc.
Westlake Center Office Tower
1601 Fifth Avenue, Suite 1400
Seattle, WA 98101
Attn: Geoff McMahon

Subject: PRELIMINARY PERMITTING/ENVIRONMENTAL CONSIDERATIONS, UW ENERGY RENEWAL PROGRAM – DEEP LAKE COOLING, UNIVERSITY OF WASHINGTON, SEATTLE, WASHINGTON

Shannon & Wilson prepared this report and participated in this project as a subconsultant to Affiliated Engineers NW, Inc. (AEI). Our scope of services was specified in the Subconsultant Agreement with AEI, dated November 14, 2023. This report presents preliminary permitting and environmental considerations that will support AEI and the University of Washington's (UW's) advance of the deep lake cooling component of the Energy Renewal Project, and was prepared by the undersigned.

We appreciate the opportunity to be of service to you on this project. If you have questions concerning this report, or we may be of further service, please contact us.

Sincerely,

SHANNON & WILSON

Amy Summe, PWS
Associate, Senior Biologist/Permitting Specialist

Todd Kincaid, PhD
Senior Associate, Hydrogeologic Modeler

Meg Strong, LG, LHG
Senior Consultant

AJS:TRK:KLW:JSB:MJS/ajs:trk:mjs

CONTENTS

1 Introduction 1
2 Lake Washington Background 2
2.1 Setting 2
2.2 History 2
2.3 Fish and Wildlife Use and Habitat 2
2.4 Water Quality 4
3 Permitting/Approvals 6
3.1 Federal 6
3.1.1 U.S. Army Corps of Engineers 7
3.1.2 National Marine Fisheries Service 13
3.1.3 U.S. Fish and Wildlife Service 16
3.1.4 U.S. Coast Guard 17
3.2 State 17
3.2.1 Washington State Department of Ecology 17
3.2.2 Washington Department of Fish and Wildlife 23
3.2.3 Washington State Department of Natural Resources 25
3.3 City of Seattle 26
3.3.1 Shoreline Master Program 27
3.3.2 Environmentally Critical Areas 30
3.4 University of Washington 33
3.5 Tribes 34
4 Permit Strategy 34
5 Temperature 37
5.1 Available Information Sources 37
5.2 Baseline Conditions 41
5.2.1 Lake Washington 41
5.2.2 Ship Canal (Montlake Cut) 44
5.3 Climate Change 46
5.4 Design Considerations 47
6 Chemistry and Other Lake Conditions 48

CONTENTS

7 Data Gaps and Recommendations 49
8 Closure....50
9 References 51

Exhibits

Exhibit 2-1: U.S. Fish and Wildlife Service and National Marine Fisheries Service-Listed Species and Critical Habitats Potentially Present in the Project Area 2
Exhibit 2-2: Timing of Potential Key Salmonid Species Presence in the Project Area....4
Exhibit 2-3: Impaired Waters and Sediments (Source: Ecology Water Quality Atlas, 2024).....5
Exhibit 3-1: Plan View of the U.S. Army Corps of Engineers' Ship Canal Federal Project Boundary (National Channel Framework) and Upland Real Estate Boundaries....11
Exhibit 3-2: Generalized, Approximate Map of Washington Department of Natural Resources State-Owned Aquatic Lands (SOAL) 25
Exhibit 3-3: City of Seattle Shoreline Master Program Shoreline Environment Designations28
Exhibit 3-4: Relevant Use and Modification Allowances in Project-Area Shoreline Environment Designations 28
Exhibit 3-5: City of Seattle Environmentally Critical Areas – Wetlands 30
Exhibit 3-6: City of Seattle Environmentally Critical Areas – Geologically Hazardous Areas 31
Exhibit 3-7: City of Seattle Environmentally Critical Areas – Fish and Wildlife Habitat Conservation Areas 32
Exhibit 3-8: City of Seattle Environmentally Critical Areas – Abandoned Landfill....33
Exhibit 4-1: Conceptual Permit Strategy....35
Exhibit 5-1: Maps Exported from the Lake Washington Real Time Temperature Model Showing the Spatial Distribution of Model-Predicted Lake Water Temperatures....38
Exhibit 5-2: Bathymetry of Lake Washington in the Vicinity of the University of Washington and the Ship Channel 39
Exhibit 5-3: Difference Between Average Measured and Model-Predicted Temperatures by Depth and Month....40
Exhibit 5-4: Location of Profiling Buoy and Stations in Lake Washington Maintained by King County and Reported on Its Website 41
Exhibit 5-5: Temperature Versus Depth Profiles Recorded by King County at Station 0852 Showing the Range and Average of Recorded Temperatures....43
Exhibit 5-6: Temperature vs Depth Profiles Recorded by King County at Station 0852 Showing The Range and Average of Recorded Temperatures 44
Exhibit 5-7: Temperature Versus Depth Profiles Recorded by King County at Station 0540 Showing the Range and Average of Recorded Temperatures....45

CONTENTS

Exhibit 5-8: Temperature Versus Depth Profiles Recorded by King County at Station 0540 Showing the Range and Average of Recorded Temperatures.....46

Figure

Figure 1: Vicinity Map

Appendix

Appendix A: Environmental Permit/Approval Elements

ACRONYMS

AEI	Affiliated Engineers NW, Inc.
BA	Biological Assessment
CFR	Code of Federal Regulations
Corps	U.S. Army Corps of Engineers
CRP	Cost Reimbursement Program
CSGP	Construction Stormwater General Permit
CWA	Clean Water Act
DAHP	Washington Department of Archaeology and Historic Preservation
DMMO	Dredged Material Management Office
DMMP	Dredged Material Management Program
DNR	Washington State Department of Natural Resources
DPS	distinct population segment
Ecology	Washington State Department of Ecology
ECA	environmentally critical area
EFH	Essential Fish Habitat
EIS	environmental impact statement
EPA	U.S. Environmental Protection Agency
ERP	Energy Renewal Program
ESA	Endangered Species Act
ESU	evolutionarily significant unit
FMC	Fisheries Management Council
FWHCA	fish and wildlife habitat conservation area
gpm	gallons per minute
HAPC	Habitat Areas of Particular Concern
HPA	Hydraulic Project Approval
LW-RTTM	Lake Washington Real Time Temperature Model
MGD	million gallons per day
mg/L	milligrams per liter
MSA	Magnuson-Stevens Fishery Conservation and Management Act
MUP	Master Use Permit
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NWP	Nationwide Permit
OHWM	ordinary high water mark
RCW	Revised Code of Washington
ROE	Record of Examination

ACRONYMS

SEPA	State Environmental Policy Act
SHPO	State Historic Preservation Officer
SMC	Seattle Municipal Code
SMP	Shoreline Master Program
SR	State Route
USFWS	U.S. Fish and Wildlife Service
USCG	U.S. Coast Guard
UW	University of Washington
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife
WISAARD	Washington Information System for Architectural and Archeological Records Data
WRIA	Watershed Resource Inventory Area

1 INTRODUCTION

The University of Washington's (UW) Sustainability Action Plan includes 10 targets, one of which is to reduce greenhouse gas emissions by 45% by 2030. That ambitious goal is being pursued via the UW Energy Renewal Program (ERP), which is currently exploring several strategies to achieve a shift in campus energy supply from fossil fuel-consumptive sources to clean electricity. In support of that effort, Shannon & Wilson is assisting Affiliated Engineers NW, Inc. (AEI) and UW in a Phase 1 assessment of opportunities to utilize deep, cold Lake Washington water as both heating and cooling sources, thus lowering the power demand associated with those uses. This report provides a preliminary look at environmental permitting requirements, evaluates existing lake water temperature models and data, and assesses possible water chemistry and ecological considerations. All of these elements will inform Phase I efforts and help advance the deep lake cooling plan design and strategy.

Preliminary designs are not yet available at this phase of the project, but the key elements of any potential design that are relevant to our analysis follow:

- A large volume of water will be withdrawn at 25 meters or greater below the Lake Washington water surface from a point somewhere east of the UW campus and north of State Route (SR) 520.
- Pipe(s) will carry that water to the UW campus, where it will be routed to provide heating or cooling, thereby cooling or heating the water. Other than heat, no other materials will be purposefully added to or taken from the water.
- The same volume of water, either heated or cooled, will then be discharged back into the Montlake Cut, Portage Bay, or Lake Washington at one or more to-be-determined elevations.

In addition to supporting UW's transition away from fossil fuels, the project could have a secondary environmental benefit if water that is discharged in summer into the Montlake Cut or farther west is colder than the receiving water. The Ship Canal from the Hiram M. Chittenden Locks and extending east through the Montlake Cut has elevated summer-time water temperatures that are a thermal barrier to migrating salmon. Temperature and dissolved oxygen conditions, and their effects on salmon, are well-described in *Synthesis of Best Available Science: Temperature and Dissolved Oxygen Conditions in the Lake Washington Ship Canal and Impacts on Salmon* (Urgenson and others, 2021).

2 LAKE WASHINGTON BACKGROUND

2.1 Setting

Lake Washington is the largest lake in Watershed Resource Inventory Area (WRIA) 8 – Lake Washington/Cedar/Sammamish Watershed. The lake has a surface area of approximately 34 square miles and a maximum depth of 65.2 meters. Lake Washington receives water from the Cedar River, the Sammamish River, and a number of tributaries. The lake discharges into Puget Sound via the Hiram M. Chittenden Locks after passing through the Lake Union/Lake Washington Ship Canal.

The UW campus is on the north side of the Montlake Cut, in the City of Seattle, which is the first man-made constriction as lake water exits Lake Washington and enters the Ship Canal corridor (Figure 1).

2.2 History

In 1916, the U.S. Army Corps of Engineers (Corps) completed construction of the Lake Union/Lake Washington Ship Canal, which connected the formerly separate Lake Washington to Portage Bay, Lake Union, Salmon Bay, and ultimately Puget Sound. The canal has a mean depth of 9 to 11 meters, and is narrow (approximately 50 to 80 meters) in the Montlake and Fremont Cuts connecting the lake to the pre-existing waterbodies. The management of the locks at the downstream end of the canal resulted in the lowering of Lake Washington by about 2.7 meters to match the original height at Lake Union, eliminating miles of shoreline and wetlands. This also eliminated the lake's former Black River outlet that drained to the Duwamish River and then into Elliott Bay, and the Cedar River at the south end of the lake was diverted into the lake.

2.3 Fish and Wildlife Use and Habitat

The waters of Lake Washington are occupied by a diverse community of anadromous and resident fish, many of which have special status under either state or federal law. The remaining functioning riparian zones, associated wetland areas, and vegetated shallows provide important juvenile rearing and migration habitat, and also support amphibians, reptiles, waterfowl, and other wildlife. Exhibit 2-1 identifies the federally listed or proposed fish and wildlife species in the project area.

Exhibit 2-1: U.S. Fish and Wildlife Service and National Marine Fisheries Service-Listed Species and Critical Habitats Potentially Present in the Project Area

Species	Species	Critical Habitat

Common Name Scientific Name	Management Unit	Federal Status	Present in Project Area	Status	Present in Project Area
North American Wolverine *Gulo gulo luscus*	--	Threatened	No	Not Designated	Not Applicable
Marbled Murrelet *Brachyramphus marmoratus*	--	Threatened	No	Final Designation	No
Yellow-Billed Cuckoo *Coccyzus americanus*	Western DPS	Threatened	No	Proposed	No
Northwestern Pond Turtle *Actinemys marmorata marmorata*	--	Proposed Threatened	Possible.	Not Designated	Not Applicable
Chinook Salmon *Oncorhynchus tshawytscha*	Puget Sound ESU	Threatened	Yes	Final Designation	Yes
Bull Trout *Salvelinus confluentus*	Coterminous United States DPS	Threatened	Yes	Final Designation	Yes
Steelhead *Oncorhynchus mykiss*	Puget Sound DPS	Threatened	Yes	Final Designation	No

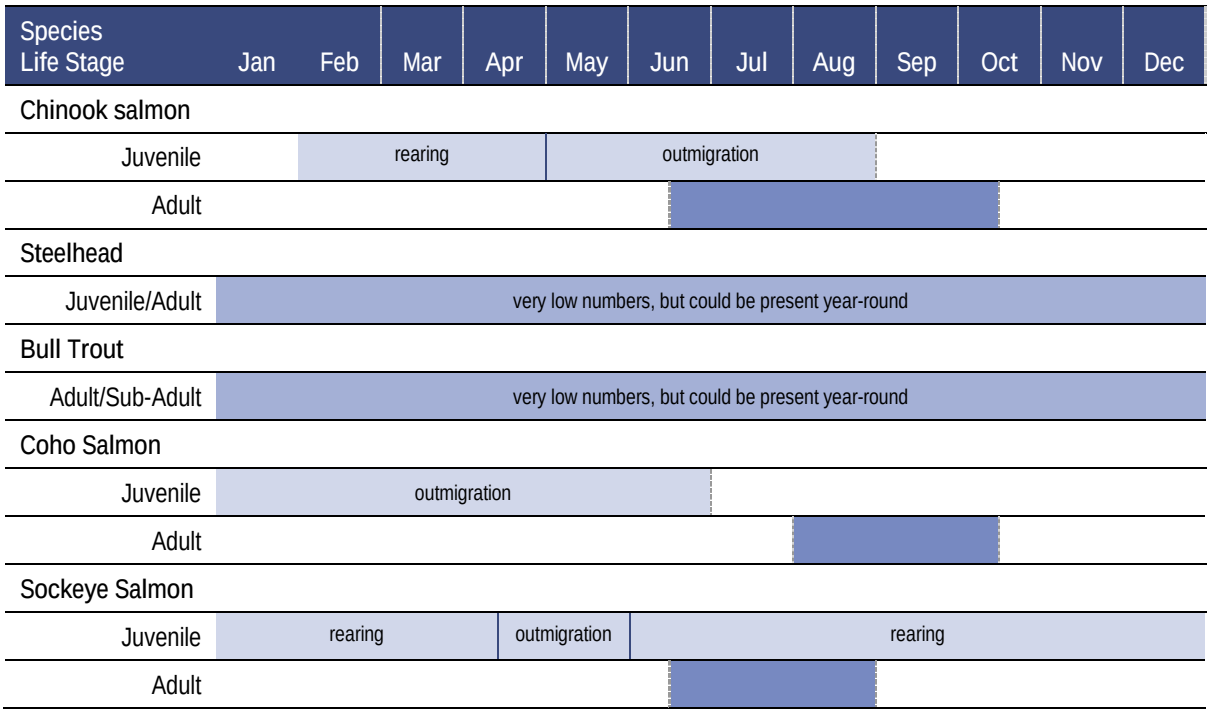
DPS = distinct population segment; ESU = evolutionarily significant unit

Sources: U.S. Fish and Wildlife Service (USFWS), 2023a; USFWS, 2023b; National Marine Fisheries Service (NMFS), 2016; and NMFS, 2023.

The shallow Ship Canal waters experience high temperatures in the summer months and are a thermal barrier to upstream migrating adult anadromous salmonids that have successfully navigated the fish ladder at the locks. Exhibit 2-2 shows the timing of key anadromous salmonid movements through the Ship Canal and into the lake.

The project's intake is anticipated to be located at a depth of at least 25 meters below the water's surface and likely at least 3 meters above the bed of the lake. According to WDFW (Joseph Short, pers. comm., December 19, 2023; Overman and others, 2006), fish that might be encountered at those depths are juvenile sockeye salmon, and potentially juvenile Chinook or coho salmon. Adults of those species can also be found at those depths as they exit the Ship Canal and head towards upstream spawning areas (Short, pers. comm., December 19, 2023). Other common pelagic fish that may be found in the water column include, in decreasing order, longfin smelt, three-spine stickleback, and sculpin (Overman and others, 2006). Perch, other trout, northern pikeminnow, bass, peamouth chub, and American shad are also found in the water column (Short, pers. comm., December 19, 2023).

Exhibit 2-2: Timing of Potential Key Salmonid Species Presence in the Project Area



Source: NMFS, 2017; and WDFW, 2019.

2.4 Water Quality

The Washington State Department of Ecology (Ecology) is charged with routinely assessing water quality in Washington waters under Section 303(d) of the federal Clean Water Act (CWA). Ecology gathers data on a variety of parameters and then sorts them into one of five categories for each tested parameter based on the results. Category 5 waters are the most polluted and require Ecology to prepare a pollution control program, such as a Total Maximum Daily Load, for that impairment. Category 5 waters make up the 303(d) list. Once a control program has been developed and is being implemented, then the water is downgraded to Category 4. Some impairments cannot be addressed through a control program for a variety of reasons and are classified as Category 4c. The project area's water quality impairments are shown on Exhibit 2-3 below.

Exhibit 2-3: Impaired Waters and Sediments (Source: Ecology Water Quality Atlas, 2024)

The Category 5 listing (polluted waters that require a water improvement project) for water in the Montlake Cut and Portage Bay is associated with temperature and lead (Ecology, 2024). The following "Basis Statement" included with the temperature listing provides a brief synopsis of the challenge facing migratory salmonids:

> The lake and canal system forming the Lake Washington Ship Canal constitute the only route for anadromous salmonids migrating between the saltwater of Puget Sound and the Lake Washington Basin (including the Cedar and Sammamish sub-basins). During the summer months, water temperatures in the Ship Canal likely create a thermal barrier that impedes the migration of adult Chinook salmon (*Oncorhynchus tshawytscha*) and sockeye salmon (*O. nerka*) and late-migrating Chinook smolts. Water temperatures taken in July and August in Portage Bay (2007-2011) at a monitoring station located near the downstream end of the Montlake Cut have been measured at or above 22 degrees (°) centigrade (C) throughout the entire water column. Upper areas of the water column may be as high as 25°C. During these times, water temperatures in the adjacent downstream waters of north Lake Union, although still unsuitable for salmonids, are often less extreme. Metalimnion[1] temperatures in north Lake Union can be up to 3°C lower than the entire water column temperatures at the Portage Bay station. Prolonged exposure to elevated

[1] Metalimnion is defined as "a narrow band—colder than the upper and warmer than the lower waters—which helps to prevent mixing between the upper and lower layers" (Washington State Lake Protection Association, 2007).

temperatures in both areas likely causes sub-lethal and potential lethal effects to adult salmon. (Ecology, 2024)

Ecology has designated Lake Washington and the Ship Canal as "core summer salmonid habitat" and establishes a temperature standard of 60.8°F (16°C) as the maximum seven-day average of the daily maximum temperatures (Ecology, 2024; Washington Administrative Code [WAC] 173-201A-200(1)(c)). The dissolved oxygen criteria are set at a one-day minimum of 10 milligrams per liter (mg/L) or 90% saturation (WAC 173-201A-200(1)(d)).

The lead exceedances were from two samples collected in 2009 that exceeded the toxic aquatic four-day mean. No subsequent lead samples have been collected to remove this listing for lead. In addition, the Montlake Cut and Portage Bay areas are in Category 1 (meets standards) for total phosphorus, fecal coliform, and *Escherichia coli*, a sub-group of fecal coliform. The Category 1 sediment is based on results of a sediment bioassay. The purple Category 4C areas east of the UW are associated with the presence of non-native aquatic plants, specifically Eurasian water-milfoil and Brazilian elodea (Ecology, 2024).

3 PERMITTING/APPROVALS

During Phase 1, Shannon & Wilson staff, sometimes joined by AEI or UW staff, met with representatives from some of the key regulatory agencies to provide a high-level concept overview of the project's goals, objectives, and general design elements; to collect the agencies' initial project-related considerations and concerns; and to obtain available agency information that would help inform project development. Appendix A documents this coordination and includes agency contact(s), associated environmental permit/approvals, and dates and types of communication. Agency coordination, information exchanges, and understanding of environmental and regulatory constraints will continue as the project's design progresses and evolves. It is expected that the project's anticipated environmental permits and approvals will likewise continue to evolve during the process.

This section outlines our current understanding of the federal, state, and local permits and approvals the project may need to obtain and incorporates the associated agency feedback received to date. Section 4 considers the information in Section 3 and lays out a possible permitting strategy.

3.1 Federal

The project may receive several federal permits and approvals. Federal permits and approvals issued under Sections 3.1.1.1 through 3.1.1.3 and 3.1.4 are actions that require the federal agency, either the Corps or the U.S. Coast Guard (USCG), to complete an

environmental review under the National Environmental Policy Act (NEPA) to assess the impact of the permitted or approved activity. The NEPA process for these approvals typically occurs in the background and is completed by the federal agency using information submitted by the applicant. If the project requires both Corps and USCG approvals, those agencies will need to communicate to determine who is the federal lead agency. In most circumstances, the Corps would be the lead; the discussions in the permitting/approvals sections below assume this would be the case for the project.

If the project were to receive federal funding, the burden of developing the NEPA documentation could shift to UW depending on the grant agency and the level of NEPA analysis that may have already been completed as part of that grant program. Again, there would need to be a decision made by all involved federal agencies about who should be the lead.

3.1.1 U.S. Army Corps of Engineers

3.1.1.1 Section 404 and Section 10

Background

The Corps' CWA Section 404 review process is required for projects involving discharges of dredge or fill materials into the waters of the U.S. Any proposed discharge of dredge or fill material in jurisdictional waters would require either a Nationwide Permit (NWP) or an Individual Permit from the Corps. Section 10 of the Rivers and Harbors Act of 1899 prohibits the unauthorized obstruction or alteration of any navigable water of the U.S. Section 10 requires approval by the Corps for the placement of structures into or over navigable waters of the U.S. and for work in or affecting navigable waters of the U.S. Work in Section 10 waters may be covered under an NWP, an Individual Permit, or a Letter of Permission (provided there is no Section 404-jurisdictional activity). Lake Washington is a water of the U.S. and a navigable water, so many activities in the lake would require approval under both statutes.

If the proposed activity does not qualify for a NWP, then an Individual Permit would be necessary. An Individual Permit is a lengthier process, starting with a pre-application meeting, continuing to development of an alternatives analysis to accompany the application, ongoing coordination with the Corps, and publication of a public notice followed by a 15- to 30-day comment period. According to the federal Section 404 guidelines, the Corps cannot approve a proposal that is not the least environmentally damaging practicable alternative. The alternatives analysis prepared to support the Individual Permit would also inform the Corps' NEPA review. In addition, the U.S. Environmental Protection Agency (EPA) has a review role over all Individual Permits.

Projects that require or trigger a federal permit from the Corps would also require approval under the Endangered Species Act (ESA; see Section 3.1.2.1), Magnuson-Stevens Fishery Conservation and Management Act (MSA; see Section 3.1.2.2), and National Historic Preservation Act (NHPA; see Section 3.1.1.4). As the probable lead federal agency (unless the project obtains federal funding), the Corps would initiate coordination and consultation with the agencies that are charged with implementing those laws.

Application to Project

As noted by Jacalen Printz and Shane Shelburne, Section 404 leads at the Corps, without more specific design information to determine whether the activity would include any fill, the quantity and type of fill, where fill or structures would be placed, and how the fill or structures would be placed, applicability of specific NWPs or other approval mechanisms cannot be fully determined (pers. comm., December 13, 2023). However, the following NWPs could be appropriate if the activity complies with all of the specified NWP parameters:

- NWP 7 – Outfall Structures and Associated Intake Structures:
  - "Activities related to the construction or modification of outfall structures and associated intake structures, where the effluent from the outfall is authorized, conditionally authorized, or specifically exempted by, or otherwise in compliance with regulations issued under the National Pollutant Discharge Elimination System Program (Section 402 of the Clean Water Act). The construction of intake structures is not authorized by this NWP unless they are directly associated with an authorized outfall structure." (Corps, 2022)
- NWP 18 – Minor Discharges:
  - "Minor discharges of dredged or fill material into all waters of the United States, provided the activity meets all of the following criteria: (a) The quantity of discharged dredged or fill material and the volume of area excavated do not exceed 25 cubic yards below the plane of the ordinary high water mark or the high tide line; (b) The discharge of dredged or fill material will not cause the loss of more than 1/10-acre of waters of the United States…" (Corps, 2022)
- NWP 19 – Minor Dredging:
  - "Dredging of no more than 25 cubic yards below the plane of the ordinary high water mark or the mean high water mark from navigable waters of the United States (i.e., Section 10 waters). This NWP does not authorize the dredging or degradation through siltation of … sites that support submerged aquatic vegetation (including sites where submerged aquatic vegetation is documented to exist but may not be present in a given year), anadromous fish spawning areas, or wetlands…" (Corps, 2022)
- NWP 58 – Utility Line Activities for Water and Other Substances:

- "This NWP authorizes discharges of dredged or fill material into waters of the United States and structures or work in navigable waters for crossings of those waters associated with the construction, maintenance, or repair of utility lines for water and other substances, including outfall and intake structures. There must be no change in pre-construction contours of waters of the United States."
- "This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to conduct the utility line activity." (Corps, 2022)

The Corps has established the following in-water work windows that are designed to protect fish life:

- Ship Canal to East End of Montlake Cut: October 1 – April 15
- Lake Washington North of SR 520: July 16 – March 15

Schedule: The timeline for Corps permit issuance is difficult to predict without knowing whether an Individual Permit or NWP will authorize the project. However, for a project of this size and complexity that is likely to involve a time-intensive ESA review, 18 months to two years is a reasonable estimate. In order for the Sections 404/10 authorization to be issued, ESA and Essential Fish Habitat (EFH) consultation must be completed (Section 3.1.2 and 3.1.3), as well as Section 408 (Section 3.1.1.2) and cultural resources/historic properties review under Section 106 (Section 3.1.1.4).

3.1.1.2 Section 408

Background

Section 14 of the Rivers and Harbors Act of 1899, as amended and codified in 33 U.S.C. § 408 (Section 408) grants the Corps authority to review actions that have potential to alter a Corps civil works project, such as the portion of the Ship Canal identified as a federal project. The Corps' Section 408 program verifies that such actions do not degrade the public interest or use of the civil works project.

Included in the Section 408 review is evaluation of whether the action crosses over or under a federal navigation channel. These channels are shown in plan view on the national channel framework, a mapping dataset of Congressionally authorized navigation channels that are maintained by the Corps. The federal government, and by extension the Corps, has the power to control and maintain the navigability of these channels, termed navigational servitude. Navigational servitude does not necessarily reach the channel bottom, but extends to a specific depth within the channel, making the regulated feature a three-dimensional shape. Proposed actions are prohibited from limiting the available navigable waterway.

Unlike the CWA Section 404 and Section 10 permits, Section 408 reviews are not performed by the Corps' regulatory program but instead occur in the separate 408 program. However, if a project requires review under more than one of these Corps authorities, all actions and decisions related to each approval must be completed before formal authorizations can be issued for any of them.

Application to Project

The project will trigger a Section 408 review if it intersects with the federal navigational channel within the Ship Canal, the area shown below in Exhibit 3-1. The project must avoid actions that limit the vertical or horizontal extents of the area subject to navigational servitude. However, through coordination with the Corps, the project could receive approval for design elements that are within the Ship Canal federal navigation channel but are below the authorized depth of the navigational servitude.

The Corps has shared some of the electronic files showing Ship Canal bathymetry, the three-dimensional bounds of the Ship Canal navigational channel, and upland Corps ownership or easement boundaries, and is working on providing the remaining information and answering questions. According to the Corps data, the Ship Canal project extends 30 feet below the water surface. Alteration of the physical limits of the navigation channel are one element of the 408 review. Dana Dysart, the Corps' 408 lead (pers. comm., December 13, 2023), indicated that the Corps will likely also require a hydrologic and hydraulic study to determine if and how the discharge could affect movement of water through the navigation channel.

In addition to the Corps Section 408 review, the Corps owns land in many places along the Ship Canal shoreline and project activities on this land would require a Corps right-of-way agreement or easement (Exhibit 3-1). Any required real estate permissions would occur as part of the Section 408 review, or if Section 408 is not triggered, would occur independently.

This information will support decision-making about locations of the intake line and discharge in both aquatic and upland environments. Ms. Dysart indicated that the Corps would be available to work with the UW team to evaluate various alternatives.

Schedule: The Corps 408 review should occur concurrently with the 404/10 reviews; the 404/10 authorization cannot be issued until 408 has been satisfied.

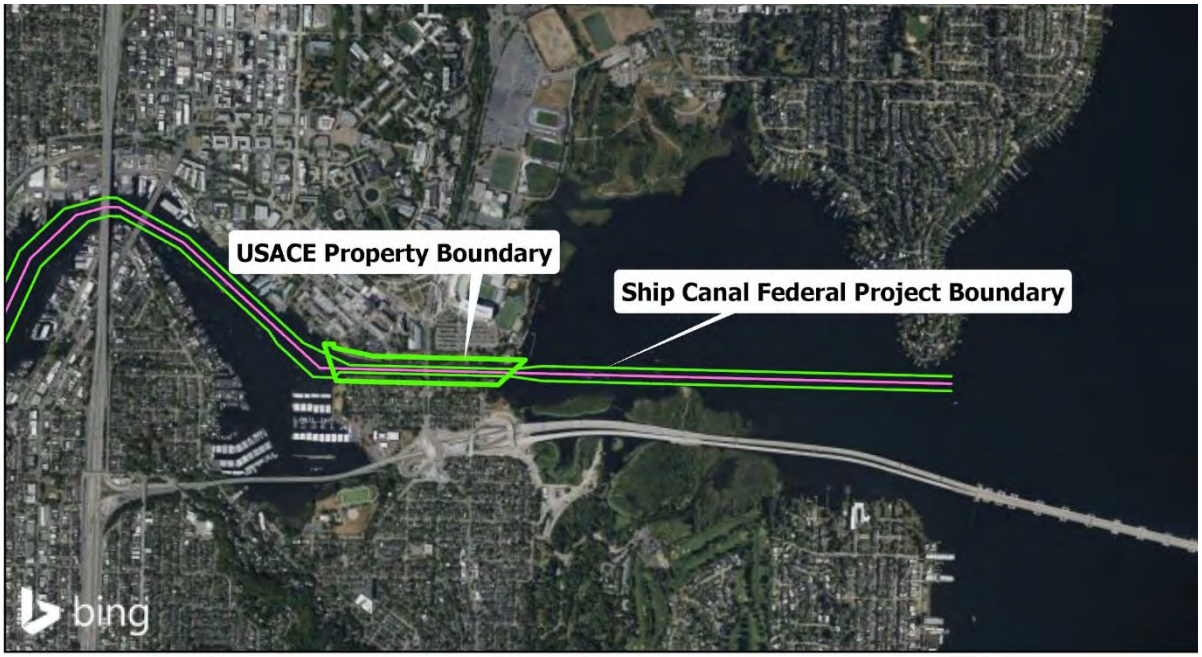


Exhibit 3-1: Plan View of the U.S. Army Corps of Engineers' Ship Canal Federal Project Boundary (National Channel Framework) and Upland Real Estate Boundaries[2]

3.1.1.3 Dredged Material Management Office

The Dredged Material Management Office (DMMO) is led by the Corps and is a collaboration of four agencies: Corps, Ecology, EPA, and Washington State Department of Natural Resources (DNR). The DMMO is also responsible for ESA compliance with respect to the use of open-water disposal sites and includes annual reporting to and periodic consultation with National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS).

Background

In-water work requires:

- A Corps permit (see Section 3.1.1.1).
- Decision documents. These documents, required for dredging projects, are issued by the Dredged Material Management Program (DMMP) within the DMMO. The decision documents are used by the Corps to aid with the approval of Corps permits.

[2] Source: USACE Hydrographic Surveys (arcgis.com)

A DMMP decision document is generated by the DMMP as a written outcome after a sediment quality evaluation for a project has been undertaken. The types of DMMP decision documents are as follows:

- Tier 1 Evaluation (which may conclude that testing is not required)
- Suitability Determination (which relates to open-water disposal)
- Antidegradation Determination
- Recency Extension or other document related to sediment quality evaluations

Application to Project

The connection between the water intake point and the upland heat exchanger may require dredging to remove sediment along the pipe alignment. This work would be considered a new sediment dredge project that requires a Corps permit. DMMP decision documents will also be required for the sediment that will be removed, if in-water disposal is desired, and to verify the newly exposed post-dredge sediment surface does not exceed the aquatic species exposure criteria.

If pre-project sediment quality evaluation is required, rather than testing at the time of work, the sampling itself may require its own suite of permits and approvals from the Corps (under Section 10) and state and local agencies. NWP 6 for survey activities could cover the activity, and most of the state and local regulations include exemptions for this kind of work. This pathway is not evaluated in detail in this report; more information will be provided if the likelihood of dredging increases.

Schedule: If dredging likelihood increases, discussion with the DMMO well ahead of submittal for Section 404/10 authorizations is recommended to confirm if and when a sediment quality evaluation would be required. Pre-project sediment quality evaluation processes can take between four months to a year or more, including the sampling and reporting.

3.1.1.4 National Historic Preservation Act

Background

Any project that is funded or authorized by a federal agency must comply with Section 106 of the NHPA. Section 106 of the NHPA requires federal agencies to consider and evaluate the effects that federal projects may have on historic properties under their jurisdiction. Historic properties include buildings, structures, historic districts, and archaeological sites or artifacts that are listed or eligible for listing on the National Register of Historic Places (NRHP). After the federal agency has reviewed the submitted information, it will

coordinate with the State Historic Preservation Officer (SHPO) and initiate consultation with applicable Native American Tribes. Depending on the project's potential to affect sensitive resources and the outcome of SHPO coordination, applicants may need to enter into a Memorandum of Agreement that includes avoidance, minimization, and/or mitigation measures.

Application to Project

Washington Department of Archaeology and Historic Preservation (DAHP) maintains a public information source known as WISAARD, which stands for Washington Information System for Architectural and Archeological Records Data. WISAARD's map identifies several historic districts, buildings, and structures on and adjacent to the UW campus, including the Montlake Bridge and the Montlake Cut, that are listed on the NRHP and Washington's Heritage Register (DAHP, 2023). The project also falls within the area of interest for six Native American tribes, including the Muckleshoot Indian Tribe, the Stillaguamish Tribe of Indians, the Squaxin Island Tribe, the Tulalip Tribes, the Snoqualmie Tribe, and the Suquamish Tribe. WISAARD's mapping includes the output of a predictive model that identifies the relative potential of different areas to contain archaeological sites. The area of UW's campus adjacent to Lake Washington, the Montlake Cut, and Portage Bay have been categorized as "Survey Highly Advised: Very High Risk" (DAHP, 2023).

Based on the known presence of NRHP sites and the risk of encountering archaeological resources, a survey of historic properties and cultural resources will be required within the to-be-established Area of Potential Effects.

Schedule: The Corps 106 review should occur concurrently with the 404/10 reviews; the 404/10 authorization cannot be issued until 106 has been satisfied.

3.1.2 National Marine Fisheries Service

3.1.2.1 Endangered Species Act

Background

Section 7 of the ESA, as amended, applies to federal agency actions and sets forth requirements for consultation with NMFS. A biological assessment (BA) must be prepared to evaluate whether and how a project may affect ESA-listed endangered or threatened species or its designated critical habitat that are under NMFS jurisdiction. In the absence of federal funding sources, the Corps is the anticipated federal lead agency that would initiate consultation with NMFS using the applicant-prepared BA. If the BA concludes with May Effect, Not Likely to Adversely Affect determinations, informal consultation would be conducted between the Corps and NMFS, resulting in a Letter of Concurrence. If the BA

concludes with May Effect, Likely to Adversely Affect determinations, formal consultation would be conducted between the Corps and NMFS, resulting in a Biological Opinion with an Incidental Take Statement. The Biological Opinion would include mandatory terms and conditions, possibly including monitoring and reporting, that must be incorporated into the project.

Application to Project

As noted in Section 2 above, the waters in the project area contain two listed species under NMFS jurisdiction: Chinook salmon and steelhead. Until more design and construction details are available, preliminary determinations of effect cannot be made. However, considering the known dependency of downstream migrating juvenile Chinook salmon on shallow, nearshore habitats, it is safe to assume that NMFS will have a special interest in elements of the project that cross or disturb that physical environment. The location and characteristics of the intake, particularly related to screening and preventing impingement and entrainment of either adult or juvenile listed fish, will also be a concern, as will the potential effects of the discharge water's altered temperature and dissolved oxygen content.

During a conversation on February 9, 2024, Don Hubner, a fisheries biologist in the North Puget Sound Branch, confirmed that the following elements could be important to consider during design and/or to address in the BA:

- For any discharge into the Ship Canal, would there be any backflow issues (e.g., related to flow, salinity, temperature, etc.) given the volume of the discharge that could have adverse effects on the aquatic environment? [As noted in Section 3.1.1.2 above, the Corps has also indicated it may require a hydrologic and hydraulic study to determine if and how the discharge could affect movement of water through the navigation channel].
- If other entities pursue a similar approach, at what point would the total volume of water withdrawn from Lake Washington have adverse effects on the lake's characteristics and ecology?
- Would there be benefits, such as added flexibility, to having two intake locations at different depths with different temperature profiles?
- Address entrainment and impingement at the intake.
- Avoid creating predator habitat (e.g., installations in the shallow nearshore environment that provide cover for bass).
- Provide a realistic assessment of any measurable benefits on salmon and recognize the climate benefits of reducing fossil fuel use.
- Consider what appropriate modeling should be conducted in advance to support the design and BA, and what long-term monitoring of performance should be undertaken.

Mr. Hubner plans to share written feedback as well later in February 2024.

Schedule: ESA consultation, either formal or informal, with NMFS can be a lengthy process, particularly for a unique project and considering the typical staffing shortage. A discussion with NMFS was not able to be scheduled during preparation of this report but will be pursued early in 2024. ESA consultation is also initiated by the Corps during the Corps' Section 404/Section 10 review, so the schedule is somewhat dependent on the Corps' timing of the BA transmittal.

3.1.2.2 Magnuson-Stevens Fishery Conservation and Management Act

Background

The MSA, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-276) led to the formation of eight Fisheries Management Councils (FMCs) that share authority with NMFS to help regulate and oversee fishery management in federal waters (Lundgren, 2004 [revised 2021]). The MSA defines EFH as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" of certain managed fisheries species (16 United States Code 1802[10]). EFH designations include descriptions of the physical and biological environment and the location of all necessary habitats. The EFH regulations clarify that "waters" may include aquatic areas and their associated physical, chemical, and biological properties that are used by the managed fish species, and those areas historically used by those species, where appropriate. "Substrate" includes sediment, hard bottom, structures underlying the waters and associated biological communities (e.g., seagrass). "Necessary" means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem. "Spawning, breeding, feeding, and growth to maturity" covers a species' full life cycle (50 Code of Federal Regulations [CFR] § 600.10).

Federal agencies (in this case, the Corps) are required to consult with NMFS on proposed actions authorized, funded, or undertaken by the agency that may adversely affect EFH (Section 305[b][2]). NMFS is required to provide conservation recommendations for any federal activity that would adversely affect EFH (Section 305[b][4][A]). "Adverse effects" may include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce the quality and/or quantity of EFH. Adverse effects to EFH may result from actions occurring within EFH and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions (50 CFR § 600.810).

In addition to EFH designations, areas called Habitat Areas of Particular Concern (HAPC) are also designated by the regional FMCs. Five HAPC have been designated for Pacific

Coast Salmon: (1) complex channels and floodplain habitats, (2) thermal refugia, (3) spawning habitat, (4) estuaries, and (5) marine and estuarine submerged aquatic vegetation (Pacific Fishery Management Council, 2014b).

As noted in Section 2, Lake Washington and the Ship Canal contain EFH for Pacific Coast Salmon, specifically designated for Chinook salmon and coho salmon. None of the five HAPC are present in Lake Washington or the Ship Canal within the potential project boundary.

Application to Project

The BA prepared for the project will include a chapter discussing the project's impact on essential fish habitat. Much of the discussion of the project's effects on listed fish and critical habitat contained elsewhere in the BA can be referenced here, but additional consideration of specific habitat elements may be needed.

Schedule: The EFH review occurs concurrent with the ESA review; see Schedule discussion at the end of Section 3.1.2.1 above.

3.1.3 U.S. Fish and Wildlife Service

Background

The ESA review process under the USFWS is the same as that described above for NMFS in Section 3.1.2.1

Application to Project

As noted in Section 2 above, the waters in the project area contain one listed species under USFWS' jurisdiction: bull trout. Until more design and construction details are available, a preliminary determination of effect cannot be made. Little is known about bull trout distribution and use in Lake Washington, but fish present in the lake would likely be subadult or adults, as juveniles typically remain in cold, headwater streams until they are large enough to prey on other fish. The location and characteristics of the intake, particularly related to screening and preventing impingement and entrainment of either adult or subadult listed fish, will be a concern, as will the potential effects of the discharge water's altered temperature and dissolved oxygen content.

Schedule: ESA consultations for bull trout in Lake Washington are not typically as protracted as for the NMFS species because of the different level of use and the limited reliance of bull trout on the shallow nearshore areas. A discussion with USFWS was not able to be scheduled during preparation of this report but will be pursued early in 2024.

ESA consultation is also initiated by the Corps during the Corps' Section 404/Section 10 review, so the schedule is somewhat dependent on the Corps' timing of BA transmittal.

3.1.4 U.S. Coast Guard

Background

The modification of existing or construction of new bridges or causeways over navigable waters of the U.S. is regulated under Section 9 of the Rivers and Harbors Act of 1899. The USCG administers Section 9 and issues Bridge Permits.

Obtaining a USCG Bridge Permit is a multi-step process including coordination meetings with the USCG, submitting a project initiation request, submitting a navigational impact report, supporting the USCG NEPA evaluation (if not conducted by another federal lead agency), submitting the application, and supporting responses to public comments. If the USCG is the federal lead agency, it would also require documentation to support ESA/MSA and Section 106 consultations.

Application to Project

At this time, it is not known if the project could require a Bridge Permit from the USCG. Two scenarios, both of which have low probability of occurrence, could trigger this requirement: 1) utilizing SR 520 or some other USCG-regulated bridge as part of the intake or discharge route, or 2) designing the intake or discharge pipe such that it passes over a navigable water. In the latter case, that section of new pipe would be considered a new bridge, and the legislative authority for the new bridge would be the General Bridge Act of 1946. Corps NWP 58 and Section 10 of the Rivers and Harbors Act of 1899 would not apply to that section of the line.

Schedule: Following submittal of a complete application, permitting processing can take 10 months.

3.2 State

3.2.1 Washington State Department of Ecology

3.2.1.1 Water Right

Background

Ecology is responsible for approving and administering surface and groundwater rights under Chapter 173-152 WAC. UW currently has two surface water right certificates and one groundwater right certificate. The two surface water right permits each allow a maximum

withdrawal rate of 5 cubic feet per second (2,244 gallons per minute [gpm]) for non-consumptive uses. The groundwater right provides up to 365 acre feet per year (220 gpm) for consumptive uses. One surface water certificate (Permit #10620) is currently fully beneficially used for heating and cooling purposes with a point of withdrawal in Portage Bay. It is unclear whether the other surface water certificate (Permit #15446) is being beneficially used at this time. The point of withdrawal for Permit #15446 is also Portage Bay. The groundwater certificate (#2054) appears to be for consumptive use (fish propagation). The well depth is 150 feet according to the water right certificate, but the well is not currently used.

Application to Project

An additional new surface water right will be required for this project. The purpose of use for heating and cooling is considered a non-consumptive use which is favorable since Lake Washington is closed to new consumptive water right withdrawal uses. Ecology will likely be open to considering a new non-consumptive use water right application if it results in improved water quality conditions for the receiving waters and does not impact any existing water right holders.

The water right application process requires several steps including:

1. Submit a water right pre-application consultation request form.
2. Decide if project will benefit from using Ecology's Cost Reimbursement Program (CRP).
3. Prepare and submit new water right application.
4. Wait for Ecology decision on granting new water right.

Because of the current backlog of existing water right applications, normal processing of a new water right will take many years. The CRP is a cost-effective alternative to expedite water right review and processing by Ecology. The CRP requires the applicant to pay the full cost of processing the application which includes the preparation of a Record of Examination (ROE) by an Ecology-approved subcontractor hired by the applicant, but who represents Ecology. All technical data needed to support the preparation of the ROE must be provided by the applicant. Once the ROE is completed and submitted, Ecology reviews the recommendations in the ROE and then decides whether to approve or deny the application.

Technical information needed for the ROE will include evaluation of water quality impacts from the withdrawal and discharge of water on the source and receiving waterbodies, the amount of water needed, how and where it is to be obtained from Lake Washington (point of withdrawal) and impacts to existing water right holders.

Schedule: The timeline for receiving a new water right from Ecology is hard to determine prior to meeting with Ecology for the pre-application consultation. Based on previous experience with the CRP, a new water right could be approved within a year after submittal of an ROE.

3.2.1.2 Shoreline Permit Approval

Background

As established in the Shoreline Management Act and the implementing regulations, Ecology has final approval authority over Shoreline Conditional Use Permits and Shoreline Variances. After the City has issued its conditional approval, the City's decision and the supporting application materials are provided to Ecology for final review and either approval or denial. Ecology has the option to add conditions to the City's decision.

Application to Project

Based on a current understanding of the potential project elements and the City's existing Shoreline Master Program (SMP), the proposed project will require a Shoreline Conditional Use Permit and potentially a Shoreline Variance (see discussion in Section 3.3.1).

Schedule: After receiving a complete package from the City, Ecology has 30 calendar days to issue its decision.

3.2.1.3 Section 401 Water Quality Certification

Background

Ecology has been authorized to implement Section 401 of the CWA for Water Quality Certification (WQC) in Washington. Projects requiring a CWA Section 404 permit (see Section 3.1.1.1) require a CWA Section 401 WQC. The purpose of the certification process is to ensure that federally permitted activities comply with the federal CWA, state water quality laws, and any other applicable state laws. Many of the NWPs have been pre-certified unless there is some other project element or circumstance that requires an Individual 401 WQC or individual review. Some NWPs, for example, often require an Individual 401 WQC if there is more than one NWP authorizing the project or if a certain acreage of impact is exceeded. If the Corps issues an Individual Permit, then an Individual WQC would also be required.

Application to Project

If the project is permitted under NWP 7 (Outfall Structures and Associated Intake Structures) or NWP 18 (Minor Discharges), Ecology has already pre-certified that NWP

under Section 401, so additional coordination would not be required unless review is needed based on Ecology's general conditions. NWP 19 is also pre-certified but may require Ecology review and possibly an Individual WQC if the work is located in a known contaminated or cleanup site. NWP 58 (Utility Line Activities for Water and Other Substances) is also pre-certified unless the project impacts more than one-third acre of water or the project is authorized by the Corps under more than one NWP. In that case, an Individual WQC would be required, and a Water Quality Monitoring and Protection Plan must be submitted in addition to the standard information.

Because it will not be known with certainty ahead of Corps processing of a Section 404 application whether the Corps will issue an Individual Permit or authorize the project under one or more NWPs, submittal of a Pre-Filing Meeting Request Form followed 30 days later by a completed Request for Clean Water Act Section 401 Water Quality Certification form is recommended.

Schedule: If the Corps authorization is an NWP this is not pre-certified or otherwise requires Ecology review, Ecology has 180 calendar days from receipt of the complete application and the final Corps authorization to make its determination whether an Individual 401 WQC will be required. However, if the Corps can identify early in its process whether or which NWP(s) will authorize the project, or if an Individual Permit will be required, then Ecology can proceed with any necessary evaluations and documentation, and in some circumstances can issue an Individual 401 WQC ahead of the final Corps authorization.

3.2.1.4 Coastal Zone Management Consistency

Background

Ecology is tasked with overseeing compliance with the Coastal Zone Management Act, which regulates appropriate development of and protection of the nation's coastal resources. Under the Washington Coastal Zone Management (CZM) program, activities that occur in a coastal county and that require a federal permit must certify that they are consistent with the federal CZM program. Similar to the 401 WQC, many of the NWPs have already been determined by Ecology to be consistent with the CZM program unless there is some other project element or circumstance that is triggered. Depending on the type of Corps authorization, the *Certification of Consistency with the Washington State Coastal Zone Management Program for Activities Requiring a Federal License or Permit* form and supporting materials may need to be submitted to the Corps, who will then forward the information to Ecology for their review and confirmation of consistency.

Application to Project

For the anticipated NWPs that could authorize the project, Ecology has already concurred that they are consistent with the CZM program. However, if a Corps Individual Permit or Individual 401 WQC is required, or there are other conditions that require Ecology CMZ review, then CZM program consistency will need to be demonstrated by providing the completed form and supporting information to the Corps for Corps transmittal to Ecology. If Ecology does not agree that the project is consistent with the CZM program, the Corps cannot issue the permit.

Schedule: When Ecology concurrence is required, Ecology will request the form and supporting materials from the Corps, and then Ecology has six months from receipt of the complete consistency submittal package to issue a decision (concurrence, concurrence with conditions, or objection). If Ecology does not respond within six months, then concurrence is assumed. Concurrence, however, cannot be issued until Ecology has received proof that all required permits and authorizations have been obtained.

3.2.1.5 National Pollutant Discharge Elimination System

Background

A National Pollutant Discharge Elimination System (NPDES) permit, under Section 402 of the CWA, is required to discharge into any water body. Ecology administers the NPDES program under the state's Water Pollution Control Act and the federal CWA. WAC 173-201A is the guiding regulation on the discharge requirements. The NPDES permit describes what can be discharged, and monitoring and reporting requirements. There are a number of general permits that cover specific types of discharge, such as those related to water treatment plants or ferry terminal washing. If a discharge does not fall into any of the general permit categories, then an individual permit is required.

Separately, projects that may disturb more than one acre of land that might result in a discharge to a waterbody that exceeds water quality standards are required to obtain coverage under the NPDES's Construction Stormwater General Permit (CSGP).

Application to Project

Discharge of the cooling water into Lake Washington, the Montlake Cut, or Portage Bay will require an individual industrial NPDES discharge permit as the activity does not fall within any of the general permit categories. Permitting approaches for the cooling water discharge will depend on the location of the outfall. For example, as previously discussed, the Montlake Cut and Portage Bay are classified as Category 5 for temperature and lead under the 303(d) requirements. For that reason, a mixing zone will not be allowed if water

temperature or lead concentrations in the discharge are greater than the permit requirements. However, a mixing zone for phosphorus would be allowed if concentrations in the discharge exceed the permit requirements.

The requirements for the discharge will be included in the NPDES permit and are unknown at this time. Given the intake location in Lake Washington, the volume of water anticipated to be cycled through the system, and the nature of non-contact cooling water, the type of discharge requirements are likely to include temperature and turbidity and may include dissolved oxygen, lead, and arsenic. Typically, the requirement for temperature is that the discharge cannot be more than 0.3°C greater than the ambient water temperature.

A NPDES permit (WA0030023), re-issued in 2021 for an existing discharge of non-contact cooling water into Portage Bay from the UW Medical Center, contains only two requirements to be monitored: flow volume and temperature. The permitted flow volumes are an average monthly discharge of 2.1 million gallons a day (MGD) and a maximum daily discharge of 2.45 MGD. The UW Medical Center permit has been in existence since at least 2003 and allows a discharge mixing zone for temperature.

It is anticipated that at any of three potential discharge points, the temperature of the discharged water would be less than the ambient temperature of the receiving water during the winter. However, discharges into Lake Washington in the summer would be warmer than ambient water temperature, but still below the State water quality standard, unless the discharge is substantially shallower than the intake. Summer discharges into the Montlake Cut or Portage Bay would typically be cooler than the ambient water temperature. If the discharge water temperature is greater than the receiving water temperature, modeling may be required. The modeling may be required to assess the design of the discharge point and may include mixing effects (if permitted) or methods to cool the water before discharge.

In early discussions with Ecology NPDES staff (Jeanne Tran, pers. comm., December 19, 2023), it was reported that no new discharge permits have been permitted in Lake Washington over the last 15 years. Ms. Tran stated she would research whether a new NPDES permit would be allowed for this project, including a discharge into either Lake Washington, the Montlake Cut, or Portage Bay. Ms. Tran consulted with the Watershed Lead and responded that a new non-contact water discharge would be permitted in the Lake Washington watershed; however, she caveated the statement by acknowledging that the Section Lead had not yet weighed in on the input from the Watershed Lead. Clarification or concurrence from the Section Lead would likely not be available for a couple of months according to Ms. Tran (pers. comm., January 2, 2024).

A separate NPDES CSGP will likely not be required for the project unless more than one acre of upland area is disturbed during pipeline or heat exchanger installation work.

Schedule: Processing time for an individual NPDES discharge permit is highly variable, ranging from 3 to 18 months based on Ecology staff availability. An NPDES CSGP should be applied for at least 60 days prior to the anticipated start of construction to allow time for the required public notice, comment period, and Ecology review.

3.2.2 Washington Department of Fish and Wildlife

Background

As established in Chapter 220-660 WAC, Hydraulic Code Rules, WDFW issues Hydraulic Project Approval (HPA) permits for construction activities that will use, obstruct, divert, or change the natural flow or bed of state waters. HPAs allow construction activities to occur provided they comply with conditions within the permit, such as in-water work windows, best management practices, and other minimization measures.

Application to Project

The following key provisions of the WAC apply to the proposed project:

- WAC 220-660-250 Water diversions and intakes. This section of code includes requirements for the intake to be screened to avoid entrainment of fish into the diversion or impingement of fish on the screen. Section 8.5 of *NOAA Fisheries West Coast Region Anadromous Salmonid Passage Design Manual* (NMFS, 2022) contains detailed screening design guidance, with specific direction for adjustments for intakes located in lakes ("quiescent areas").
- WAC 220-660-260 Outfall structures in freshwater areas. This section of code encourages consideration of alternatives to new outfalls, including use of existing lines. Discharge locations should be selected to minimize loss of aquatic habitat and riparian vegetation, and generation of scour and turbidity. The outfall design must also prevent entry of adult and juvenile fish. Where energy dissipation is needed, use of natural habitat features or vegetation is most preferred at one end of the spectrum with angular rock least preferred at the other end of the spectrum. WDFW's area habitat biologist, Laura Arber (pers. comm., December 12, 2023), noted that areas of sediments in the Montlake Cut were known to be particularly fine, and when disturbed result in large plumes that take a long time to settle.
- WAC 220-660-270 Utility crossings in freshwater areas. This section of the code is primarily crafted for installation of utility lines through stream settings, but the principles and some of the provisions are applicable to the lake setting. The primary point is that the utility installation should be located to minimize riparian vegetation loss, minimize destabilization of the lakeshore, and minimize substrate disturbance or

permanent alteration. These objectives can be met by using trenchless technology to install lines below the lake bed, at least to a depth that avoids aquatic vegetation and high-value aquatic habitats.

The possible drivers of mitigation requirements were discussed during a conversation with Ms. Arber (pers. comm., December 12, 2023). Some mitigation considerations related to whether and where the intake line rests on the lake bed, or if there is any trench installation. For example, will the pipe rest on the lakebed in a shallow area with aquatic vegetation where it could interfere with juvenile fish migration and replace habitat? Will the line be installed in an excavated trench and then covered with rock that permanently alters habitat? Some or all of the footprint, including anchoring devices, could require mitigation depending on specific conditions.

WDFW provided the following list of "things to consider" for the discharge location and design, and suggested further coordination with WDFW during design of the outfall mechanism (Laura Arber, pers. comm., January 3, 2024):

- Returned water needs to be cool/cold with higher dissolved oxygen than what was removed. [Additional discussion with WDFW will be undertaken to identify appropriate objectives for temperature and dissolved oxygen relative to the receiving water conditions and State water quality standards.]
- Create multiple release locations (four to five preferred) to distribute cooler water.
- Install roughened rock "rapids" at each site to aerate the water and increase the dissolved oxygen before returning it to the Ship Canal.
- Surround the rock "rapids" with riparian vegetation to provide cover and sufficient shade to keep the air and water cool before the water returns to the Ship Canal.
  - WDFW prefers the discharge not be placed in a pipe (culvert) as this would interfere with overall air mixing.
  - Rapids need to be constructed with larger rocks and drops to prevent fish from entering.

As suggested by Ms. Arber, additional discussion with WDFW will be undertaken as information about existing conditions and possible designs is developed. It is anticipated that some of these recommendations might not scale to the size of this project, but that the target objectives of these recommendations could be satisfied in other ways.

Schedule: From submittal of a complete application, WDFW has 45 calendar days to grant or deny the HPA. A complete application must include documentation of State Environmental Policy Act (SEPA) compliance (see Section 3.4).

3.2.3 Washington State Department of Natural Resources

Background

DNR is the manager of state-owned aquatic lands, which is a patchwork of tidelands, shorelands, harbors areas, and the beds of navigable waters. Prior to commencing work occurring on or over state-owned aquatic lands, an Aquatic Use Authorization is required. For construction activities, the DNR would likely authorize short-term temporary impacts under a Right of Entry License. For the longer-term use, the state may require a lease, easement, or right-of-way. The Aquatic Use Authorization is a contractual agreement between the land-user and the state based on terms and conditions of use which may include insurance and rent requirements.

Application to Project

The following image (Exhibit 3-2) was taken, with permission, from a screen share during a conversation with Trina Contreras, DNR's Aquatics Land Manager covering much of the project area (pers. comm., December 15, 2023). The green polygons show state-owned aquatic lands and the tan areas show state-owned aquatic lands that are subject to an existing lease. This map is only an approximation, and actual boundaries and status of the aquatic lands would need to be verified by DNR's Title and Records Office. A small portion of the tan area overlapping the UW campus and extending into Lake Washington is for UW's lease that allows boat anchorage during UW football games. The blue polygon in the Montlake Cut is not a state-owned aquatic land.

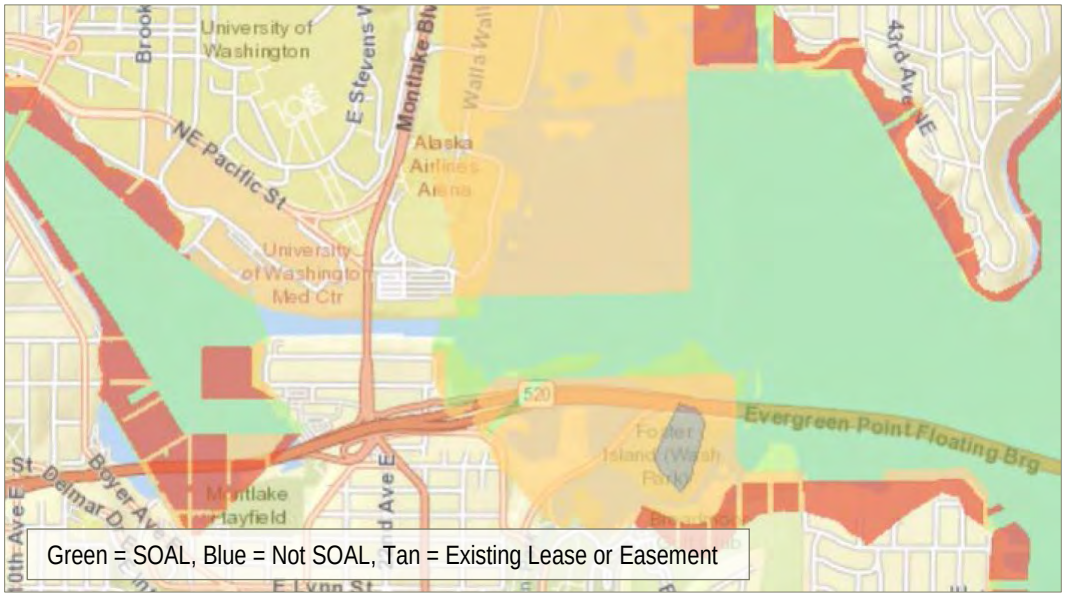


Exhibit 3-2: Generalized, Approximate Map of Washington Department of Natural Resources State-Owned Aquatic Lands (SOAL)

According to DNR, the specific Aquatic Use Authorization would be an Outfall Authorization, which would cover intakes, outfalls, and associated lines in state-owned aquatic lands. The authorization may ultimately take the form of a lease, which provides exclusive use of the lease area to UW, or more likely an easement, which would be non-exclusive. The rental cost for an authorization is related to the value of the adjacent land, which can result in expensive rates. An additional Right of Entry may be required to allow temporary use of state-owned aquatic lands during installation of the intake.

Similar to other agencies, DNR will require avoidance and minimization of impacts of a proposed use on the ecosystem. Toward that end, installation of lines below the lakebed sufficiently deep to avoid disturbance of the lakebed and aquatic vegetation should be considered. The consequences to aquatic habitat from different alignments, construction methods, anchored versus floating components, and other variables should be evaluated.

Ms. Contreras suggested that UW continue engagement with DNR as plans evolve, and suggested that additional conversation with DNR's policy team could be beneficial. Considering the objectives of the project related to reduction of fossil fuel-reliance and possible benefits to aquatic life if Ship Canal water temperatures are reduced, pursuit of a conservation easement for the in-water structures could be explored or it may be possible to negotiate the rent to acknowledge those benefits.

Schedule: The review and contracting process once a complete application has been submitted can take between 6 and 12 months, depending on project complexity. Early and frequent coordination is recommended to make sure that the state-owned aquatic land is available, that the proposed use is appropriate for public lands, and that appropriate impact avoidance and minimization measures are being incorporated. DNR cannot transmit the draft authorization for management review and finalization of the use authorization until all other permits have been received.

3.3 City of Seattle

The City of Seattle completes land use reviews that require public notice and include discretionary decisions as a Type II Master Use Permit (MUP). For the proposed project, the MUP will cover SMP compliance and Environmentally Critical Areas (ECAs) compliance. Construction permits cannot be issued until the MUP has been issued. The following discussion covers the MUP.

3.3.1 Shoreline Master Program

Background

Because Lake Washington (including the Montlake Cut and Portage Bay) is greater than 1,000 acres in size, the lake and the associated shorelands are classified as a Shoreline of Statewide Significance. The land within 200 feet of the ordinary high water mark (OHWM), plus any associated wetlands, and the lake are within shoreline jurisdiction and are regulated by the City's SMP (Chapter 23.60A Seattle Municipal Code [SMC]). Proposed activities within a Shoreline of Statewide Significance must demonstrate that they are consistent with a specific list of use preferences, in the order established in Revised Code of Washington (RCW) 90.58.020 as follows:

1. Recognize and protect the statewide interest over local interest;
2. Preserve the natural character of the shoreline;
3. Result in long term over short term benefit;
4. Protect the resources and ecology of the shoreline;
5. Increase public access to publicly owned areas of the shorelines;
6. Increase recreational opportunities for the public in the shoreline; and
7. Provide for any other element as defined in RCW 90.58.100 deemed appropriate or necessary.

Application to Project

Elements of the project that are located in Lake Washington/Montlake Cut/Portage Bay, waterward of the OHWM, have been assigned either a shoreline environment designation of Conservancy Navigation or Conservancy Preservation (Exhibit 3-3). The Conservancy Preservation designation is also applied to the wetland and terrestrial habitat area in and east of Ravenna Creek. The upland area within shoreline jurisdiction west of Ravenna Creek has been assigned a Conservancy Management shoreline environment designation.

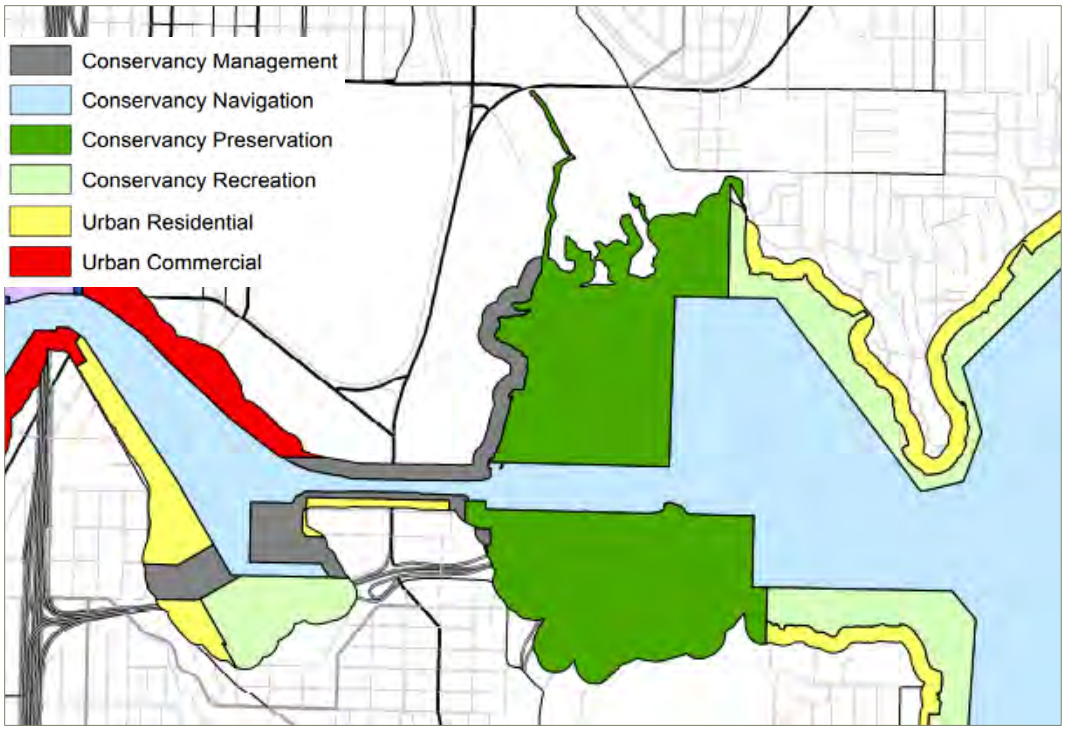


Exhibit 3-3: City of Seattle Shoreline Master Program Shoreline Environment Designations[3]

Each environment designation has a unique table that identifies which uses and modifications are allowed with a Shoreline Exemption or Shoreline Substantial Development Permit, Special Use Permit, or Shoreline Conditional Use Permit, and which are prohibited outright. The permit categories for the three potential environment designations that might apply to the deep lake cooling element of the ERP, depending on design and locations of the intake and outfall, are provided in Exhibit 3-4 below.

Exhibit 3-4: Relevant Use and Modification Allowances in Project-Area Shoreline Environment Designations (Chapter 23.60A SMC)

	Shoreline Environment Designation		
Use /Modification	Conservancy Management[1]	Conservancy Navigation[2]	Conservancy Preservation[3]
Utility uses[4]	Utility service uses[5] are Permitted (if they reasonably require a shoreline location to operate)	All utility uses are Prohibited	All utility uses are Prohibited
Utility lines[6]	Permitted	Special Use Permit	▪ Permitted on dry land. ▪ Shoreline Conditional Use Permit in water if no feasible alternative location exists.

[3] Source: https://seattle.gov/dpd/research/GIS/webplots/Shoreline_Zoning_Map.pdf

Use /Modification	Shoreline Environment Designation		
	Conservancy Management[1]	Conservancy Navigation[2]	Conservancy Preservation[3]
Dredging to install utility lines	Permitted	Shoreline Conditional Use Permit	Shoreline Conditional Use Permit
Fill to install utility lines	Shoreline Conditional Use Permit	Shoreline Conditional Use Permit	Shoreline Conditional Use Permit
Heat exchanger[7]	Shoreline Conditional Use Permit	Prohibited in Lake Washington, Lake Union, and the Ship Canal	Prohibited in Lake Washington, Lake Union, and the Ship Canal

NOTES:

1 Adapted from SMC 23.60A.172 and SMC 23.60A.224

2 Adapted from SMC 23.60A.172 and SMC 23.60A.240

3 Adapted from SMC 23.60A.172 and SMC 23.60A.252

4 "Utilities" means the following uses: Communication utility major or minor; Utility service uses; Solid waste management; Recycling; Sewage treatment plant; and Power plant. (SMC 23.60A.940)

5 "Utility services use" means a utility use that provides the system for transferring or delivering power, water, sewage, storm water runoff, or other similar substances. Examples include electrical substations, pumping stations, and trolley transformers. (SMC 23.84A.040)

6 "Utility lines" means pipes, cables or other linear conveyance systems used to transport power, water, gas, oil, wastewater or similar items. Utility lines include outfalls and intakes. (SMC 23.60A.940)

7 "Heat exchanger" means a device that uses water to cool a structure and discharges warm water into a water body. (SMC 23.60A.916)

During an early conversation with Ben Perkowski, City Shoreline Planner (pers. comm., December 14, 2023), he indicated that some part of the intake or discharge lines waterward of the OHWM could be considered to fall under the "Utility uses" classification, in addition to or instead of the "Utility lines" classification. This would have effectively prohibited the project under the current SMP regulations as there are no permit pathways to circumvent a prohibition other than modifying the SMP itself. Mr. Perkowski consulted internally with other City staff and concluded that the intake and discharge pipes would be classified only as "Utility lines."

However, in a subsequent exchange (pers. comm., February 13, 2024), the potential for discharge water temperature to exceed the receiving water temperature for a period of time during some potential scenarios was raised. Even though the discharge water may still meet the State's water quality temperature standard, Mr. Perkowski suggested that the SMP's effective prohibition on discharging "warm water" into Lake Washington or the Ship Canal could be a barrier to some potential project alternatives. It is not clear in the SMP, or to City staff, whether "warm water" is relative to the receiving water temperature or is water that is warmer than the State water quality standard (16° C). Additional discussion with the City will be necessary, including a formal code interpretation, to clarify how this provision will be applied to the project. Depending on the outcome, a potential revision to the SMP may need to be pursued or this provision will be a key factor in determining what discharge locations/depths may be viable.

Schedule: From submittal of a complete application to the City, approval by the City and Ecology could take between 10 and 18 months. The duration will vary based on City and Ecology staff workloads, project complexity, and the nature and number of public comments.

3.3.2 Environmentally Critical Areas

Background

The presence of ECAs within areas under the jurisdiction of the City's SMP requires compliance with the June 30, 2015, version of the City's ECA regulations (Chapter 25.09 SMC) adopted by reference into the SMP. ECAs located outside of shoreline jurisdiction are regulated under the most recent version of the City's ECA regulations.

Application to Project

The City has mapped the following ECAs on or adjacent to the UW campus where project elements could be located (City, 2023):

1. Wetlands: The east-facing lake fringe of the UW campus has abundant wetlands (Exhibit 3-5). Specific development standards for wetlands are found in SMC 25.09.160.

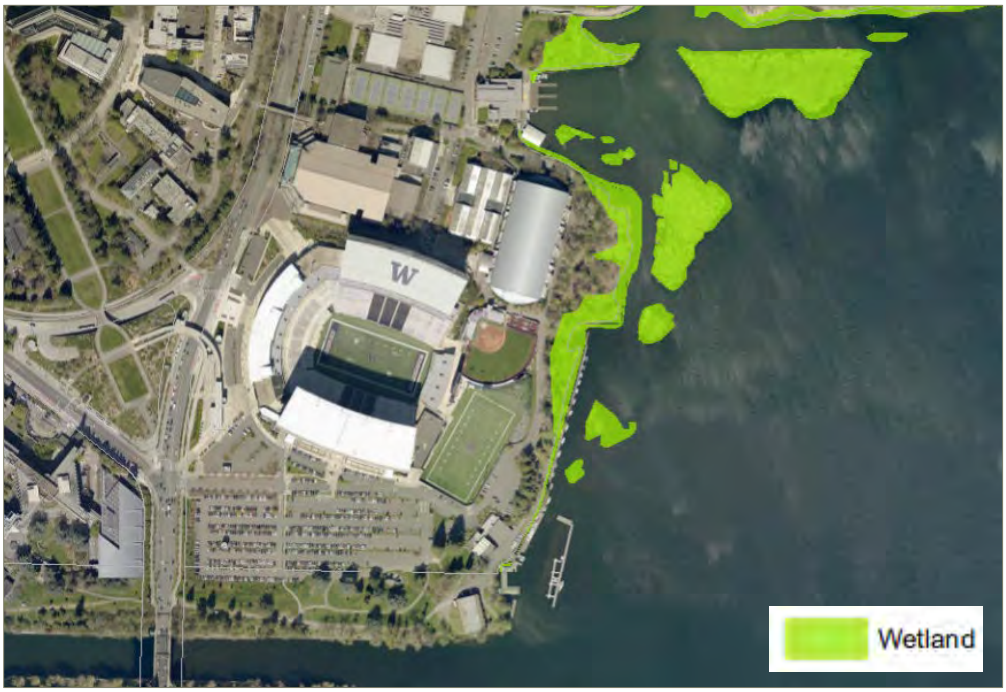


Exhibit 3-5: City of Seattle Environmentally Critical Areas – Wetlands[4]

[4] Source: SDCI GIS Web Map; Seattle, 2023

2. Geologic hazard areas (specifically liquefaction-prone areas and peat settlement prone areas): The entire campus has been mapped as a Category II peat settlement-prone area and much of the campus is also mapped as a liquefaction-prone area (Exhibit 3-6). Specific development standards for liquefaction-prone and peat settlement-prone areas are found in SMC 25.09.100 and -.110, respectively.

Exhibit 3-6: City of Seattle Environmentally Critical Areas – Geologically Hazardous Areas[5]

3. Fish and wildlife habitat conservation areas (FWHCAs): WDFW's Priority Habitats and Species on the Web application (WDFW, 2023) shows a number of priority species and priority habitats, which are regulated by the City as FWHCAs by definition (Exhibit 3-7). Other than wetlands, the primary habitat areas are waterfowl concentrations and the lake itself. Great blue heron rookeries are also mapped outside of shoreline jurisdiction and the likely project area, but the 500-foot Great Blue Heron Management Area required under Director's Rule 5-2007 could overlap some project elements. Priority fish (salmonids) are also mapped throughout the lake and the northwestern pond turtle has been noted in the area, south of the Montlake Cut. Specific development standards for FWHCAs are found in SMC 25.09.200.

[5] Source: SDCI GIS Web Map; Seattle, 2023

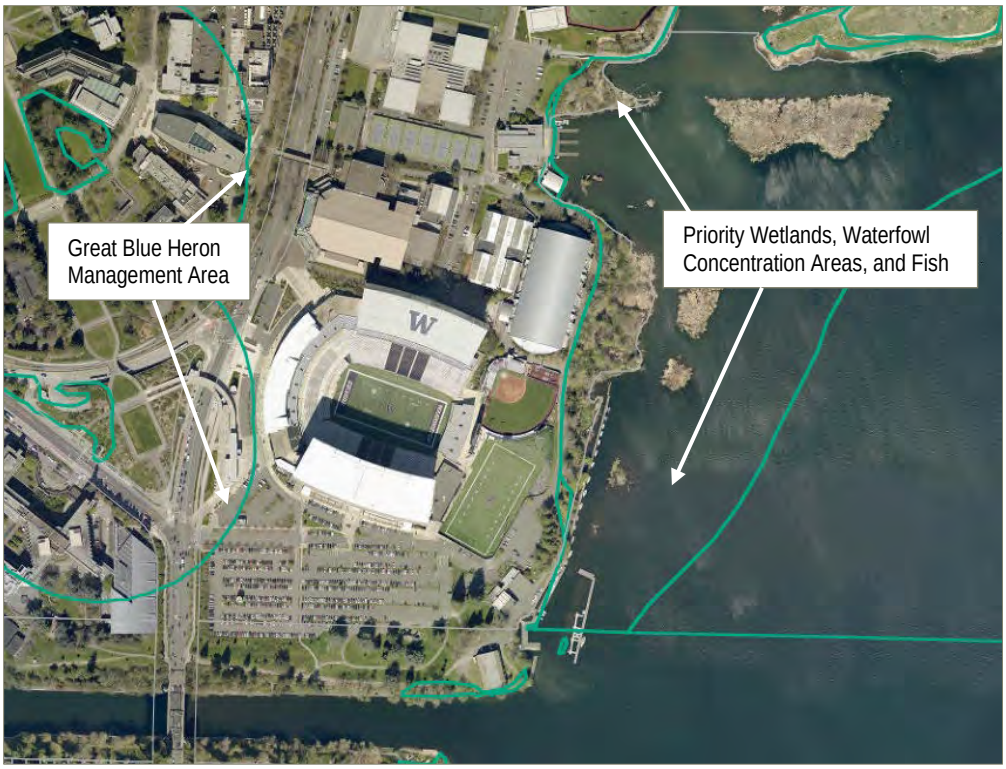


Exhibit 3-7: City of Seattle Environmentally Critical Areas – Fish and Wildlife Habitat Conservation Areas[6]

4. Abandoned landfills: The project may not be located on an abandoned landfill; however, it is likely that some element of the project would be in the 1,000-foot abandoned landfill buffer (Exhibit 3-8). Specific development standards for abandoned landfills are found in SMC 25.09.220.

Technical studies, including a wetland delineation and geotechnical report, will need to be prepared that identify and classify all ECAs within the project area, document use of mitigation sequencing, characterize and quantify unavoidable impacts, and proposed any necessary mitigation.

Schedule: The ECA reviews will occur as part of the Type II MUP, in conjunction with the shoreline permitting.

[6] Source: SDCI GIS Web Map; Seattle, 2023

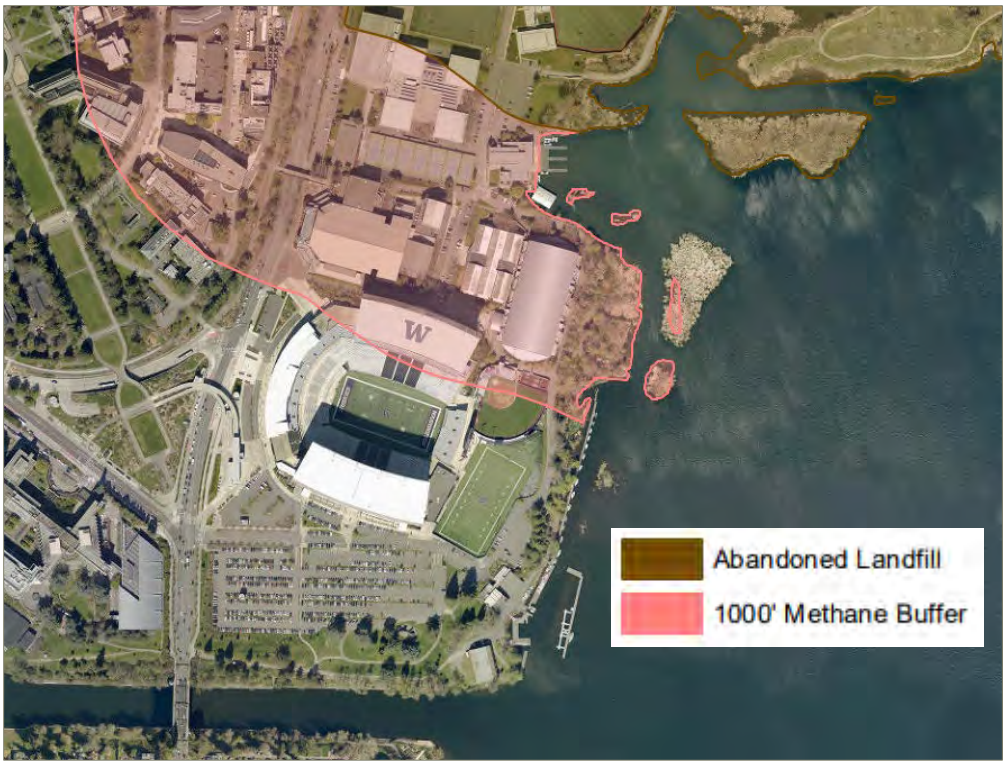


Exhibit 3-8: City of Seattle Environmentally Critical Areas – Abandoned Landfill[7]

3.4 University of Washington

Background

SEPA requires all governmental agencies to consider the environmental impacts of a project before making decisions, including issuing a permit, constructing a building or facility, or adopting a regulation. Typically, a SEPA checklist is prepared to help identify whether the proposal could have a significant impact on the human or natural environment. If it is likely that there will be a significant adverse impact on one or more elements of the environment that cannot be avoided or mitigated to less than significant, then an environmental impact statement (EIS) must be prepared.

As specifically stated in Chapter 478-324 WAC, and consistent with RCW 43.21C and WAC 197-11, UW is the lead agency authorized to implement SEPA for UW-initiated projects. UW has a SEPA Advisory Committee established per WAC 478-324-040 whose stated mission is "to ensure that sound decision making at the university includes early consideration of environmental values and goals and timely preparation and review of environmental analysis." The Committee is regularly consulted by UW's SEPA responsible

[7] Source: SDCI GIS Web Map; Seattle, 2023

official after SEPA checklist preparation, prior to making determinations of non-significance or significance and issuing any threshold determinations, and at key points in the EIS process.

Application to Project

Based on the nature of the project and the likely level of stakeholder and public interest, Julie Blakeslee, UW's SEPA responsible official, stated that an EIS is the anticipated SEPA analysis tool (pers. comm., December 29, 2023). The formal EIS process would begin once sufficient engineering analysis, technical studies, and agency outreach have been completed to confirm proof of concept and allow development of a viable project description. The project description may still include different options for intake and discharge locations, installation methods, and other details. The EIS process, with its required scoping and evaluation of alternatives, will help the team identify a preferred alternative.

Schedule: The formal process will begin with publication of a combined determination of significance and scoping notice, which will include a project description and preliminary alternatives. The scoping notice invites agency and public input on the topics that should be addressed in the EIS, including possible alternatives. Prior UW experience with EISs suggests that a Draft EIS should be made available for public comment within a year or so of scoping.

3.5 Tribes

The UW has a Tribal liaison that will be coordinating with area Tribes who may have an interest in the project related to both cultural and ecological considerations. Outreach is anticipated to occur early in project concept development, as well as during environmental documentation and permit application development.

4 PERMIT STRATEGY

The project's need for a substantial quantity of cold water from a waterbody that is simultaneously a Water of the U.S., a navigable water, habitat for federally listed species, a Shoreline of Statewide Significance, state-owned aquatic land, and in some areas a federal works project, makes obtaining the environmental approvals and permits challenging. Although the agencies are operating under a number of different laws and codes, they share in common a requirement to avoid and minimize adverse impacts on the built and/or natural environment, and the burden will be on UW to demonstrate that the final proposed project will not result in avoidable or unmitigable harm.

Overlaid on this is some urgency from a climate and sustainability perspective to implement a deep lake cooling project as soon as possible. This means that all appropriate studies will be completed, and the necessary amount of time taken to develop a sound design, but that certain permits or authorizations may be pursued concurrently rather than sequentially. The necessary surface water right, for example, would ideally be secured ahead of significant investments of time and energy into environmental reviews and permits. However, that would set the schedule back a year or more.

Exhibit 4-1 shows a schematic diagram of a potential permit strategy that leans heavily on early and continued coordination with agencies, and Tribes when feasible, to provide mutually beneficial opportunities to hear about the project, voice concerns, and offer and discuss alternatives. This will support the UW team's development of focused and high-quality environmental documentation, supported by the relevant data and studies. Steps 1 through 4 are generally sequential, with Step 5 occurring concurrently with Steps 1 through 3. Appendix A includes a preliminary schedule for Step 4. The total timeframe depends on the actual time it takes to collect data and conduct studies that support design and permitting, and the amount of time for engineers to develop plans to support Steps 3 and 4.

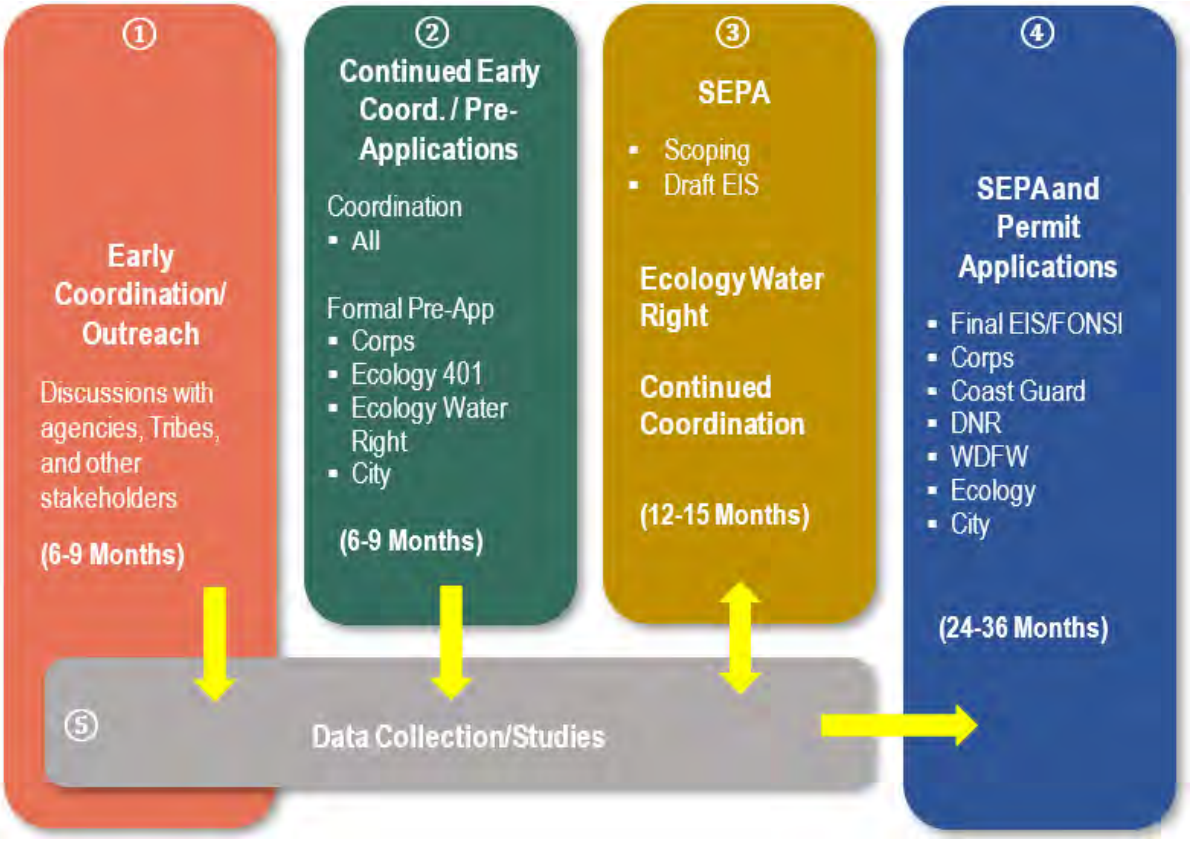


Exhibit 4-1: Conceptual Permit Strategy

1. Early Coordination/Outreach: Step 1 in the process launched in mid-November 2023, initiated by an email to key agency contacts identified for most of the permits and approvals. The discussion was framed as an opportunity to introduce the agency to the project at its very preliminary stage, hear the agency's initial thoughts and reactions to the project, and learn about studies or supporting data that the agency could share or would like to receive during the future review. Discussions with the following agencies took place, and more conversations will follow in early 2024 (see Appendix A):

   a. Corps: Section 404/10 staff and Section 408 staff

   b. Ecology: NPDES staff

   c. DNR

   d. WDFW

   e. City: shoreline permit staff

   f. UW: SEPA staff

   The discussions were at a very high level, as most of the agencies could not provide specific direction or guidance without more information. Section 3 above and the permit matrix in Appendix A incorporates the information received to date.

2. Continued Early Coordination/Pre-Application: It is anticipated that engineering concept development will be advancing during Step 2, allowing more focused discussions with agencies and potentially some formal pre-application meetings. Although these meetings are only shown on the diagram once, it may be helpful to initiate a follow-up meeting in the latter half of Step 3. A pre-application meeting with the Corps could be particularly helpful, as they are often attended by USFWS, NMFS, Ecology, WDFW, EPA, and the City. A multi-agency meeting outside of the Corps framework could also be beneficial.

3. SEPA/Water Right: Step 3 should be launched once engineering has progressed to the point where approximately 15% level plans are available accompanied by a detailed project description that allows for some impact characterization and meaningful input by agencies, stakeholders, and the public into the full scope of impacts, the range of alternatives, and possible mitigation. At the point where a clear preferred alternative emerges (if that's the case) with a final intake location, pursuit of the water right can begin in earnest and elements of Step 4 can begin.

4. SEPA/Permit Applications: With a final project description and 30% level plans for the preferred alternative, permitting can commence. A preliminary schedule is provided in Appendix A.

5. Data Collection/Studies: Evaluation and collection of existing information is ongoing (see Sections 5 and 6 below) and will continue in 2024. Section 7 includes some recommendations for additional study and data gathering based on known agency requirements. As the design progresses and agency discussions continue, additional data collection and study recommendations or requirements are likely to be identified.

5 TEMPERATURE

Over the course of the year, water feeds into Lake Washington from the Cedar River, Sammamish River, and numerous streams, and from precipitation. The surface of the lake tends to be cooled or warmed by ambient conditions, and stream temperatures tend to reflect the seasons (except in spring when snow melt may reduce stream temperatures lower than ambient conditions). The lake does not freeze in winter and that results in water mixing over the winter months. As the surface warms in spring, the warmer water is less dense and does not mix as readily leading to lake stratification with warmer upper and cooler, more dense, deeper water.

This Section provides a description and preliminary analysis of the data Shannon & Wilson uncovered during this early phase of work that describes the vertical distribution of temperature and the seasonal fluctuations in those temperatures in the central portion of the lake. Strengths and weaknesses of the respective data streams are discussed, and recommendations are provided in Section 7 that are intended to fill data/knowledge gaps with respect to the seasonal temperature vs depth profiles occurring or that can be expected to occur in the project area.

5.1 Available Information Sources

Our research revealed the following two sources of data describing the temperature profiles in the lake.

1. Lake Washington Real Time Temperature Model (LW-RTTM) developed by DSI, LLC (DSI, 2023): The LW-RTTM is a model that predicts the spatial distribution of temperature across Lake Washington at 1-meter intervals between the surface and 55 meters water depth (Exhibit 5-1). The model is accessible online and will render predictions by time of day for a specified period between 2021 and 2023.
    a. Strengths:
        - Displays model-predicted temperatures across the full extent of the lake while at the same time showing the depth of the lake.
        - Depicts model-predicted change in temperature at each depth level on a daily basis.
        - Appears to reasonably represent lake bathymetry and as such indicates that water intakes at depths exceeding 20 meters will have to be positioned outside of Union Bay, presumably between Webster Point and Wolf Bay. Exhibit 5-2 can be used to qualitatively assess how well the model simulates lake bathymetry by visually comparing the distribution of active temperature cells in the model at each simulation depth to depth soundings reported by NOAA in 2012 (NOAA, 2023).

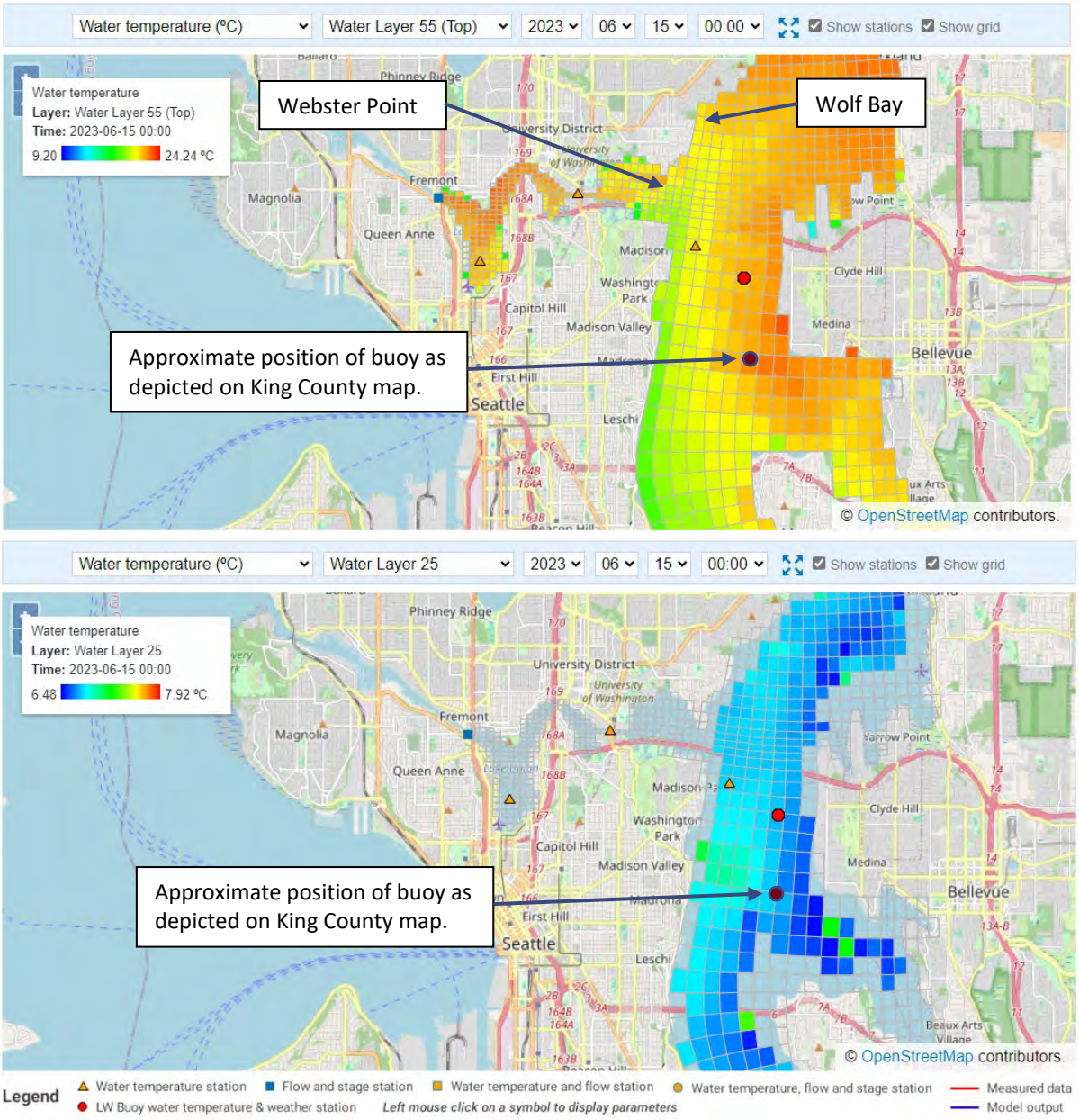


Exhibit 5-1: Maps Exported from the Lake Washington Real Time Temperature Model Showing the Spatial Distribution of Model-Predicted Lake Water Temperatures on June 15, 2023 at Midnight at the Water Surface (Top) and at Approximately 30 Meters Water Depth (Bottom)[8]

[8] DSI, 2023

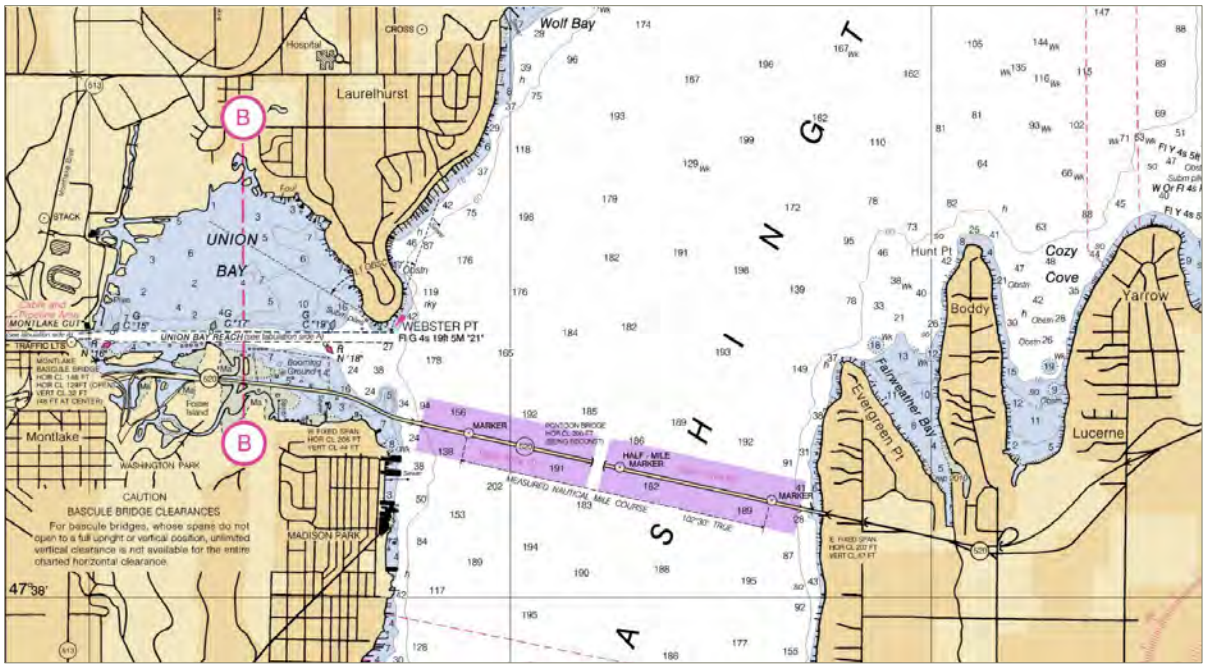


Exhibit 5-2: Bathymetry of Lake Washington in the Vicinity of the University of Washington and the Ship Channel (Soundings in Feet Relative to Local Mean Lower Low Water)[9]

b. Weaknesses:

- Appears to have been calibrated to a singular temperature vs depth profile recorded at the Lake Washington profiling buoy (Station WABuoy), which is located south of the SR 520 floating bridge and approximately 2.5 miles from Webster Point.
- May not reasonably account for spatial variation in lake temperature at the desired water intake depth.
- Limited descriptive information available online from which to evaluate the reliability of the model predictions.
- The model under-predicts temperature at depth during the coldest months, meaning that the lake is likely warmer than the model predicts at water depths between 20 and 30 meters depth (Exhibit 5-3).
- The deviation between model-predicted and measured temperatures at 20 meters depth can be expected to exceed 2°C between July and November and 1°C between September and November at 30 meters depth (Exhibit 5-3).
- Based on King County's map of Station WABuoy and confirmation by County staff, the position of the buoy depicted on the LW-RTTM website is incorrect and the buoy is located farther south than what is shown and thus farther away from Webster Point (see model's and the County's locations for the buoy in Exhibit 5-1). No explanation for the discrepancy in location could be identified.

[9] NOAA, 2023

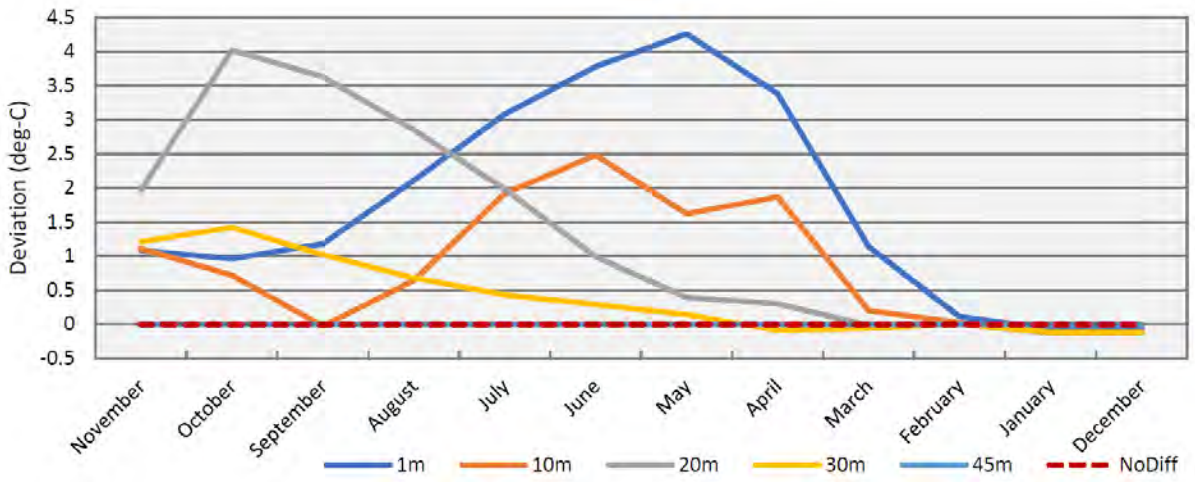


Exhibit 5-3: Difference Between Average Measured and Model-Predicted Temperatures by Depth and Month Showing that the Deviation Between Model-Predicted and Measured Temperatures at 20 meters Depth Can Be Expected to Exceed 2°C Between July and November and 1°C Between September and November at 30 Meters Depth

2. King County Data (King County, 2024) collected and provided by King County, Washington: King County has operated an array of monitoring stations and one "profiling buoy" on Lake Washington since at least 2000 as part of its *Major Lakes Monitoring Program* (Exhibit 5-4). Available data include water temperature, dissolved oxygen, pH, specific conductance, chlorophyll fluorescence, and turbidity. Data was collected at various depths from near the lake bottom to within 1 meter of the surface. The most detailed measurements were collected at the profiling buoy where data was typically collected twice per day at approximately 1-meter intervals between the surface and approximately 54 meters water depth. Data from the other active stations was collected more sporadically, but typically between three and six times per day at various depths. Data from the currently inactive stations was collected at various depths approximately four times per day throughout the years in which they were operated. The closest active station for which lake temperature data is available is Station 0852. Station WABouy is the profiling buoy used by the LW-RTTM for calibration. Station 0540 is located in the Ship Canal near the UW Medical Center and adjacent to the Montlake Boulevard East bridge.

   a. Strengths:
      - Provides long-term and definitive understanding of local lake water temperatures as well as basic water chemistry from the surface down to 40+ meters water depth.
      - Identifies the location of a thermocline that develops during the summer and fall that will need to be considered for the project design.

   b. Weaknesses:
      - Limited number of stations.
      - No stations located in the immediate vicinity of the probable intake pipes.

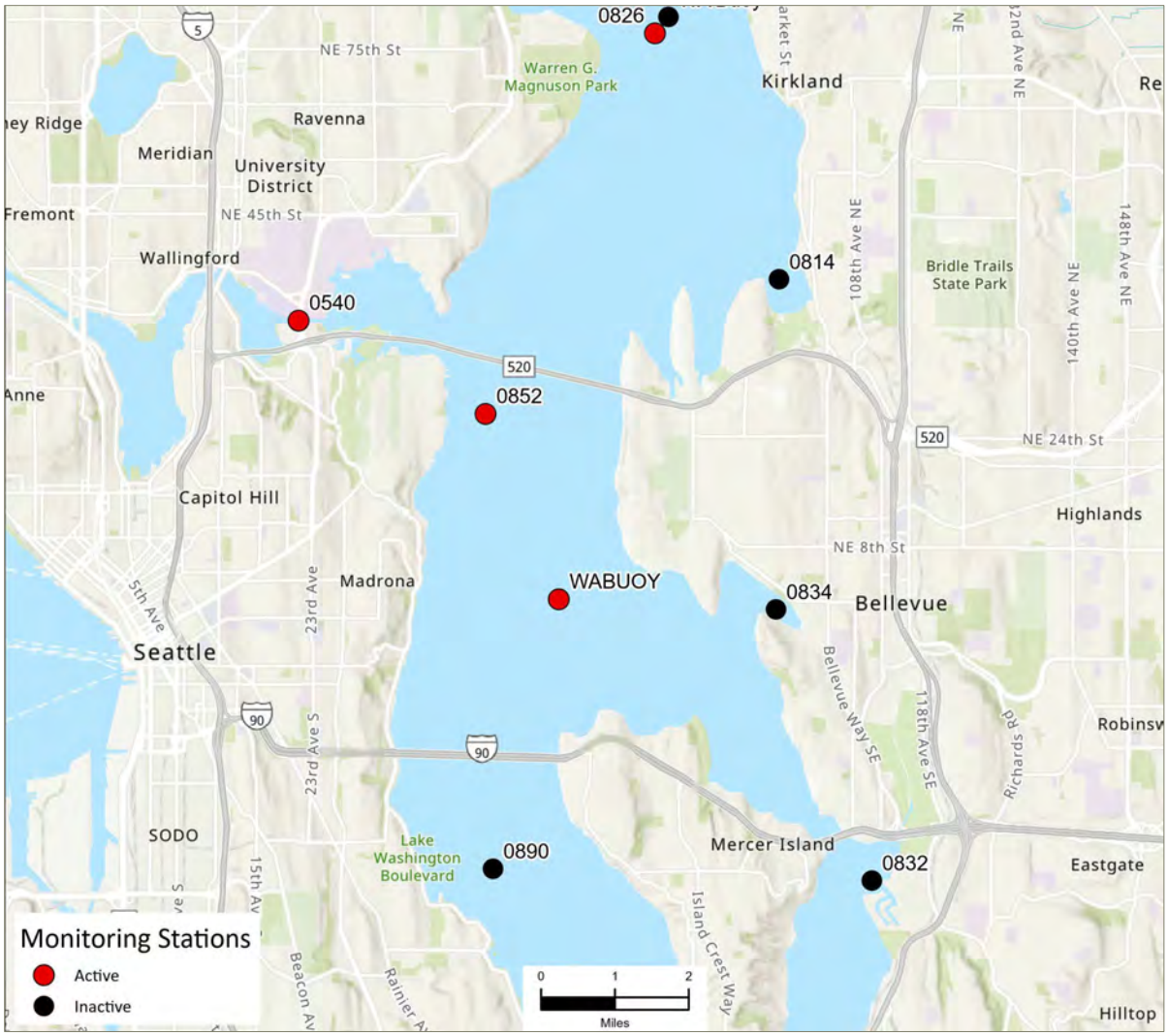


Exhibit 5-4: Location of Profiling Buoy and Stations in Lake Washington Maintained by King County and Reported on Its Website. Station 0852 is the Closest Station to Webster Point. Station WABuoy is the Profiling Buoy Used by the Lake Washington Real-time Temperature Model for Calibration.[10]

5.2 Baseline Conditions

5.2.1 Lake Washington

Probable baseline conditions in the Lake Washington project area are likely best estimated from the temperature vs depth profiles recorded by King County at Station 0852 because it is the closest monitoring station to the probable project area at which lake water temperatures have been regularly recorded at depth. Station 0852 is described as the "Madison Park" station and is located close to and south of the SR 520 bridge (Exhibit 5-4).

[10] King County, 2024

The data from Station 0852 provides temperature and water chemistry parameter values at various depths from the surface down to greater than 40 meters depth measured during every month of the year between the years 1993 and 2023.

At Station 0852, the coldest water temperatures were consistently recorded in February during which time lake water temperature was nearly constant with respect to depth, varying between 6 and 9°C. By June, a prominent thermocline consistently developed between 10 and 20 meters water depth where water temperatures ranged from approximately 3 to 24°C at the surface and approximately 6 to 12°C below 30 meters. The average temperature below 30 meters depth has not varied appreciably between the coldest and warmest periods. The warmest water temperatures below 30 meters depth appear to occur in November. Average temperatures at 20 meters range between 7.2°C in February to 11.4°C in November. Maximum temperatures at 20 meters can be expected to be higher than 15°C in October. Average temperatures at 30 meters range between 7.2°C in February and March to 9.6°C in November. Maximum temperatures at 30 meters can be expected to be higher than 11°C in October and November.

At Station 0852, a total of 1,102 temperature measurements were below 7°C. Of those 1,102 measurements, 70 were recorded during the period 2019 through 2023, all of which were recorded in the month of March. Twenty-four of 135 temperature readings recorded during that period below 24 meters water depth were below 7°C, which equates to 17.8% of the total readings recorded during that period below 24 meters depth.

A string of thermistors was deployed at a related station (Station 0852B) at water depths between 2 and 55 meters between 1998 and 2011. The string of thermistors was located closer to and likely hanging from the SR 520 bridge. Those data also indicate that lake water temperatures fall below 7°C at certain periods of the year, predominantly between the months of January and April but extending to as late as July at the deeper depths. Between January 2000 and June 2011, 13,013 of 176,945 (7.4%) of the readings listed for 55 meters water depth were below 7°C and 2,027 of those readings (1.1%) were below 6.5°C. The data indicate that the majority of the coldest measurements (those below 6.5°C) occur at water depths below 35 meters.

Exhibits 5-5 and 5-6 provide temperature versus depth profiles constructed from the Station 0852 data for every month of the year.

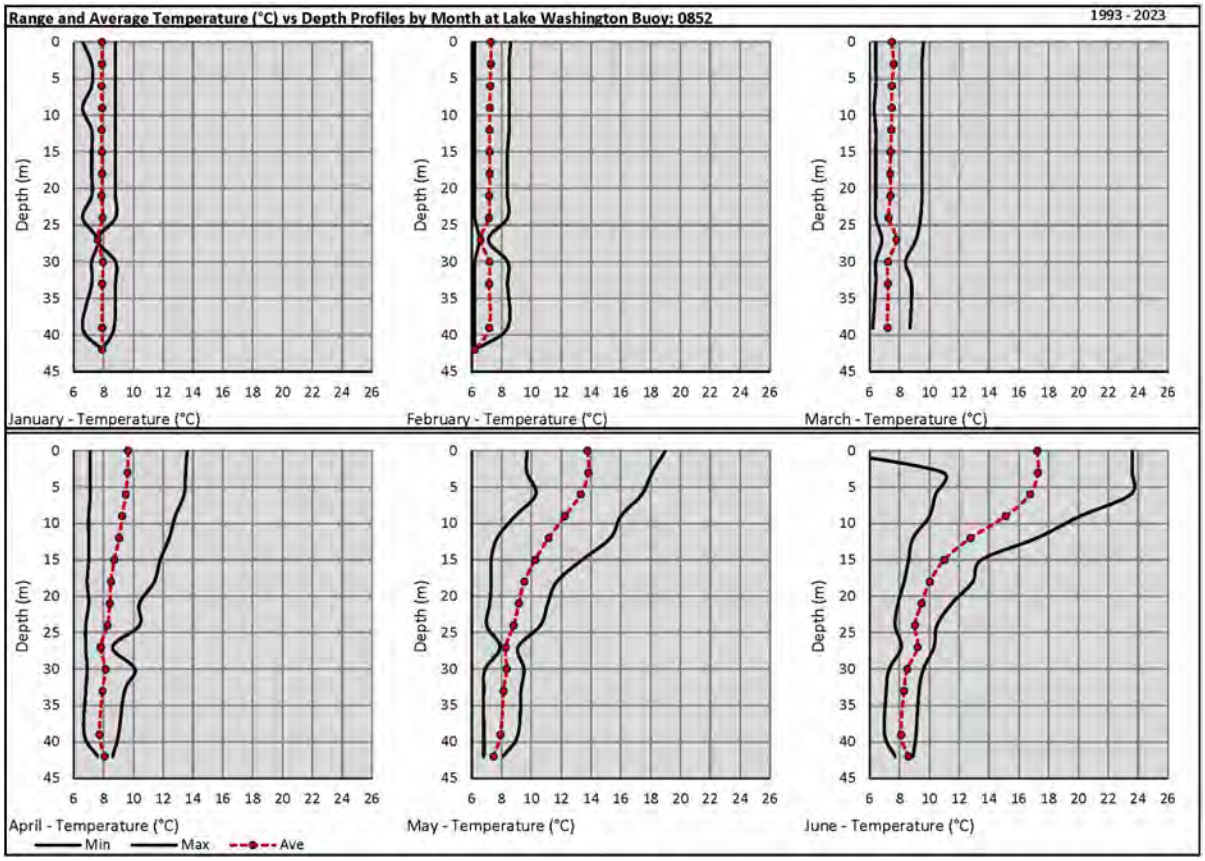


Exhibit 5-5: Temperature Versus Depth Profiles Recorded by King County at Station 0852 Showing the Range and Average of Recorded Temperatures Across 3-Meter Depth Intervals From the Surface Down to 45 Meters Depth During the 30-Year Period From 1993 to 2023 for Months January Through June.

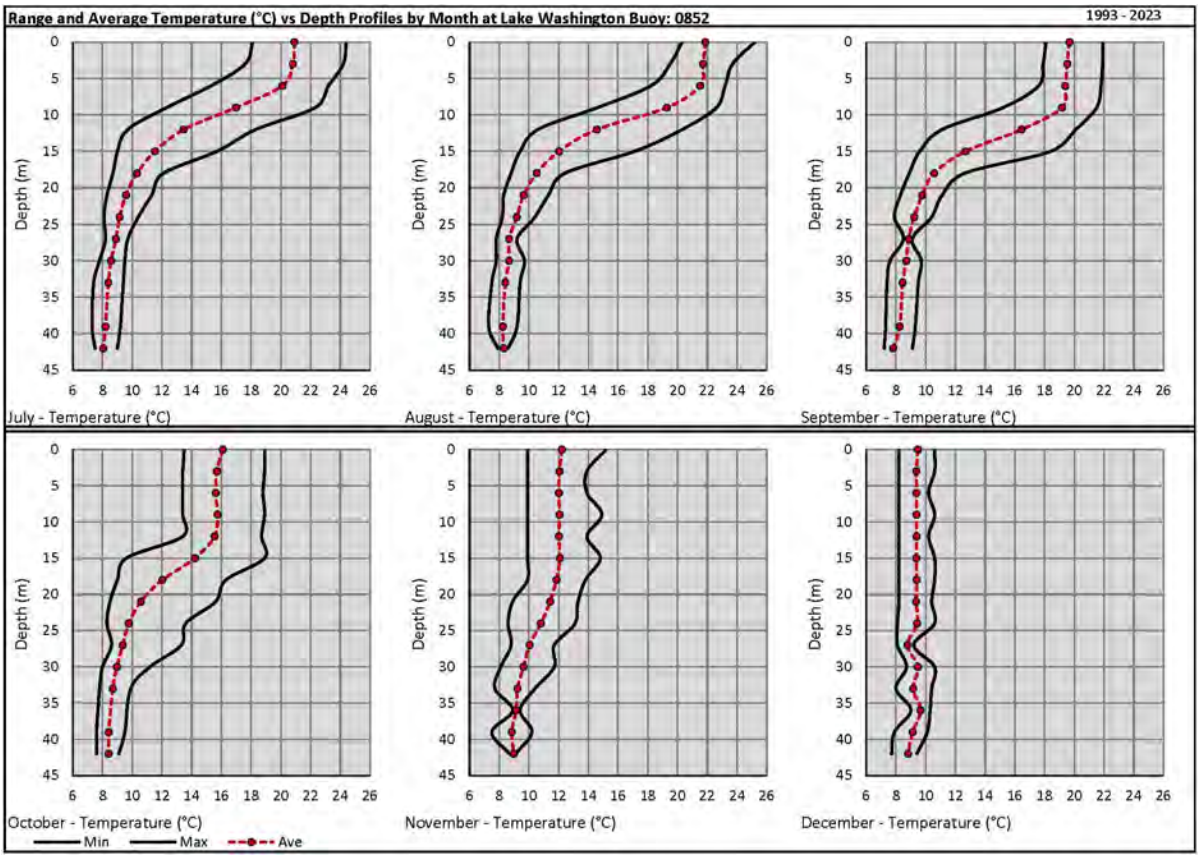


Exhibit 5-6: Temperature vs Depth Profiles Recorded by King County at Station 0852 Showing The Range and Average of Recorded Temperatures Across 3-Meter Depth Intervals From the Surface Down to 45 Meters Depth During the 30-Year Period From 1993 to 2023 for Months July Through December.

5.2.2 Ship Canal (Montlake Cut)

Station 0540 is described as a "Lake Union" station but is located in the Ship Canal near the UW Medical Center and adjacent to the Montlake Boulevard East bridge (Exhibit 5-4). Temperature data has been collected monthly at that location for nearly 50 years (April 1975 through December 2023) at water depths between 0 and 10 meters. The coldest and warmest readings (3.8 to 25.3°C) were recorded in the upper 2 meters of water. Water as cold as 1.3°C was recorded in what was described as a "composite" sample. The maximum recorded water temperatures at any depth have not exceeded 14°C during the months of December through April. Maximum monthly temperatures have been consistently rising in all months across the 49-year period of record. Minimum monthly temperatures also display rising trends across the period of record during the months of January, February, August, and December but display falling trends in the other months.

Exhibits 5-7 and 5-8 provide temperature versus depth profiles constructed from the Station 0540 data for every month of the year.

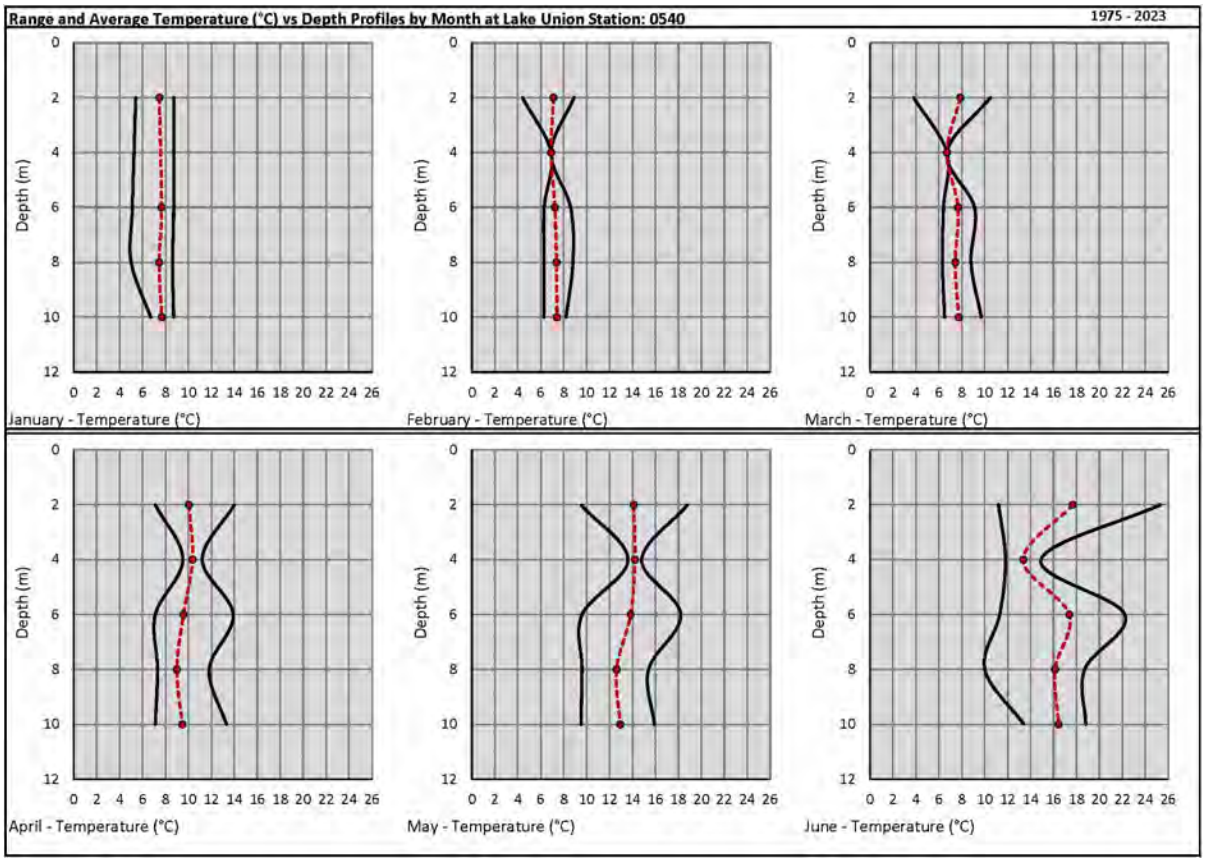


Exhibit 5-7: Temperature Versus Depth Profiles Recorded by King County at Station 0540 Showing the Range and Average of Recorded Temperatures Across 2-Meter Depth Intervals From the Surface Down to 10 Meters Depth During the 49-Year Period From 1975 to 2023 for Months January Through June.

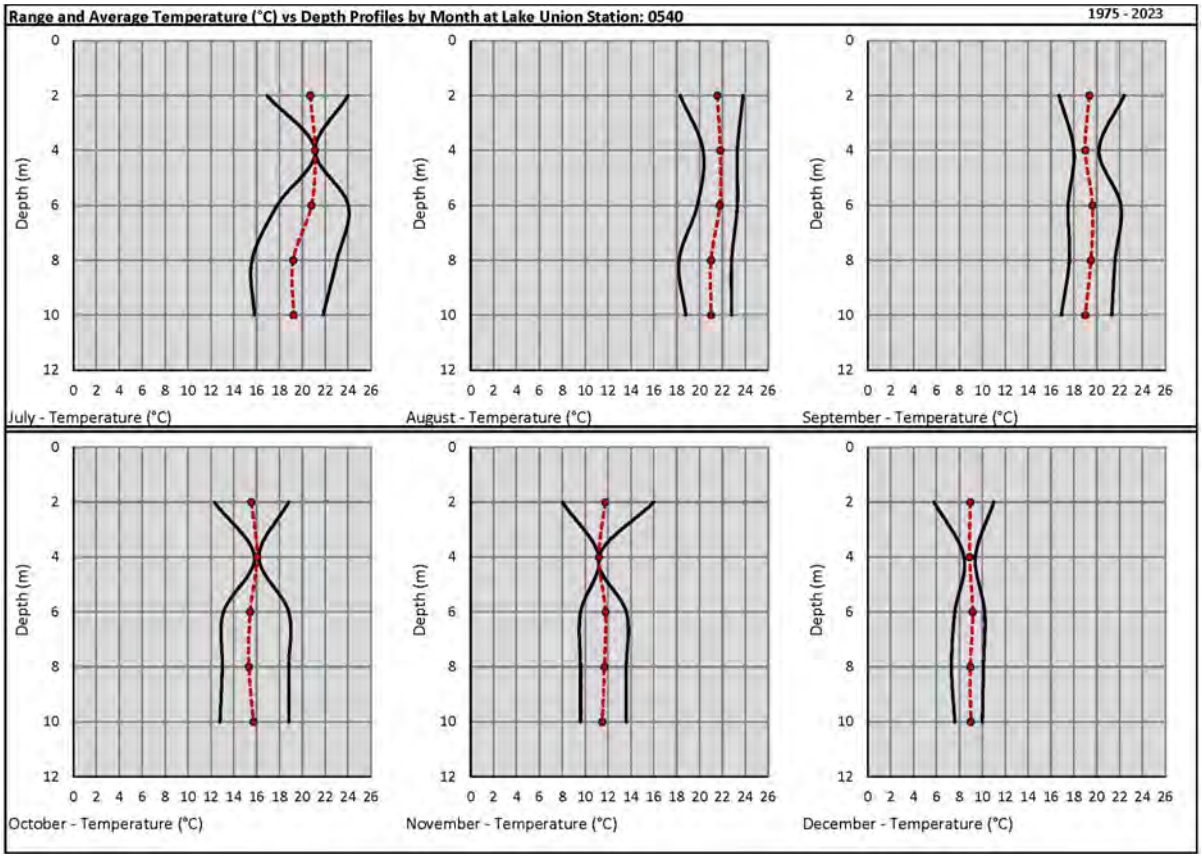


Exhibit 5-8: Temperature Versus Depth Profiles Recorded by King County at Station 0540 Showing the Range and Average of Recorded Temperatures Across 2-Meter Depth Intervals From the Surface Down to 10 Meters Depth During the 49-Year Period From 1975 to 2023 for Months July Through December.

5.3 Climate Change

Climate change is expected to cause atmospheric temperatures in Washington State to persistently increase into the near future (NOAA, 2024), and those increased air temperatures will further contribute to increased Lake Washington water temperatures. NOAA summarizes the trend of increasing atmospheric temperatures in Washington as follows.

> Since the beginning of the 20th century, temperatures in Washington have risen almost 2°F, and since 1986, all but 5 years have been above the long-term (1895–2020) average. The hottest year on record was 2015, with a statewide average temperature of 50.0°F, which was 3.7°F above the long-term average. The overall warming trend is evident in an increased number of warm nights. Since 1990, the numbers of very cold nights in Eastern Washington and freezing days in Western Washington have both been below average. However, the numbers of very warm nights in Eastern Washington and warm nights in Western Washington have both been above average since 1990. The numbers of very hot days in Eastern Washington and hot days in

Western Washington have been quite variable but were both generally above average during the 2015–2020 period, after below average numbers during the 2010–2014 period.

Increasing atmospheric temperatures and their effect on lake water temperatures should be a concern for the project. The longest period of record for lake water temperatures identified by Shannon & Wilson is the 30 years for which data has been collected by King County at Station 0852 (King County, 2024). Preliminary analysis of those data has not revealed a perceptible change in lake water temperatures over time, particularly at depth. However, Winder and Schindler (2004) found that spring-summer stratification was commencing 16 days earlier than previously based on a 40-year record. Another study published in 2004 noted that over a 34-year period, surface (0-10 meters) and entire lake volume temperatures increased by 0.045°C per year and 0.026°C per year, respectively (Arhonditsis and others, 2004). The warming trend was most pronounced between April and September, and insignificant from November through February (Arhonditsis and others, 2004).

5.4 Design Considerations

- Intake pipe(s) will likely need to be located below 30 meters water depth in order to be below the seasonal thermocline and in the portion of the lake where temperature is relatively constant throughout the year.
- At 20 meters depth in the lake, average temperatures are likely to be 2°C warmer in November than at 30 meters depth in the lake.
- Temperatures between 6 and 12°C should be expected at the intake pipe(s) if they are located at depths of between 30 and 40 meters in the lake.
- Temperatures at the surface can be expected to range from 18 to 25°C in the lake and from 17 to 25°C in the Ship Canal during the months of July through September, which may factor into the evaluation of suitable discharge locations.
- In the event that the receiving water at the final discharge location is cooler than the discharge water, multiple discharge pipes, potentially distributed across a relatively broad area, should be considered as a way of reducing the thermal plume emanating from the discharge pipes, particularly during the winter months.
- Discharging warmed water at depth in the lake will likely result in the development of a thermal plume. Modeling may therefore be required to demonstrate the spatial and vertical extent to which the thermal plume will spread on a seasonal basis.

6 CHEMISTRY AND OTHER LAKE CONDITIONS

As previously discussed, the temperature in the lake decreases with depth. As well as temperature, the chemical composition, pH and quantity of dissolved oxygen in the lake vary with depth. That variation and relevance to the project is discussed in more detail below.

The water chemistry data discussed in this section is sourced from the Lake Washington Station 0852 adjacent to Madison Park and Station 0540 in the Montlake Cut. Water column data from near surface to 60 meters deep has been collected over a span of years since the 1990s in Lake Washington (DeGasperi and others, 2020). Data from Station 0540 in the Montlake Cut was sourced from the King County website (King County, 2024).

The dissolved oxygen content of water is important for aquatic life and as water warms it can hold less oxygen than cold water. Throughout the year, the near surface of the lake is mixed by wind so that much of the upper part of the lake has good levels of dissolved oxygen in spite of warmer temperatures. When stratification does occur, the lower part of the lake can become oxygen-deprived which alters the pH. These changes can have an impact on both aquatic species and water chemistry.

Therefore, extracting colder water from depth in the lake, that in summer contains less dissolved oxygen than in other months and that is further warmed by passing it through the heat exchanger, may result in the dissolved oxygen concentration being too low to meet discharge requirements. Data from Station 0852 collected between 2009 and 2018 shows that during the summer months and even as late as December, the dissolved oxygen levels at depths of 50 meters and greater are below the saturation level required for fish (10 mg/L or 90-95% saturation [WAC 173-201A]) with a concentration of approximately 6 mg/L, and lower saturation values can extend to the surface in July, August and September (DeGasperi and others, 2020). However, the data from Station 0852 may not reflect the annual pattern of dissolved oxygen concentrations at the potential intake location.

The summer (July, August and September) dissolved oxygen concentrations under the University Bridge in the Portage Bay area appear to be below 2 mg/L (Urgenson and others, 2021). However, data collected at Station 0540 between 2019 and 2023 show that summer dissolved oxygen concentrations in the Montlake Cut area are above 6 mg/L. Each of the low summer values is equal to or less than the recorded dissolved oxygen concentrations within Lake Washington. Consequently, the dissolved oxygen concentration in the cooling water discharge during summer months may be equal to or greater than the concentrations in either the Montlake Cut or Portage Bay. If dissolved oxygen concentration is included as a NPDES discharge permit requirement and the discharged dissolved oxygen concentration

is lower than the receiving water value, then consideration could be given to use of a mixing zone or the addition of oxygen-enriched water to the discharge.

During summer, the low dissolved oxygen at depth changes the pH. This change can mobilize metals that are in sediments at the base of the lake. If metals are mobilized from the sediment, without mixing or currents, the metals will remain near the sediments (roughly millimeters). Currently, there has been elevated lead in water recorded in the Montlake Cut and Portage Bay area as defined in the 303(d) classification of that water. Other man-made and naturally sourced contamination exists in the sediments of Lake Washington. For example, arsenic naturally is present from weathering of the igneous rocks in the area but is also sourced by human activities. Therefore, the intake depth design needs to consider potential scouring effects and prevent disturbing the loose sediment layer at the base of the lake.

7 DATA GAPS AND RECOMMENDATIONS

- Continued early discussions with agencies, which to date have all expressed willingness to stay engaged, is recommended as the design progresses. As specific options for intake and discharge locations and methods are being evaluated by the UW team, input from the agencies can help lead the team toward the most permit-viable alternative. Continued engagement can also result in early notification of the UW team by the agencies of special studies that may need to be conducted for different scenarios.
- If practicable, dredging or trenching in Lake Washington should be avoided and directional drilling or similar trenchless methods should be used to avoid disturbing high-value nearshore and shallow habitats that provide important habitat for fish and wildlife.
- Similarly, any discharges should be located at sufficient depths and designed to avoid adversely effecting high-value nearshore and shallow habitat through substrate scour, flow velocities that impede nearshore fish movements or cause avoidance behaviors, or any other modification that directly or indirectly alters aquatic vegetation communities.
- Consider the WDFW recommendations for discharge location(s) and design contained in Section 3.2.2 above.
- Shannon & Wilson was unable to identify data describing lake water temperature below the surface in the probable intake area or in potential lake discharge locations. It is unlikely that lake water temperature below 30 meters water depth varies significantly across the lake, but the absence of data local to the project area is a significant gap in knowledge and represents a risk to the project.
- Consider collecting vertical temperature profiles at, at least, one location proximal to the target location of the lake water intake(s) and at several locations where any lake

discharges could be located at least a couple of times monthly across the span of a year or more and developing a correlation between local real-world data and LW-RTTM predictions.

- It is unknown what the requirements may be for a NPDES discharge; however, it is likely that temperature and lead will be included if the outfall point is into the Montlake Cut or Portage Bay. Once the intake location and depth has been established, collection of physical and chemical parameters at that point over a time period of at least one year is recommended. This data will provide a baseline for permit applications and also provide critical information for the design of the project.
- Consider choosing a depth for the discharge pipe(s) based on the seasonal temperature fluctuations such that the difference in temperature between the ambient and discharge water is minimized.
- After target locations of the discharge pipe(s) are identified, determine if temperature modeling will be required as part of the permitting process to demonstrate the spatial and vertical extent to which a thermal plume will extend by season.

8 CLOSURE

The findings and conclusions documented in this report have been prepared for specific application to this project and have been developed in a manner consistent with that level of care and skill normally exercised by members of the environmental science profession currently practicing under similar conditions in the area, and in accordance with the terms and conditions set forth in our agreement. This assessment is based on several factors and may include (but not be limited to) reviewing public documents; reviewing available topographic and bathymetric maps, aerial photos, and water quality data; reviewing readily available published information about surface and subsurface conditions; and interviewing agency representatives with respect to regulatory and permit-related topics. No new data collection, sampling, or quantitative laboratory testing was performed.

The conclusions presented in this report are professional opinions based on interpretation of information currently available to us and are made within the operational scope, budget, and schedule constraints of this project. The ultimate decision making authority rests with the jurisdictional agency charged with administering the applicable law or regulations. Shannon & Wilson cannot guarantee that any agency will issue an approval or permit. No warranty, express or implied, is made. Site conditions, both surface and subsurface, may be affected as a result of natural processes or human influence. This report does not provide sufficient information for construction-related activities.

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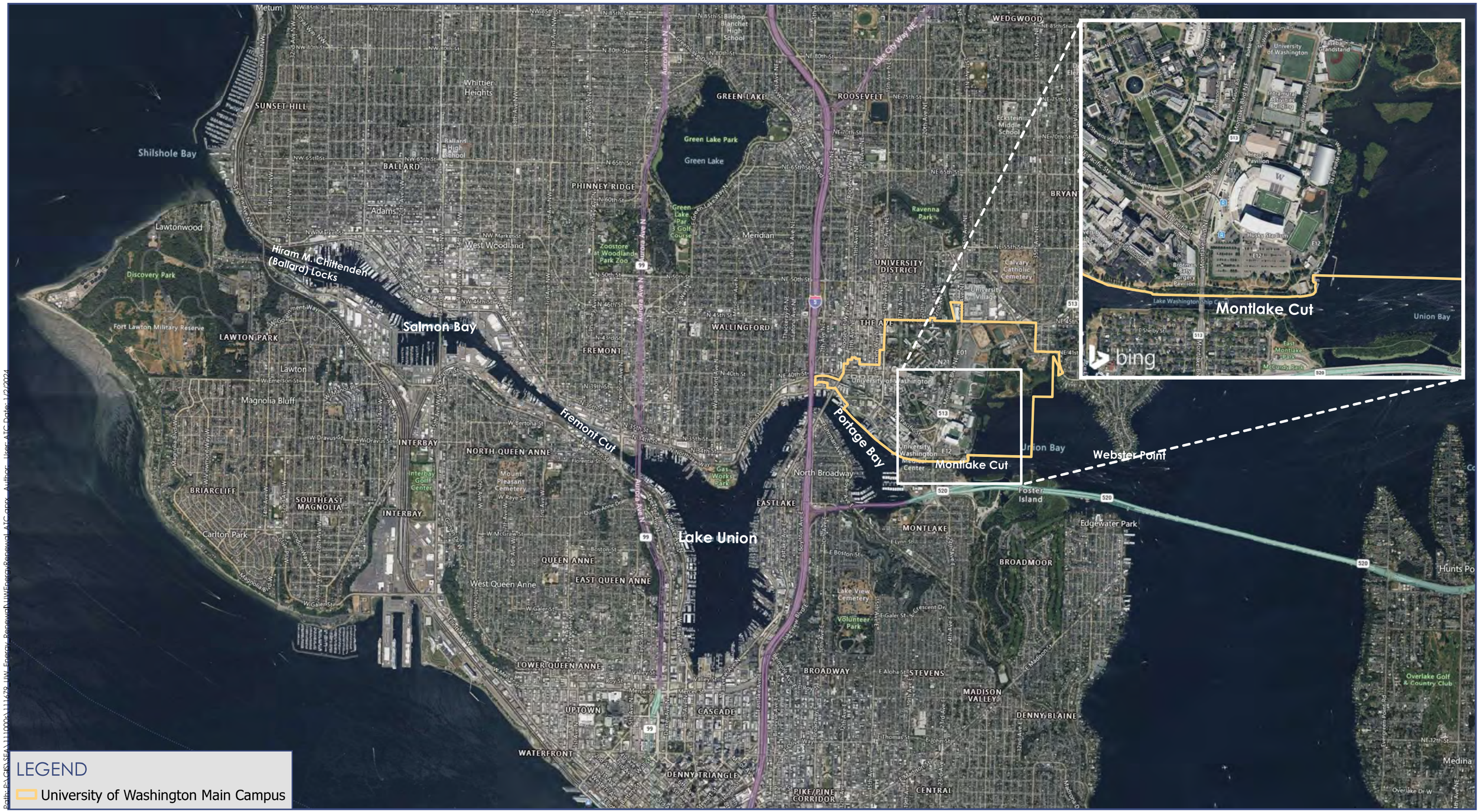

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University of Washington Main Campus

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February 2024

Vicinity Map

Figure 1

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APPENDIX A: ENVIRONMENTAL PERMIT/APPROVAL ELEMENTS

Appendix A

Environmental Permit/Approval Matrix, Schedule, and Communication Log

CONTENTS

Table A-1: Environmental Permit/Approval Matrix
Table A-2: Environmental Permit/Approval Schedule
Table A-3: Environmental Permit Contacts – Communication Log Through January 3, 2024

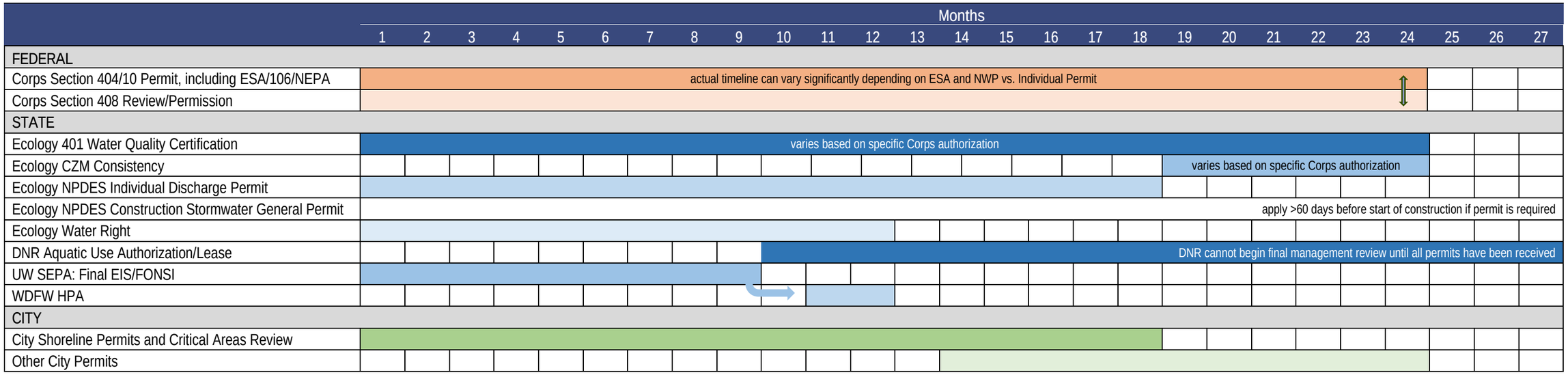
Table A-1: Environmental Permit/Approval Matrix

Agency	Contact	Environmental Permit/Approval	Trigger	Required Environmental Applications and Supporting Documents/Studies
U.S. Army Corps of Engineers (Corps)	Jacalen Printz Jacalen.M.Printz@usace.army.mil (206) 764-6901 Shane Shelburn shane.m.shelburne@usace.army.mil (206) 316-3156	Clean Water Act (CWA) Section 404 and/or Rivers and Harbors Act Section 10	▪ 404: discharge of fill material into waters of the U.S. ▪ 10: work in or over a navigable waterway	▪ Joint Aquatic Resources Permit Application (JARPA) ▪ Aquatic areas delineation report ▪ Mitigation report/plan if needed
	National Marine Fisheries Service: Donald Hubner donald.hubner@noaa.gov (206) 526-4359 U.S. Fish and Wildlife Service: Ryan McReynolds ryan_mcreynolds@fws.gov (360) 753-6047	Section 7 Endangered Species Act (ESA) consultation (resulting in either concurrence or Biological Opinions from U.S. Fish and Wildlife Service and National Marine Fisheries Service) and Essential Fish Habitat (EFH) consultation under Magnuson-Stevens Fishery Conservation and Management Act	Work with potential to affect federally listed fish or wildlife	Biological Assessment, including EFH analysis
	Lance Lundquist lance.a.lundquist@usace.army.mil (206) 764-6909	Section 106 of the National Historic Preservation Act (NHPA) consultation	Work with potential to affect historic properties	Cultural resources/historic properties report
	Dana Dysart dana.m.dysart@usace.army.mil (206) 316-3970	Section 408 review/permission	Alteration/work in a federal project	▪ JARPA, including design drawings that show the bounds of the federal project ▪ Hydrologic and hydraulic study
	Joy Dunay Joy.M.Dunay@usace.army.mil (206) 764-6083	Dredge Management Materials Office (DMMO)	Dredging	▪ JARPA ▪ Sediment Sampling and Analysis Plan ▪ Bathymetry and geotechnical information ▪ Post sediment sampling report
U.S. Coast Guard	Carl Smith Carl.F.Smith@uscg.mil (206) 220-7277	Bridge Permit under either the Rivers and Harbors Act Section 9 or General Bridge Act of 1946	Attachment of intake or discharge lines to SR 520 bridge or if a new line is over a navigable water	▪ Project initiation request ▪ Navigation impact report ▪ Bridge Permit application ▪ NEPA support ▪ BA ▪ Cultural resources/historic properties survey

Agency	Contact	Environmental Permit/Approval	Trigger	Required Environmental Applications and Supporting Documents/Studies
Washington Department of Ecology (Ecology)	Loree' Randall loree.randall@ecy.wa.gov (360) 485-2796	401 Water Quality Certification	Only required if the project includes discharge of fill under Section 404 of the Clean Water Act	▪ Pre-filing Meeting Request ▪ Request for CWA Section 401 Water Quality Certification form ▪ JARPA ▪ Aquatic areas delineation report ▪ Mitigation report/plan if needed Possible Water Quality Monitoring and Protection Plan
	Loree' Randall loree.randall@ecy.wa.gov (360) 485-2796	Coastal Zone Management (CZM) Consistency	Federal action in a coastal county	▪ Form: Certification of Consistency with the Washington State Coastal Zone Management Program for Activities Requiring a Federal License or Permit ▪ Proof of receipt of all required permits and approvals
	Jeanne Tran jeanne.tran@ecy.wa.gov (425) 531-8311	National Pollutant Discharge Elimination System (NPDES) Individual Discharge Permit	Required for discharge of "wastewater" into state or federal waters	▪ Form 1 NPDES ▪ Form 2-C Supplemental Cooling Water Intake Structure ▪ Form 2E Facilities Which Discharge Only Nonprocess Wastewater ▪ Other information required under 40 CFR 122.21(r)
	Stacey Britton stacey.britton@ecy.wa.gov (360) 764-3727	NPDES Construction Stormwater General Permit	Required if project disturbs 1 acre or more of land	▪ Notice of Intent ▪ Public notice ▪ Stormwater Pollution Prevention Plan
	Rebekah Padgett rebekah.padgett@ecy.wa.gov (425) 365-6571	Shoreline Variance/CUP Reviewer	Requirement by the City for CUP or Shoreline Variance	Documents prepared for the City shoreline permits will be transmitted by the City to Ecology
	To be determined	Water right	New withdrawal from Lake Washington	▪ Water Right Pre-Application Consultation Form ▪ Application for a New Water Right Permit form ▪ Supporting environmental and hydrologic information

Agency	Contact	Environmental Permit/Approval	Trigger	Required Environmental Applications and Supporting Documents/Studies
Washington State Department of Natural Resources	Trina Contreras trina.contreras@dnr.wa.gov (206) 764-6909	Aquatic Use Authorization / Aquatic Lands Lease	Activity that takes place on state-owned aquatic lands	▪ JARPA ▪ Attachment E to JARPA ▪ Surveys or a legal description of the property
University of Washington	Julie Blakeslee jblakesl@uw.edu (206) 543-5200	State Environmental Policy Act (SEPA) review	Agency decision or project with potential impacts on the environment	Environmental Impact Statement
Washington Department of Fish and Wildlife (WDFW)	Laura Arber Laura.Arber@dfw.wa.gov (425) 379-2306	Hydraulic Project Approval (HPA)	Work that uses, diverts, obstructs, or changes the natural flow or bed of state waters	▪ Aquatic Protection Permitting System online application ▪ SEPA determination
City of Seattle (City)	Ben Perkowski Ben.Perkowski@seattle.gov (206) 684-0347	Shoreline Permits (Shoreline Substantial Development Permit, Shoreline Special Use Permit, and a Shoreline Conditional Use Permit, possibly a Shoreline Variance depending on location and design)	Activity that meets the definition of "development" in shoreline jurisdiction.	▪ Master Use Permit Application, and supplemental shoreline permit application(s) ▪ Analysis of Shoreline Master Program and review criteria consistency ▪ Supporting studies necessary to address SMP compliance and review criteria (suite of studies depends on location and design)
	As assigned by SDCI at time of application	Other City construction-related permits (depending on location and design)	tbd	tbd

Table A-2: Environmental Permit/Approval Schedule



NOTES:

* Month 1 is that point at which a preferred alternative and 30% plans are available.

** Permit timelines can vary significantly from what is shown depending on project design, agency staff availability, specific authorization types, and other factors.

*** Timeframes shown do not indicate level of effort, which may be high at the beginning and end, and in a monitoring state in the middle (or variations thereof).

Table A-3: Environmental Permit Contacts – Communication Log Through January 3, 2024

Agency	Contact	Environmental Permit/Approval	Communication History	Key Notes
U.S. Army Corps of Engineers (Corps)	Jacalen Printz Jacalen.M.Printz@usace.army.mil (206) 764-6901 Shane Shelburn shane.m.shelburne@usace.army.mil (206) 316-3156	Clean Water Act (CWA) Section 404 and/or Rivers and Harbors Act Section 10	▪ 12.10.23: email correspondence ▪ 12.13.23: Teams call with Jacalen Printz and Shane Shelburn, jointly with Dana Dysart (Corps) + Dave Woodson (UW)	▪ A little early to talk specifics about Corps permits. ▪ Make sure that the Biological Assessment addresses all of the potential benefits ▪ Suggests discussion with the U.S. Fish and Wildlife Service and National Marine Fisheries Service
	NMFS: Donald Hubner donald.hubner@noaa.gov (206) 526-4359	Section 7 Endangered Species Act (ESA) and Essential Fish Habitat (EFH) consultation	▪ 12.10.23: email correspondence ▪ 12.14.23: email correspondence ▪ 12.9.23: Teams call with Don Hubner + Dave Woodson (UW)	▪ For any discharge into the Ship Canal, would there be any backflow issues (e.g., related to flow, salinity, temperature, etc.) given the volume of the discharge that could have adverse effects on the aquatic environment? ▪ If other entities pursue a similar approach, at what point would the total volume of water withdrawn from Lake Washington have adverse effects on the lake's characteristics and ecology? ▪ Would there be benefits, such as added flexibility, to having two intake locations at different depths with different temperature profiles? ▪ Address entrainment and impingement at the intake. ▪ Avoid creating predator habitat (e.g., installations in the shallow nearshore environment that provide cover for bass). ▪ Provide a realistic assessment of any measurable benefits on salmon and recognize the climate benefits of reducing fossil fuel use. ▪ Consider what appropriate modeling should be conducted in advance to support the design and BA, and what long-term monitoring of performance should be undertaken. ▪ Written feedback will be provided this month.
	USFWS: Ryan McReynolds ryan_mcreynolds@fws.gov (360) 753-6047 Molly Good molly_good@fws.gov	ESA consultation	▪ 12.10.23: email correspondence ▪ 12.11.23: email response from Ryan McReynolds ▪ 12.11.23: email from Molly Good, check back in January 2024 ▪ 1.22.24: email correspondence with Ryan McReynolds	Email from Ryan McReynolds 12.11.23: ▪ Usual considerations would be relevant; e.g., location/placement of the intake(s), screening of the intake(s), location/placement of the return-discharge(s), etc. Expects input from WDFW and NMFS would address USWS' concerns ▪ Interested in more discussion after new year Email from Ryan McReynolds 1.22.24: ▪ Scheduling remains challenging.
	Lance Lundquist lance.a.lundquist@usace.army.mil (206) 764-6909	Section 106 of the National Historic Preservation Act (NHPA) consultation	12.29.23: VM and email correspondence	
	Dana Dysart dana.m.dysart@usace.army.mil (206) 316-3970	Section 408 review/permission (for the new discharge pipe, share map)	12.13.23: Teams call with Dana + Dave Woodson (UW) Late 2023/early 2024: additional email exchanges with Dana and other Corps staff relating to and including provision of data	▪ Corps will share their CAD/GIS boundary layers (3-dimensional, coordination required if project goes over/under/through). ▪ Important not to disturb the prism (can't make narrower or shallower). ▪ Need H&H analysis to describe impact of water discharge. ▪ Corps happy to work with team to discuss/evaluate alternatives.
	Joy Dunay Joy.M.Dunay@usace.army.mil (206) 764-6083	Dredge Management Materials Office (DMMO) (if there's any dredging)	No contact necessary at this time.	
U.S. Coast Guard	Carl Smith Carl.F.Smith@uscg.mil (206) 220-7277	Bridge Permit under either the Rivers and Harbors Act Section 9 or General Bridge Act of 1946	12.29.23: email and VM correspondence	
Washington Department of Ecology (Ecology)	Loree' Randall loree.randall@ecy.wa.gov (360) 485-2796	401 Water Quality Certification	No contact necessary at this time.	
	Loree' Randall loree.randall@ecy.wa.gov (360) 485-2796	Coastal Zone Management (CZM) Consistency	No contact necessary at this time.	
	Tricia Miller tricia.miller@ecy.wa.gov (206) 594-0167	National Pollutant Discharge Elimination	11.30, 12.5, 12.7.23: VM left for Tricia Miller 12.5.23: VM left for Laura Fricke	12.7.23: Received VM from Jeanne Tran. Called back. ▪ Have we started water rights conversation, as critical.

Agency	Contact	Environmental Permit/Approval	Communication History	Key Notes
	Jeanne Tran jeanne.tran@ecy.wa.gov (425) 531-8311 Laura Fricke laura.fricke@ecy.wa.gov (425) 507-5644	System (NPDES) Individual Discharge Permit	12.7.23: Received VM from Jeanne Tran. Called back. 12.19.23: call with Jeanne Tran. 1.2.24: call with Jeanne Tran.	▪ If discharging to Montlake Cut and discharge temps are less than the cut, then won't need a mixing zone. 12.19.23: call with Jeanne Tran. ▪ Jeanne to be our NPDES Ecology contact. ▪ Jeanne to research if new discharge permit will be allowed for Lake WA. Will report back. ▪ Temperature of discharge is the primary issue. 1.2.24: Call with Jeanne Tran. ▪ Jeanne communicated that a new NPDES permit will be allowed for non-contact cooling water according to the watershed lead. The section lead needs to agree regarding a new NPDES permit, and has not been briefed yet. Therefore, this information may change. It might take some months to hear back from the section lead.
	Stacey Britton stacey.britton@ecy.wa.gov (360) 764-3727	NPDES Construction Stormwater General Permit	No contact necessary at this time.	
	Rebekah Padgett rebekah.padgett@ecy.wa.gov (425) 365-6571	Shoreline Variance/CUP	No contact necessary at this time. Will connect after additional feedback received from City regarding shoreline permit pathway.	
	To be determined	Water right	12.18.23: Teams call with Michael Fink + Victoria Buker and Dave Woodson (UW), and Geoff McMahon (AEI)	
Washington State Department of Natural Resources	Trina Contreras trina.contreras@dnr.wa.gov (206) 764-6909 Andrew Taylor Andrew.Taylor@dnr.wa.gov	Aquatic Use Authorization / Aquatic Lands Lease	▪ 12.10.23: email correspondence ▪ 12.15.23: Teams call with Trina Contreras and DNR habitat specialist (Andrew Taylor) ▪ 1.3.24: email correspondence with Trina	▪ Require an "outfall authorization" ▪ Consider easement (non-exclusive) vs. lease (exclusive) ▪ Cost based on market value of adjacent land use, could be "spendy." Speculated about potentials for negotiating cost based on salmon habitat and other green energy benefits – could negotiate if there is wiggle room in the WAC. Also – consider whether could be appropriate to call this a conservation easement? ▪ Would like to set up a larger meeting with policy folks early next year to explore
University of Washington	Julie Blakeslee jblakesl@uw.edu (206) 543-5200	State Environmental Policy Act (SEPA) review	12.29.23: Teams call with Julie Blakeslee + Victoria Buker (UW)	▪ Anticipate preparation of a focused environmental impact statement ▪ Hold formal scoping initiation until a project description is available with sufficient detail to gather meaningful input and inform alternatives/impacts ▪ Recognize that studies prepared in preparation for permitting may be schedule drivers
Washington Department of Fish and Wildlife (WDFW)	Laura Arber Laura.Arber@dfw.wa.gov (425) 379-2306 Joseph Short joseph.short@dfw.wa.gov (425) 775-1311	Hydraulic Project Approval (HPA)	▪ 12.10.23: email correspondence with Laura ▪ 12.12.23: Teams call with Laura Arber + Marilyn Ostergren (UW) ▪ 12.19.23: email from Joseph Short ▪ 1.3.24: email correspondence with Laura Arber ▪ 2.9/2.12.24: email correspondence with Laura Arber	Conversation with Laura Arber 12.12.23: ▪ Lots of questions at this point about design/construction methods ▪ Encourage avoidance of the Lake WA nearshore ▪ Number of scenarios where mitigation would be required ▪ The Montlake Cut sediments are "flocculent" – careful where/how discharge to avoid disturbance which would create turbid plume that would settle very slowly ▪ Connected me with a biologist who has shared some info about fish use at depth Email from Jeff Short 12.19.23: ▪ Provided list of fish that may be found in area of potential intake, provided 2006 UW fish study regarding pelagic fish in Lake Washington Email from Laura Arber 1.3.24: Screening: Confirmed that *NOAA Fisheries West Coast Region Anadromous Salmonid Passage Design Manual* provides appropriate screening guidance. Should also coordinate with WDFW screening biologists Danny Didricksen (Daniel.Didricksen@dfw.wa.gov) and Kayla Rademacher (Kayla.Rademacher@dfw.wa.gov) Consider the following: ▪ Returned water needs to be cool/cold with higher dissolved oxygen than what was removed. ▪ Create multiple release locations (prefer 4 – 5) to add cooler water in various areas instead of just one location. ▪ Install roughened rock "rapids" at each site to aerate the water and increase the dissolved oxygen before returning it to the Ship Canal ▪ Surround the rock "rapids" with riparian vegetation to cover and provide sufficient shade to keep the air and water cool before returning it the Ship Canal

Agency	Contact	Environmental Permit/Approval	Communication History	Key Notes
				o WDFW prefer it not be placed in a pipe (culvert) as this would interfere with overall air mixing. o Rapids need to be constructed with larger rocks and drops to prevent fish from going up them. Please coordinate the WDFW Habitat Biologist as you create these features. Email exchange with Laura Arber 2.9/2.12.24: ▪ Continued discussion regarding the relative temperature and dissolved oxygen of the discharge water compared to the source and receiving waters; appropriate standard. Concern if any discharge temperature/oxygen conditions were to be no better than receiving waters during times when the receiving water is impaired; should strive for cooler water with higher dissolved oxygen levels.
City of Seattle (City)	Ben Perkowski Ben.Perkowski@seattle.gov (206) 684-0347	Master Use Permit (Shorelines and Environmentally Critical Areas)	▪ 12.10.23: email correspondence ▪ 12.14.23: Teams call with Ben Perkowski ▪ 1.19/2.1/2.13.24: email correspondence with Ben Perkowski	Conversation with Ben Perkowski 12.14.23: ▪ SEPA: is UW anticipating EIS or checklist? ▪ Shoreline permits: Conditional Use Permit and Special Use Permit for Utility Lines, City will check into whether they think proposal is a Utility Service Use, which is prohibited in CP environment. [Ben will explore this internally and confirm with Ecology if necessary] ▪ "Heat exchanger" means a device that uses water to cool a structure and discharges warm water into a water body. These are prohibited in Lake Washington/Ship Canal/Lake Union [Ben will explore this internally and confirm with Ecology if necessary] ▪ Recommends inter-agency meeting down the line to discuss mitigation (if any) Follow-up email correspondence with Ben Perkowski 12.14.23: ▪ Ben confirmed that the City would consider the intake and discharge pipes to be permitted as utility lines and not a utility service. ▪ Raised the question of how the heater exchanger SMP code prohibitions related to discharge of "warm water" back into the waterbodies. Suggested a formal code interpretation.
	As assigned by SDCI at time of application	Other City construction-related permits (depending on location and design)	No contact necessary at this time.	
Other Key Stakeholders				
Tribal Coordination/ Consultation	Martin Fox martin@muckleshoot.nsn.us		UW Tribal Liaison leading communication	
WRIA 8	Lauren Urgenson lurgenson@kingcounty.gov (206) 263-1021		No contact necessary at this time.	
Seattle Pacific University			No contact necessary at this time.	
Long Live the Kings	Lucas Hall lhall@lltk.org (206) 382-9555 x30		No contact necessary at this time.	

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

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Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 2:29PM

Project Number: 40000159
Project Title: Infrastructure Renewal 25-27
Project Class: Preservation

Description

Starting Fiscal Year: 2026
Agency Priority: 2

Project Summary

The University of Washington is requesting $50.7M from our 064 Building Account to support a variety of infrastructure renewal projects across the Seattle Campus. The University has a substantial backlog of deferred maintenance/renewal issues and with increasing costs and the complexity of these projects, these infrastructure projects now typically exceed the ceiling for Minor Works ($2 million or less) and therefore continue to be deferred due to funding constraints. This Infrastructure Renewal request will enable us to solve major deficiencies that cannot be solved via the Minor Works Program.

Project Description

Please see the Infrastructure Renewal 25-27 - Questions Attachment. Due to additional questions for the 25-27 Biennium and the length of our responses, they do not fit the online report format.

Location

City: Seattle **County:** King **Legislative District:** 043

Project Type

Infrastructure (Major Projects)

Growth Management impacts

Not applicable

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Current Biennium	2025-27 Fiscal Period Reapprops	2025-27 Fiscal Period New Approps
064-1	UW Building Account-State	50,700,000				50,700,000
	Total	**50,700,000**	**0**	**0**	**0**	**50,700,000**

Acct Code	Account Title	Future Fiscal Periods 2027-29	2029-31	2031-33	2033-35
064-1	UW Building Account-State				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

No Operating Impact

OFM

Capital Project Request

2025-27 Biennium

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Parameter	Entered As	Interpreted As
Biennium	2025-27	2025-27
Agency	360	360
Version	02-A	02-A
Project Classification	*	All Project Classifications
Capital Project Number	40000159	40000159
Sort Order	Project Class	Project Class
Include Page Numbers	N	No
For Word or Excel	N	N
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

40000159 - Infrastructure Renewal 25-27
Sub Projects - Questions/Answers

Project Description

1. Identify the problem or opportunity addressed. Why is the request a priority? This narrative should identify unserved/underserved people or communities, operating budget savings, public safety improvements or other backup necessary to understand the need for the request. For preservation projects, it is helpful to include information about the current condition of the facility or system.

CONVEYING SYSTEMS ($6.5M): *This program includes the Magnuson Health Science Center BB-Tower elevators, which are beyond their service life and have been experiencing issues that impact the building operation. There are no parts/technical support for the elevator controls (Company went out of business 20 years ago). These elevators are critical to maintain building operation. This ongoing program will also include planning and design efforts for future elevator modernizations/replacements.*

SUZZALLO MASONRY RESTORATION 1925 FACADE ($6.4M): *This project is part of the Building Envelope Program. Suzzallo Library is the most recognized and iconic building on the UW campus and embodies historical architectural value for the University. The original 1925 façade has been in decline and deteriorating to the point where fragments of the masonry have been falling to the ground, with the potential for serious injury. Some of these life safety risks that should be repaired immediately are terra cotta balustrade, west terrace concrete slab and beams and anchorage of various masonry components. This project coincides with the execution of the Seismic Improvements planned for 25-27.*

ELECTRICAL INFRASTRUCTURE ($4.5M): *This project is part of the Campus Utilities & Sitework Program. The Magnuson Health Science Center BB-Tower transformer/switches are beyond their service life and have been experiencing issues that impact the building operation. The BB-Tower transformer is the last of the PCB (Ozone depleting and carcinogen) transformers on campus and has been deferred many times due to the cost and complexity of replacement. These projects are critical to maintain building operation. There is also numerous other campus medium voltage electrical equipment (Transformers, switchgear, and cabling that are beyond their service life. This ongoing program will also include planning and design efforts associated with future transformer replacements.*

FIRE & LIFE SAFETY IMPROVEMENTS ($2M): *These projects are a part of an ongoing Fire &Life Safety Program that will address facility deficiencies (code compliance with local, state, and federal applicable laws) related to the health, safety, and welfare of the occupants and the public. There are several obsolete building fire & life safety systems that have an increasing number of multiple repairs and service interruptions. These obsolete systems are, in most cases, monitored by a campus-wide system that is also obsolete and is not compatible to support new systems without infrastructure being replaced. Projects include fire alarm panel replacement, fire sprinkler system replacements, and repairs and renewal of the Seattle Campus TrueSite Notification System.*

GRAVES ROOF REPLACEMENT ($4M): *This project is a part of the ongoing Building Envelope Program for maintenance and renewal projects related to our building envelope. A thorough investigation and study have been done on the Graves Hall roof, which found that the condition of the joints, beams, and columns around the exterior of the building has significant widespread decay. In addition, there is a deficit of safe access making ongoing maintenance and repairs difficult. This roof replacement project would provide an improved envelope that would keep the structure dry and protect the building occupants and materials. There are also numerous building roofs and facades, shown in the appendix, which are beyond their service life. This ongoing program will also include planning and design efforts associated with future envelope/masonry restoration projects.*

ELECTRICAL INFRASTRUCTURE FOR PORTAGE BAY CROSSING (PBX) ($1.5M): *This project is part of the Campus Utilities & Sitework Program and is for the design and construction of the initial electrical system capacity expansion required for PBX.*

MEP MODERNIZATION ($4.5M): *This ongoing program will continue the renewal of aging mechanical, electrical, plumbing, equipment, and systems. Projects include HVAC Controls, equipment upgrades, lighting controls, and additional utility metering to support real-time system management.*

SUZZALLO MASONRY RESTORATION 1935 FACADE ($5.6M): *This project is part of the Building Envelope Program. Decades of exposure and deferred maintenance have produced many general problems and areas of significant damage, particularly with masonry components. This project coincides with the execution of the Seismic Improvements planned for 25-27.*

KIRSTEN WIND TUNNEL ROOF REPLACEMENT ($3.5M): *Kirsten Wind Tunnel Roof Replacements is part of the Building Envelope Program. This building is a research laboratory with an older wooden roof that is beyond its life expectancy. There have been repairs to the roof for the past ten years that have impacted our operating budget. The penthouse roof contains both hazardous materials and lacks appropriate fall protection, which limits regular preventative maintenance.*

IT INFRASTRUCTURE ($7.2M): *This is an ongoing program to provide design and construction projects to support the update of the IT equipment cooling systems. These projects would guarantee uninterrupted, equitable, and safe access to all UW-IT infrastructure, including academic, business, medicine, the K20 Network, and more. Projects in this program would also address UW Data Centers and infrastructure that have obsoleted and outdated fire suppression systems and cooling systems that are beyond their service and currently at capacity with no redundancies.*

SKAGIT LANE VEHICLE DROPOFF AREA ($5M): *This project is part of an ongoing Equity Inclusion and Access Program to address campus infrastructure issues related to ADA compliance and barriers to program access. Removal of identified barriers will provide greater universal campus access to key venues open to the public, improved access to program spaces, and remediate pathways to and from transit stops, dial-a-ride stops, and accessible parking. This initial project will also enhance the overall campus experience and align synergies with the 2019 Seattle Campus Master Plan to maximize campus development and the use of maintenance dollars.*

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

CONVEYING SYSTEMS: *This request will provide the design and construction of four elevators. The project will start on July 1, 2025, and is expected to be completed by June 30, 2027. Elevators are long lead items, and it is not practical to design, procure, and install an elevator within a two-year period. This ongoing program will also provide predesign and designs to overlap a project over a biennium to allow future elevator renewals to be constructed within the two-year period. An individual cost estimate (C-100) for this program is available.*

SUZZALLO MASONRY RESTORATION 1925 FACADE: *This project phase is for the design and construction of the 1925 portion of the Suzzallo Masonry Restoration. The project schedule will align with the execution of the seismic improvement project planned for 25-27. A thorough investigation and study have been completed on the Suzzallo Library Masonry Restoration and are included in the appendix. An individual C-100 for this project is available.*

ELECTRICAL INFRASTRUCTURE: *This request will produce the design and construction for two transformers and associated switches and cabling. The project will start on July 1, 2025, and is expected to be completed by June 30, 2027. Medium voltage electrical equipment are long lead items, and it is not practical to design, procure, and install within a two-year period. This ongoing program will also provide predesign and designs to overlap a project over a biennium to allow future electrical equipment renewals to be constructed within the two-year period. An individual C-100 for this program is available.*

FIRE & LIFE SAFETY IMPROVEMENTS: *This ongoing program will continue the renewal of aging fire alarm systems and the communication backbone. The project will start on July 1, 2025, and is expected to be completed by June 30, 2027. An individual C-100 for this program is available.*

GRAVES ROOF REPLACEMENT: *This request will produce the design and construction for the Grave Roof Replacement project. There are numerous University of Washington buildings with aging roofs and facades that require major renovations to increase the building envelope life and protection of the interior spaces. This project is a part of the ongoing Building Envelope Program and will also provide predesigns and designs, which will prioritize future roofing and masonry projects. The project will start on July 1, 2025, and is expected to be completed by June 30, 2027. An individual C-100 for this program is available.*

ELECTRICAL INFRASTRUCTURE FOR PORTAGE BAY CROSSING (PBX): *This request is for upsizing the electrical feeder from the SCL University District substation to the W27 development. The schedule for this project will align with the Portage Bay Crossing project schedule. An individual C-100 for this program is available.*

MEP MODERNIZATION: *This ongoing program will continue the renewal of aging mechanical, electrical, plumbing, equipment, and systems. The project will start on July 1, 2025, and is expected to be completed by June 30, 2027. An individual C-100 for this program is available.*

SUZZALLO MASONRY RESTORATION 1935 FACADE: *This project phase is for the design and construction of the 1935 portion of the Suzzallo Masonry Restoration. The project schedule will align with the execution of the seismic improvement project planned for 25-27. A thorough investigation and study have been completed on the Suzzallo Library Masonry Restoration and are included in the appendix. An individual C-100 for this project is available.*

KIRSTEN WIND TUNNEL ROOF REPLACEMENT: *Kirsten Wind Tunnel Roof Replacements is part of an ongoing Building Envelope program for maintenance and renewal projects. A full roof replacement will be required, including energy code upgrades, interior rain leader replacements and a compliant safe access/fall protection system. The project could potentially be broken out into a Phase 1 and Phase 2 for construction implementation of the main and penthouse roofs. The project will start on July 1, 2025, and is expected to be completed by June 30, 2027. An individual C-100 for this program is available.*

IT INFRASTRUCTURE: *This request will produce the design and construction of cooling and fire protection systems and infrastructure renewal for the UW-IT data centers and systems. The project will start on July 1, 2025, and is expected to be completed by June 30, 2027. An individual C-100 for this program is available.*

SKAGIT LANE VEHICLE DROPOFF AREA: *This request will produce the design and construction of the Skagit Lane Vehicle Dropoff Area. The project will start on July 1, 2025, and is expected to be completed by June 30, 2027. An individual C-100 for this program is available.*

3. How would the request address the problem or opportunity identified in question 1? What would be the result of not acting?

CONVEYING SYSTEMS: *Elevator replacement would provide reliable modern elevators that could be maintained and operated. Not replacing the elevators would reduce access (passengers & freight) and mobility (ADA). This program would assist in shifting the elevator renewals from reactive to proactive. Without a design/planning effort, each elevator project will continue to extend past the two-year period.*

SUZZALLO MASONRY RESTORATION 1925 FACADE: *The Suzzallo Library Masonry Restoration would address the failing masonry and safety concerns for the 1925 facade. There is currently a major seismic renovation project that requires extensive scaffolding. Aligning this masonry project with the seismic project would be efficient and cost effective. Without the exterior restoration work needed, the façade will continue to decline to the point of full structural replacement and would require fabrication. Not acting would also result in an increase of safety concerns and a missed opportunity of aligning with the seismic project.*

ELECTRICAL INFRASTRUCTURE: *The existing Magnuson Health Science Center BB-Tower Transformers are past their service life. This program would assist in shifting the medium voltage electrical equipment renewals from reactive to proactive. Not replacing the transformers could result anywhere from no redundancy to a complete building shutdown. Without a design/planning effort, each electrical infrastructure project will continue to extend past the two-year period.*

FIRE & LIFE SAFETY IMPROVEMENTS: *This project will replace the obsolete fire systems. Not doing this work could result in the failure of fire systems for multiple buildings. These failures would require a 24/7 firewatch or building closure for each of the buildings.*

GRAVES ROOF REPLACEMENT: *This project would replace the roof and bring it up to current code and safety standards. This program would also assist in shifting the building envelope work from reactive to proactive. Not doing this work would impact the building occupants and building interior by not correcting the widespread envelope deficiencies and decay. In addition, the increasing corrective and maintenance work will be required to be performed without adequate safe access. Without a design/planning effort, each roof replacement project will continue to extend past the two-year period.*

ELECTRICAL INFRASTRUCTURE FOR PORTAGE BAY CROSSING (PBX): *This project will provide additional electrical capacity from the SCL University District substation. Not doing this project would be a missed opportunity to upsize the electrical infrastructure to enable future development of west campus and alignment of the master plan.*

MEP MODERNIZATION: *This program will replace and provide upgrades to the HVAC Controls, equipment upgrades, lighting controls, and additional utility metering to support real-time system management. Not completing this program will result in failures and require emergency corrective work to keep the buildings operational.*

SUZZALLO MASONRY RESTORATION 1935 FACADE: *The Suzzallo Library Masonry Restoration would address the failing masonry and safety concerns for the 1935 facade. There is currently a major seismic renovation project that requires extensive scaffolding. Aligning this masonry project with the seismic project would be efficient and cost effective. Without the exterior restoration work needed, the façade will continue to decline to the point of full structural replacement and would require fabrication. Not acting would also result in an increase of safety concerns and a missed opportunity of aligning with the seismic project. Another potential impact of not doing this project could result in facade failure which in turn would impact and potential close one of the main ADA pathways through the center of campus.*

KIRSTEN WIND TUNNEL ROOF REPLACEMENT: *This project would replace the roof and bring it up to current code and safety standards. This program would also assist in shifting the building envelope work from reactive to proactive. Not doing this work would impact the building occupants, research and building interior by not correcting the roof and safe access deficiencies. The research conducted in the facility is tied to federal defense funding and the continued water intrusion into these spaces could jeopardize the legitimacy of the testing results. The deteriorating roof conditions require annual repairs to the main roof. The penthouse roof requires hazardous material abatement and fall protection measures to safely address the water intrusion issues. Currently, an interior rain gutter system is the only alternative to triage the circumstances of the penthouse roof.*

IT INFRASTRUCTURE: *This project is necessary to reduce the risk of loss of computing and some building functions throughout the UW system, including the mainframe systems that manage the student life cycle, including state and federal financial aid and enrollment data. Should cooling systems fail, all UW campuses would lose connectivity to the UW Network, including UW Medicine. UW provides network access to several UW Medicine partners, including the state's only level one trauma center, Harborview Medical Center; Airlift Northwest; Valley Medical Center and others. Data Center servers also control HVAC and lighting-control systems in 125 buildings on the Seattle campus, about 25% of the total. These would fail in the event of a Data Center failure.*

SKAGIT LANE VEHICLE DROPOFF AREA: *This project will improve the accessibility of Skagit Lane. Skagit Lane is in the center of campus and is identified as one of the most difficult access pathways. Not completing this project would impact the UW commitment to equity, inclusion, and access for the UW and general public. It would also result in additional reactive projects that would pull away maintenance staff from other projects.*

4. What alternatives were explored? Why was the recommended alternative chosen? Be prepared to provide detailed cost backup. If this project has an associated predesign, please summarize the alternatives the predesign considered.

CONVEYING SYSTEMS: *The existing four BB-Wing elevators are beyond their service life and no replacement parts are available. There have been an increasing number of trouble calls from building occupants. An alternative to replacing less than four of the elevators was investigated and found to be impractical due to the existing systems and shared controls. It was concluded that all four elevators need to be replaced at one time. There is also a priority list of the recommended future elevator projects for design and planning. An individual C-100 for this program is available.*

SUZZALLO MASONRY RESTORATION 1925 FACADE: *There is an existing Predesign Study for the Suzzallo Library Masonry Restoration with numerous alternatives identified. These alternatives were reviewed and prioritized. The 1925 façade was identified as the most impactful safety improvement for the cost. This project was also investigated as a standalone project but would be more efficient and cost effective if bundled with the existing Suzzallo Seismic Project. An individual C-100 for this program is available.*

ELECTRICAL INFRASTRUCTURE: *There are numerous other medium voltage projects (transformers, Switches, cabling, etc.) that have been identified but BB-Wing is the priority due to the Hazardous Materials (Polychlorinated Biphenyls). This project has been deferred numerous times based on the difficult location, however it is the last PCB transformer on campus. An individual C-100 for this program is available.*

FIRE & LIFE SAFETY IMPROVEMENTS: *Alternatives for this program are not applicable; there is a priority list for the recommended building fire alarm projects. An individual C-100 for this program is available.*

GRAVES ROOF REPLACEMENT: *Alternatives for this project were not identified. A thorough investigation and study were performed on the Graves Hall roof, which found that the condition of the joints, beams, and columns around the building's exterior has significant widespread decay. In addition, there is a deficit of safe access, making on-going maintenance and repairs difficult. An individual C-100 for this program is available.*

ELECTRICAL INFRASTRUCTURE FOR PORTAGE BAY CROSSING (PBX): *The alternative to complete this project on its own is impractical; this electrical infrastructure project will upsize the feeder to provide more capacity for future buildout and will be cost effective when bundled with the existing W27 site project. An individual C-100 for this program is available.*

MEP MODERNIZATION: *Alternatives for this program are not applicable; there are existing building priority lists for building environmental control buildings and lighting controls that provide many options. An individual C-100 for this program is available.*

SUZZALLO MASONRY RESTORATION 1935 FACADE: *There is an existing Predesign Study for the Suzzallo Library Masonry Restoration with numerous alternatives identified. These alternatives were reviewed and prioritized. The 1935 façade was identified as the next most impactful safety improvement for the cost. This project was also investigated as a standalone project but would be more efficient and cost effective if bundled with the existing Suzzallo Seismic Project. An individual C-100 for this program is available.*

KIRSTEN WIND TUNNEL ROOF REPLACEMENT: *A roof recovery was considered but the existing expansion joints of the building impact the ability to move rainwater to the corresponding roof rain leaders. Therefore, building up the roof to move rainwater in the appropriate direction is a required design element. An individual C-100 for this program is available.*

IT INFRASTRUCTURE: *There is a detailed commissioning report including cost estimates available identifying priorities and cost estimates. An individual C-100 for this program is available.*

SKAGIT LANE VEHICLE DROPOFF AREA: *This is one project of many in the Equity, Inclusion and Access program. There is a Predesign that identifies multiple projects, and this project was chosen as first priority. An individual C-100 for this program is available.*

5. Which clientele would be impacted by the budget request? Where and how many units would be added, people or communities served, etc.

CONVEYING SYSTEMS: *The entire Magnuson Health Science Center BB-Wing would be affected. The UW Medical Center and School of Medicine are the primary tenants. Other tenants include Continuum College, UW Finance, and UW Facilities. There will be a prioritized list with multiple units (College of Engineering, Libraries and College of Environment) potentially impacted for the design/planning efforts for future elevator replacements.*

SUZZALLO MASONRY RESTORATION 1925 FACADE: *Libraries, UW Community and public.*

ELECTRICAL INFRASTRUCTURE: *The entire Magnuson Health Science Center BB-Wing would be affected. The UW Medical Center and School of Medicine are the primary tenants. Other tenants include Continuum College, UW Finance, and UW Facilities. There will be a prioritized list with multiple units (College of Engineering, Libraries and College of Environment) potentially impacted design/planning efforts for future electrical equipment replacements.*

FIRE & LIFE SAFETY IMPROVEMENTS: *Since this work would cover numerous buildings, the entire Seattle Campus Community (Faculty, Staff, & Students) would be served.*

GRAVES ROOF REPLACEMENT: *Intercollegiate Athletics, there will be a prioritized list with multiple units (College of Engineering, Libraries and College of Environment) potentially impacted.*

ELECTRICAL INFRASTRUCTURE FOR PORTAGE BAY CROSSING (PBX): *The W27 Site and future buildout of West Campus.*

MEP MODERNIZATION: *Since this work would cover numerous buildings, the entire Seattle Campus Community (Faculty, Staff, & Students) would be served.*

SUZZALLO MASONRY RESTORATION 1935 FACADE: *Libraries, UW Community and public.*

KIRSTEN WIND TUNNEL ROOF REPLACEMENT: *the College of Engineering.*

IT INFRASTRUCTURE: *Since this work would cover the data IT system for the entire UW Campus Community (Faculty, Staff, & Students) would be served.*

SKAGIT LANE VEHICLE DROPOFF AREA: *Entire campus community and general public through ADA improvements.*

6. Does this project or program leverage non-state funding? If yes, how much by source? If the other funding source requires cost share, also include the minimum state (or other) share of project cost allowable and the supporting citation or documentation.

   Funding for all Infrastructure Renewal 25-27 project is the UW 064 Building Account.

   KIRSTEN WIND TUNNEL ROOF REPLACEMENT: *The funding is from the 064 Building Account, however the research activities that take place in this building are federally funded by the Department of Defense.*

7. Describe how this project supports the agency's strategic master plan or would improve agency performance. Reference feasibility studies, master plans, space programming and other analyses as appropriate.

   CONVEYING SYSTEMS: *This program and BB-Wing project would address a portion of the building's core infrastructure and would coordinate with the Building Renewal Plan. This project would also provide a design to address a portion of several building's core infrastructure and would coordinate with the Building Renewal Plan and the Sustainable Development principle of the 2019 Seattle Campus Master Plan.*

   SUZZALLO MASONRY RESTORATION 1925 FACADE: *This project would address a portion of the building's core infrastructure and would coordinate with the Building Renewal Plan. This project would also continue the ongoing Building Envelope Program.*

ELECTRICAL INFRASTRUCTURE: *This program and BB-Wing project would address a portion of the building's core infrastructure and would coordinate with the Building Renewal Plan. This project would also provide a design to address a portion of several building's core infrastructure and would coordinate with the Building Renewal Plan and the Sustainable Development principle of the 2019 Seattle Campus Master Plan.*

FIRE & LIFE SAFETY IMPROVEMENTS: *These projects will address facility deficiencies (code compliance with local, state, and federal applicable laws) related to the health, safety and welfare of the occupants and the public.*

GRAVES ROOF REPLACEMENT: *This project would address a portion of the building's core infrastructure and would coordinate with the Building Renewal Plan. This project would also continue the ongoing Building Envelope Program.*

ELECTRICAL INFRASTRUCTURE FOR PORTAGE BAY CROSSING (PBX): *The Strategic Master Plan has identified West Campus for future buildout. The electrical Infrastructure upgrade for Portage Bay Crossing aligns with the future buildout.*

MEP MODERNIZATION: *This project would address a portion of the building's core infrastructure and would coordinate with the Building Renewal Plan and the Sustainable Development principle of the 2019 Seattle Campus Master Plan.*

SUZZALLO MASONRY RESTORATION 1935 FACADE: *This project would address a portion of the building's core infrastructure and would coordinate with the Building Renewal Plan. This project would also continue the ongoing Building Envelope Program.*

KIRSTEN WIND TUNNEL ROOF REPLACEMENT: *This project would address a portion of the building's core infrastructure and would coordinate with the Building Renewal Plan. This project would also continue the ongoing Building Envelope Program.*

IT INFRASTRUCTURE: *This program aligns with the Building Renewal Plan. And Long-term Capital Plan by addressing the deferred maintenance backlog of the Information Technology Infrastructure.*

SKAGIT LANE VEHICLE DROPOFF AREA: *This project will address campus infrastructure issues related to ADA compliance and barriers to program access. This project will also enhance the overall campus experience and align synergies with the 2019 Seattle Campus Master Plan.*

8. Does this decision package include funding for any Information Technology related costs including hardware, software (to include cloud-based services), contracts or staff? If the answer is yes, you will be prompted to attach a complete IT addendum. (See Chapter 10 of the operating budget instructions for additional requirements.)

   Not applicable

9. If the project is linked to the Puget Sound Action Agenda, describe the impacts on the Action Agenda, including expenditure and FTE detail. See Chapter 14 (Puget Sound Recovery and Governor's Salmon Strategy) in the 2025-27 Operating Budget Instructions.

   Not applicable

10. How does this project contribute to meeting the greenhouse gas emissions limits established in RCW 70A.45.050, clean buildings performance standards in RCW 19.27A.210, or other statewide goals to reduce carbon pollution and/or improve energy efficiency? Please elaborate. For buildings subject to the clean buildings performance standards, describe your compliance pathway for the building, and include information about energy audits, metering, and energy benchmarking.

    Not applicable

11. How is your proposal impacting equity in the state? Which communities are impacted by this proposal? Include both demographic and geographic communities. How are disparities in communities impacted?

CONVEYING SYSTEMS: *The elevator renewal would include new ADA visual monitoring (Camera/video screen) requirements.*

SUZZALLO MASONRY RESTORATION 1925 FACADE: *Not applicable.*

ELECTRICAL INFRASTRUCTURE: *Not applicable.*

FIRE & LIFE SAFETY IMPROVEMENTS: *Not applicable.*

GRAVES ROOF REPLACEMENT: *Not applicable.*

ELECTRICAL INFRASTRUCTURE FOR PORTAGE BAY CROSSING (PBX):

MEP MODERNIZATION: *Not applicable.*

SUZZALLO MASONRY RESTORATION 1935 FACADE: *The impact of not doing this project could result in facade failure which in turn would impact and potential close one of the main ADA pathways through the center of campus.*

KIRSTEN WIND TUNNEL ROOF REPLACEMENT: *Not applicable.*

IT INFRASTRUCTURE: *The project supports the University's Diversity goals by ensuring uninterrupted computing for all. This is especially critical for individuals who cannot afford to buy or access other systems and equipment. Equity in computing is essential to academic success as well as to access to research and student life systems. Equity means that everyone has equal access to information, research and academics, job opportunities, healthcare services, and campus and community engagement activities. Providing this equal access promotes inclusivity and social and economic justice.*

SKAGIT LANE VEHICLE DROPOFF AREA: *This project will improve the accessibility of Skagit Lane. Skagit Lane is in the center of campus and is identified as one of the most difficult access areas.*

12. Is this project eligible for Direct Pay? If the answer is yes, you must include this project to the list of direct pay projects and information for submittal (see Chapter 1.7 of the capital budget instructions for additional instructions).

    Not applicable

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

    CONVEYING SYSTEMS: *The increasing number of maintenance service calls and the inability to obtain replacement parts. There is a building elevator priority list.*

    SUZZALLO MASONRY RESTORATION 1925 FACADE: *There is supporting information for the Suzzallo Library Masonry Restoration.*

    ELECTRICAL INFRASTRUCTURE: *There is supporting information for the Magnuson Health Science Center BB-Wing Transformer Replacement.*

    FIRE & LIFE SAFETY IMPROVEMENTS: *There is a building Fire Alarm & TrueSite Priority list.*

    GRAVES ROOF REPLACEMENT: *There is supporting information for the Graves Roof Replacement.*

    ELECTRICAL INFRASTRUCTURE FOR PORTAGE BAY CROSSING (PBX): *There is additional information on the Portage Bay Crossing project.*

    MEP MODERNIZATION: *There are building controls and lighting controls priority lists.*

    SUZZALLO MASONRY RESTORATION 1935 FACADE: *There is supporting information for the Suzzallo Library Masonry Restoration.*

KIRSTEN WIND TUNNEL ROOF REPLACEMENT: *There is a building roof replacement priority list.*

IT INFRASTRUCTURE: *There is some supporting information for the UW-IT Computing Safety & Continuity Program.*

SKAGIT LANE VEHICLE DROPOFF AREA: *There is supporting information for the Equity/Inclusion Program.*

14. Reappropriation: if the project was originally funded prior to the 2021-23 biennium, describe the project and each subproject, including the original appropriation year, status of the project and an explanation why a reappropriation is needed.

    Not applicable

15. If the project is linked to the Governor's Salmon Strategy provide an explanation of how the budget request relates to a salmon strategy action, is urgent in the coming biennium to advance salmon recovery, is aligned with a federally approved salmon recovery plan, and/or advances a known tribal priority.

    Not applicable

16. In the agency summary, include the statement, "Related to implementing the Governor's Salmon Strategy." See Chapter 14 in the 2025-27 operating budget instructions for more information. (Note: This question is not in CBS but does need a response if applicable).

    Not applicable

STATE OF WASHINGTON
AGENCY / INSTITUTION PROJECT COST SUMMARY

Updated June 2024

Agency	University of Washington	
Project Name	Infrastructure Renewal 25-27	
OFM Project Number	40000159	

Contact Information		
Name	John Wetzel	
Phone Number	206-616-5924	
Email	wetzej@uw.edu	

Statistics			
Gross Square Feet	N/A	MACC per Gross Square Foot	
Usable Square Feet	N/A	Escalated MACC per Gross Square Foot	
Alt Gross Unit of Measure	N/A		
Space Efficiency		A/E Fee Class	B
Construction Type	Other Sch. B Projects	A/E Fee Percentage	10.08%
Remodel	Yes	Projected Life of Asset (Years)	30
Additional Project Details			
Procurement Approach	DBB	Art Requirement Applies	No
Inflation Rate	3.33%	Higher Ed Institution	Yes
Sales Tax Rate %	10.35%	Location Used for Tax Rate	Seattle
Contingency Rate	5%		
Base Month (Estimate Date)	August-24	OFM UFI# (from FPMT, if available)	
Project Administered By	Agency		

Schedule			
Predesign Start	July-25	Predesign End	December-25
Design Start	January-26	Design End	April-26
Construction Start	May-26	Construction End	June-27
Construction Duration	14 Months		

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Project Cost Summary

Total Project	$47,168,660	Total Project Escalated	$50,699,900
		Rounded Escalated Total	$50,700,000

Amount funded in Prior Biennia	**$0**
Amount in current Biennium	**$50,700,000**
Next Biennium	**$0**
Out Years	**$0**

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

Consultant Services			
Predesign Services	$0		
Design Phase Services	$4,021,296		
Extra Services	$0		
Other Services	$1,182,756		
Design Services Contingency	$260,203		
Consultant Services Subtotal	**$5,464,255**	**Consultant Services Subtotal Escalated**	**$5,775,913**

Construction			
Maximum Allowable Construction Cost (MACC)	$34,524,300	Maximum Allowable Construction Cost (MACC) Escalated	$37,189,576
DBB Risk Contingencies	$0		
DBB Management	$0		
Owner Construction Contingency	$1,726,215		$1,859,479
Non-Taxable Items	$0		$0
Sales Tax	$3,751,928	Sales Tax Escalated	$4,041,577
Construction Subtotal	**$40,002,443**	**Construction Subtotal Escalated**	**$43,090,632**

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	$1,701,963		
DES Additional Services Subtotal	$0		
Other Project Admin Costs	$0		
Project Administration Subtotal	**$1,701,963**	**Project Administration Subtotal Escalated**	**$1,833,355**

Other Costs			
Other Costs Subtotal	**$0**	**Other Costs Subtotal Escalated**	**$0**

Project Cost Estimate			
Total Project	**$47,168,660**	Total Project Escalated	**$50,699,900**
		Rounded Escalated Total	**$50,700,000**

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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Funding Summary

	Project Cost (Escalated)	Funded in Prior Biennia	Current Biennium 2025-2027	2027-2029	Out Years
Acquisition					
Acquisition Subtotal	$0				**$0**
Consultant Services					
Consultant Services Subtotal	$5,775,913		$5,775,913		**$0**
Construction					
Construction Subtotal	$43,090,632		$43,090,632		**$0**
Equipment					
Equipment Subtotal	$0				**$0**
Artwork					
Artwork Subtotal	$0				**$0**
Agency Project Administration					
Project Administration Subtotal	$1,833,355		$1,833,355		**$0**
Other Costs					
Other Costs Subtotal	$0				**$0**
Project Cost Estimate					
Total Project	**$50,699,900**	**$0**	**$50,699,900**	**$0**	**$0**
	$50,700,000	**$0**	**$50,700,000**	**$0**	**$0**
	Percentage requested as a new appropriation		**100%**		

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

What has been completed or is underway with a previous appropriation?
None
Insert Row Here

What is planned with a future appropriation?
N/a
Insert Row Here

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**	**1.0455**	**$0**	Escalated to Design Start
2) Construction Documents				
A/E Basic Design Services	$2,521,296			69% of A/E Basic Services
Other	$1,500,000			Studies, Predesigns, Designs & Planning
Insert Row Here				
Sub TOTAL	**$4,021,296**	**1.0498**	**$4,221,557**	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				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.0498**	**$0**	Escalated to Mid-Design
4) Other Services				
Bid/Construction/Closeout	$1,132,756			31% of A/E Basic Services
HVAC Balancing				
Staffing				
Other	$50,000			UW Shops & ES
Insert Row Here				
Sub TOTAL	**$1,182,756**	**1.0772**	**$1,274,065**	Escalated to Mid-Const.
5) Design Services Contingency				
Design Services Contingency	$260,203			
Other				
Insert Row Here				

Sub TOTAL	**$260,203**	**1.0772**	**$280,291**	Escalated to Mid-Const.
CONSULTANT SERVICES TOTAL	**$5,464,255**		**$5,775,913**	

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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**	**1.0568**	**$0**	
2) Related Project Costs				
Offsite Improvements				
City Utilities Relocation				
Parking Mitigation				
Stormwater Retention/Detention				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.0568**	**$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				
Other Direct Cost	$34,524,300			All Facilities Costs
Insert Row Here				
Sub TOTAL	**$34,524,300**	**1.0772**	**$37,189,576**	
4) Maximum Allowable Construction Cost				
MACC Sub TOTAL	**$34,524,300**		**$37,189,576**	
	NA		*NA per GSF*	

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7) Owner Construction Contingency				
Allowance for Change Orders	$1,726,215			
Other				
Insert Row Here				
Sub TOTAL	**$1,726,215**	**1.0772**	**$1,859,479**	
8) Non-Taxable Items				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.0772**	**$0**	
9) Sales Tax				
Sub TOTAL	**$3,751,928**		**$4,041,577**	
CONSTRUCTION CONTRACTS TOTAL	**$40,002,443**		**$43,090,632**	

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Cost Estimate Details

Equipment					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Equipment					
E10 - Equipment					
E20 - Furnishings					
F10 - Special Construction					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.0772**	**$0**	
2) Non Taxable Items					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.0772**	**$0**	
3) Sales Tax					
Sub TOTAL	**$0**			**$0**	
EQUIPMENT TOTAL	**$0**			**$0**	

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Cost Estimate Details

Artwork					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Artwork					
Project Artwork	$0				0.5% of total project cost for new construction
Higher Ed Artwork	$253,500				0.5% of total project cost for new and renewal construction
Other	-$253,500				
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**
1) Agency Project Management					
Agency Project Management	$1,701,963				
Additional Services					
Other					
Insert Row Here					
Subtotal of Other	*$0*				
PROJECT MANAGEMENT TOTAL	**$1,701,963**		**1.0772**	**$1,833,355**	

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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					
Other					
Insert Row Here					
OTHER COSTS TOTAL	**$0**		**1.0568**	**$0**	

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Availability of Space/Campus Utilization Template

Project name:	Infrastructure Renewal 25-27	CBS/OFM Project #:	40000159
Institution:	University of Washington	Category:	Infrastructure
Campus/Location:	Seattle Campus		

Enrollment

2023 fall on-campus student FTE:	50,097	Expected 2024 fall on-campus student FTE:	50,600
		% increase budgeted:	1.00%

Enter the average number of hours per week each for (a) classroom seat and (b) classroom lab is expected to be utilized in Fall 2024 for the campus where the project is located.

(a) General University Classroom Utilization	
Fall 2023 Weekly Contact Hours	591,757
Multiply by % FTE Increase Budgeted	1.00%
Expected Fall 2024 Contact Hours	597,699
Expected Fall 2024 Classroom Seats	
Expected Hours per Week Utilization	-
HECB utilization standard (hours/GUC seat)	22.0
Difference in utilization standard	-100.0%

(b) General University Lab Utilization	
Fall 2023 Weekly Contact Hours	3,815
Multiply by % FTE Increase Budgeted	1.00%
Expected Fall 2024 Contact Hours	3,853
Expected Fall 2024 Class Lab Seats	
Expected Hours per Week Utilization	-
HECB utilization standard (hour/GUL seat)	16.0
Difference in utilization standard	-100.0%

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

The Infrastructure Renewal Project consists of many programs and individual projects that impact classrooms and lab utilization for multiple buildings. Since these projects are primarily renewal projects, it is essential that these projects are done to retain the current utilization numbers and not doing these projects could result in multiple buildings being shutdown and greatly reducing the current utilization numbers.

Reasonableness of Cost Template

Project name:	Infrastructure Renewal 25-27	CBS/OFM Project #:	40000159
Institution:	University of WA	Category:	Infrastructure
Campus/Location:	Seattle Campus		

	Construction Begin	Construction End	Construction mid-point	Escalation Multiplier
Construction mid-point:	July-25	June-27	June-26	1.4274

MACC from C-100: $37,189,576

	Expected MACC/GSF in 2019	Expected MACC/GSF	GSF by type	Expected MACC
Classrooms	$405	$578		$0
Instructional labs	$397	$567		$0
Research labs	$545	$778		$0
Administration	$406	$580		$0
Libraries	$340	$485		$0
Athletic	$385	$550		$0
Assembly, exhibit and meeting rooms	$428	$611		$0
			-	$0

C-100 to expected MACC variance:

The work associated with the Infrastructure Renewal 25-27 project does not translate into square footage values based on space type.

Efficiency of space allocation. For each major function in the proposed facility (classroom, instructional labs, offices), identify whether space allocations will be consistent with the Facility

The work associated with the Infrastructure Renewal 25-27 project does not translate into square footage values based on space type.

Example: efficiency of space allocation – FEPG standard

FEPG room classification number	FEPG room classification type	Project ASF per station	FEPG standard	Meets standard (Y/N)	Comments
110	Classroom	20	16-26	Y	
110	Classroom	30	16-26	N	Exceeds standards due to programmatic need for demonstration space
210	Class lab – physical science	70	40-90	Y	
215	Class lab – services			N/A	Sized appropriately to serve two labs
230	Computer lab	45	60	N	Falls below FEPG guideline, but meets programming needs
250	Research lab	80		N/A	Sized for research program needs
255	Research lab – service			N/A	Sized appropriately to serve research labs
311	Faculty office	140	140	Y	
311 & 312	Faculty chair office	175	175	Y	
311 & 312	Dean's office	200	200	Y	
313	Student assistants	140 per 4	140 per 2 min.	Y	4 student assistants = 2 FTEs
314	Clerical office	140	140	Y	2 FTEs
315	Office service, clerical station	100	100	Y	2 FTEs
316 & 317	Staff & other office	120	120	Y	
350	Conference room	300	310	N	Total SF shown; FEPG = total office area/12; project SF insignificant amount below standards, still meets FEPG guideline of 20 SF per station
610	Auditorium/ lecture hall	20	15-16	N	Additional SF needed to meet ADA requirements due to site conditions
FEPG room classification number	FEPG room classification type	Project ASF per station	FEPG standard	Meets standard (Y/N)	Comments
760	Hazardous material storage		As appropriate by code	N/A	Sized appropriately to serve labs
770	Hazardous waste storage		As appropriate by code	N/A	Sized appropriately to serve labs

Identify the (a) assignable square feet in the proposed facility; (b) the gross square feet; and (c) the net building efficiency ("a" divided by "b").

Instructions:
Provide the facility's condition score (1 superior – 5 marginal functionality) from the 2016 Comparable Framework study, and summarize the major structural and systems conditions that resulted in that score. Provide selected supporting documentation in appendix, and reference them in the body of the proposal.

Narrative Response:
This is a collection of programs in multiple buildings (MHSC BB-Wing, Suzzallo Library, Grave Hall, Kirsten Wind Tunnel, 4545 and numerous others). The building condition score in these facilities typically ranges from 3 (Deferrable) to 4 (Needs Improvement, Limited Functionality).

IR 2527 Project	Buildings affected	OFM Condition
Conveying Systems	MHSC BB-Wing	4
Suzzallo Masonry Restoration 1925 Façade	Suzzallo	3
Electrical Infrastructure	MHSC BB-Wing	4
Fire & Life Safety Improvements	Numerous Buildings	N/A
Graves Roof Replacement	Graves Hall	3
Electrical Infrastructure for Portage Bay Crossing (PBX)	Brightwork (new building)	N/A
MEP Modernization	Numerous Buildings	N/A
Suzzallo Masonry Restoration 1935 Façade	Suzzallo Library	4
Kirsten Wind Tunnel Roof Replacement	Kirsten Wind Tunnel	3
IT Infrastructure	4545 Building	2
Skagit Lane Vehicle Dropoff Area	Numerous Buildings	N/A

Instructions:
Identify the estimated number of additional FTE students the project is expected to enable the institution to serve when the space is fully occupied. Describe the method by which additional FTEs are calculated, including an analysis of probable student enrollment demand from project completion to full occupancy. Also provide an estimate of the number of additional FTE enrollments in high-demand fields and the fields in which such growth is expected to occur.

Per RCW 43.88D.010(1)(a), growth projects must also demonstrate that they can more cost- effectively provide enrollment access than alternatives such as university centers and distance learning.

Narrative Response:
The Infrastructure Renewal 25-27 project does not affect student enrollment. It is a series of projects that ensure that the campus facilities can support ongoing teaching, research and public activities.

FACILITIES
UNIVERSITY of WASHINGTON

40000159 - Infrastructure Renewal 25-27 Appendices

Appendices
Conveying Systems Program Prioritization List
Building Envelope Program Prioritization List
Suzzallo Library Exterior Condition Report (Excerpt)
UW Graves Hall Administration Building (Excerpt)
Campus Utilities and Sitework Program Prioritization List
MEP Modernization Program Prioritization List
Fire Life Safety Program Prioritization List
IT Infrastructure
ADA Barrier Removal Implementation Plan (Skagit and King Lanes Excerpt)

Conveying Systems Program
Prioritization List

Priority	Project Description	Biennium	Program	Subprogram	Total Score
1	MHSC BB-Wing Elevators (#52, 53, 54 & 255)	25-27	Conveying Systems	Elevators	5.0
2	Elevator Design, Plan, and Procure	25-27	Conveying Systems	Elevators	4.6
3	Engineering Library Elevators (#132 & 133)	27-29	Conveying Systems	Elevators	3.7
4	Atmospheric Sciences Elevator #152	27-29	Conveying Systems	Elevators	3.2
5	OUGL Elevators (#160, 162, & 163)	29-31	Conveying Systems	Elevators	3.5
6	MHSC I-Wing Elevators (#109 & 110)	29-31	Conveying Systems	Elevators	3.5
7	MHSC J-Wing Elevators (#111 & 112)	29-31	Conveying Systems	Elevators	3.5
8	MHSC T-Wing Elevators (#172, 174, 177 & 178)	31-33	Conveying Systems	Elevators	3.2
9	CHDD Clinic Elevators (#141, 142, 143, & 144)	31-33	Conveying Systems	Elevators	3.0
10	Meany Hall Elevator Renewal (#188, 190, #190 & 191 Freight)	33-35	Conveying Systems	Elevators	3.0
11	Henderson Hall Elevators (#056 & 108)	33-35	Conveying Systems	Elevators	3.0
12	Portage Bay Elevator #032	35-37	Conveying Systems	Elevators	2.7
13	Communications Elevator #040	35-37	Conveying Systems	Elevators	2.7
14	Ocean Teach Elevator #134	35-37	Conveying Systems	Elevators	2.7
15	Publication Services Elevator #199	37-39	Conveying Systems	Elevators	2.7

Building Envelope Program
Prioritization List

Priority	Project Description	Biennium	Program	Subprogram	Total Score
1	Suzzallo Masonry Restoration - 1925 Facades	25-27	Building Envelope	Facades	4.8
2	Graves Roof Replacement	25-27	Building Envelope	Roofs	4.2
3	Envelope & Masonry FORENSICS Program	25-27	Building Envelope	Facades	4.0
4	Suzzallo Masonry Restoration - 1935 Facades	25-27	Building Envelope	Facades	5.0
5	Kirsten Wind Tunnel Roof Replacement	25-27	Building Envelope	Roofs	4.7
6	Hitchcock Roof Replacement	27-29	Building Envelope	Roofs	4.5
7	NPL Building Envelope	27-29	Building Envelope	Facades	4.5
8	MHSC J-Wing Roof Replacement	29-31	Building Envelope	Roofs	4.5
9	Bagley Hall Roof Replacement	29-31	Building Envelope	Roofs	4.5
10	Publication Services Roof Replacement	27-29	Building Envelope	Roofs	4.4
11	Smith/Gowen Cladding	27-29	Building Envelope	Facades	4.2
12	Portage Bay - Roof Replacement	29-31	Building Envelope	Roofs	4.1
13	Miller Hall - Eliminate Water Intrusion	27-29	Building Envelope	Facades	4.0
14	Social Work Phase 2	27-29	Building Envelope	Roofs	3.6
15	Raitt Hall Cladding	27-29	Building Envelope	Facades	3.3
16	Savery Hall Cladding	27-29	Building Envelope	Facades	3.3
17	MHSC B-Court: Grout & Reseal Exterior Windows	29-31	Building Envelope	Facades	3.3
18	Gerberding Hall - Masonry Repairs	31-33	Building Envelope	Facades	3.3
19	Marine Sciences - Plaza Waterproofing	31-33	Building Envelope	Facades	3.1

SUZZALLO LIBRARY EXTERIOR CONDITIONS

DRAFT

Pre Design Study
June 6, 2016

SHKS ARCHITECTS

1 EXECUTIVE SUMMARY

In April 2016 SHKS Architects, in conjunction with Case Forensics, and Magnusson Klemencic Associates performed an exterior envelope conditions survey of University of Washington's Suzzallo Library. The survey includes the original 1925 building as well as the 1935 addition. Newer additions were not included in this survey. This report summarizes observations, analysis and recommendations for seismic upgrades related to life safety, restoration of historic materials, and maintenance of the exterior envelope, including roofing, masonry and windows. Decades of exposure and deferred maintenance have produced a number of general problems and areas of significant damage, particularly with masonry components.

Items that are considered life-safety risks should be repaired immediately. These include replacement of the 1925 terra cotta balustrade, repair of the 1925 west terrace concrete slab and beams, and anchorage of various masonry components on both buildings.

A considerable amount of organic growth is present on both buildings, both within deteriorated mortar joints and on masonry surfaces. Both buildings should be cleaned using a low pressure spray with warm water. Other building envelope deficiencies, if left unattended, will lead to more advanced and rapid deterioration requiring extensive and costly repairs. These include repointing a large majority of the masonry (terra cotta, cast stone, brick, sandstone and granite), general repairs to all masonry components, replacement of various roof surfaces, and restoration of the windows.

Suzzallo Masonry Restoration

Recommended scope for Outside Zone

Source: SUZZALLO LIBRARY EXTERIOR CONDITIONS, 2016 Pre-Design Study

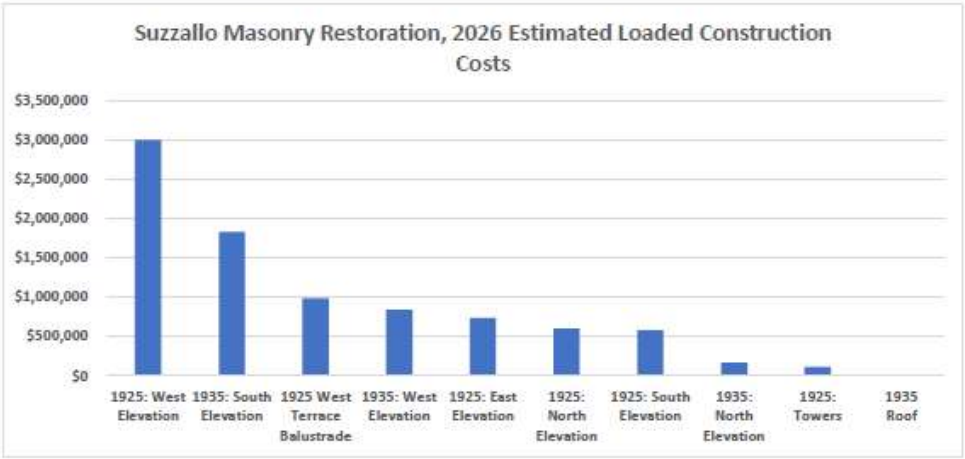
Suzzallo Locations with 2026 Costs, Rounded

Mark	Description	1925: West Elevation	1935: South Elevation	1925 West Terrace Balustrade	1935: West Elevation	1925: East Elevation	1925: North Elevation	1925: South Elevation	1935: North Elevation	1925: Towers	1935 Roof	Total Mark Cost (2026$)
MT1	Repoint 100 % of the terra cotta	$231,000	$0	$0	$38,000	$0	$36,000	$29,000	$0	$0	$0	$334,000
MT2	Repoint 25% of the terra cotta	$0	$33,000	$0	$0	$4,000	$3,000	$5,000	$0	$0	$0	$45,000
MT3	Repair damaged terra cotta with patching compounds and reglaze, 50%	$20,000	$0	$0	$52,000	$0	$39,000	$11,000	$0	$0	$0	$122,000
MT4	Repair damaged terra cotta with patching compounds and reglaze, 10%	$26,000	$0	$0	$0	$0	$5,000	$2,000	$0	$0	$0	$33,000
MT5	Replace damaged terra cotta with GFRC	$385,000	$728,000	$0	$0	$0	$0	$0	$0	$0	$0	$1,113,000
MT6	Replace through-cracked terra cotta in kind	$0	$0	$0	$0	$18,000	$15,000	$9,000	$0	$0	$0	$42,000
MT7	Salvage existing terra cotta for other work and reinstall	$39,000	$0	$0	$38,000	$0	$0	$0	$0	$0	$0	$77,000
MT8	Salvage existing pinnacles for vertical reinforcing, reinstall w/helical anchors	$22,000	$0	$0	$0	$3,000	$5,000	$3,000	$0	$0	$0	$33,000
MC1	Repoint 100% of the cast stone	$96,000	$7,000	$0	$0	$0	$0	$0	$0	$0	$0	$103,000
MC2	Repoint 25% of the cast stone	$144,000	$0	$0	$188,000	$5,000	$2,000	$0	$13,000	$0	$0	$352,000
MC3	Install helical anchors, (2) per cast stone unit	$61,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$61,000
MC4	Salvage cast stone parapet cap for other work and reinstall	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
MC5	Replace damaged cast stone unit in kind	$1,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,000
MC6	Repair cracked cast stone with epoxy injection	$0	$0	$0	$0	$0	$0	$1,000	$0	$0	$0	$1,000
MC7	Salvage cast stone pinnacles and supporting units, and reset	$0	$15,000	$0	$0	$0	$0	$0	$0	$0	$0	$15,000
MC8	Replace cast stone balustrade in kind	$0	$0	$120,000	$0	$0	$0	$0	$0	$0	$0	$120,000
MC9	Light abrasive blast cast stone to remove sealer	$0	$0	$0	$9,000	$0	$0	$0	$0	$0	$0	$9,000
MC10	Salvage and Re-set	$16,000	$0	$0	$0	$0	$0	$0	$0	$0	$12,000	$28,000
MB1	Repoint 100% of the brick	$63,000	$45,000	$0	$26,000	$139,000	$103,000	$106,000	$85,000	$0	$0	$567,000
MB2	Replace damaged brick (cracked or faces spalled off)	$44,000	$0	$0	$23,000	$0	$9,000	$5,000	$5,000	$0	$0	$86,000
MB3	Install helical anchors, (1) per 4sf	$29,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$29,000
MB4	Salvage brick pavers as required for other work	$0	$0	$48,000	$0	$0	$0	$0	$0	$0	$0	$48,000
MS1	Repoint 100% of the sandstone	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
MS2	Replace heavily damaged sandstone in kind	$0	$0	$1,000	$0	$0	$0	$0	$0	$0	$0	$1,000
MS3	Salvage existing sandstone cladding, re-anchor and re-install	$0	$0	$82,000	$0	$0	$0	$0	$0	$0	$0	$82,000
MS4	Repair damaged sandstone using dutchman technique, 25%	$33,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$33,000
MS5	Re-tool damaged sandstone, approximately, 50%	$0	$32,000	$0	$15,000	$0	$0	$0	$0	$0	$0	$47,000
MG1	Repoint 100% of the granite steps, salvage and re-set 5%	$0	$0	$69,000	$0	$0	$0	$0	$0	$68,000	$0	$137,000
MG2	Salvage granite pavers as required for other work	$0	$0	$259,000	$0	$0	$0	$0	$0	$0	$0	$259,000
MISC-3	In order to perform the recommended repairs, scaffolding will be required. In some areas, this may require landscape pruning or removal and replacement.	$447,000	$247,000	$19,000	$121,000	$278,000	$145,000	$182,000	$0	$0	$0	$1,439,000
MISC-4	Replace wire screens at all tower openings.	$20,000	$4,000	$0	$0	$0	$5,000	$0	$0	$0	$0	$29,000
MISC-10	Wall anchors for roofing maintenance	$16,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$16,000
	Total 2026, costs, by location	$1,693,000	$1,111,000	$598,000	$510,000	$447,000	$367,000	$353,000	$103,000	$68,000	$12,000	$5,262,000
	Soft Costs											

Suzzallo Masonry Restoration
Recommended scope for Outside Zone
Source: SUZZALLO LIBRARY EXTERIOR CONDITIONS, 2016 Pre-Design Study

Suzzallo Locations with 2026 Costs, Rounded

Mark	Description	1925: West Elevation	1935: South Elevation	1925 West Terrace Balustrade	1935: West Elevation	1925: East Elevation	1925: North Elevation	1925: South Elevation	1935: North Elevation	1925: Towers	1935 Roof	Total Mark Cost (2026$)
	General Conditions, 20%	$507,900	$222,200	$119,600	$102,000	$89,400	$73,400	$70,600	$20,600	$13,600	$2,400	$1,221,700
	GC OH and Profit, 12%	$203,160	$133,320	$71,760	$61,200	$53,640	$44,040	$42,360	$12,360	$8,160	$1,440	$631,440
	Planned Construction Cost, 2026 Dollars	$2,404,060	$1,466,520	$789,360	$673,200	$590,040	$484,440	$465,960	$135,960	$89,760	$15,840	$7,115,140
	Contingency for Development of Design, 25%	$601,015	$366,630	$197,340	$168,300	$147,510	$121,110	$116,490	$33,990	$22,440	$3,960	$1,778,785
	Total Recommended Construction Budget, 2026 Dollars	$3,005,075	$1,833,150	$986,700	$841,500	$737,550	$605,550	$582,450	$169,950	$112,200	$19,800	$8,893,925
	Add 30% for Project Soft Costs	$3,906,598	$2,383,095	$1,282,710	$1,093,950	$958,815	$787,215	$757,185	$220,935	$145,860	$25,740	**$11,562,103**



UW Graves Hall Administration Building

Timber and Framing Assessment

June 2014

SHKS ARCHITECTS

June 9, 2014

Bill McKinney
University of Washington
Maintenance Coordinator, Facilities Services
Maintenance & Alterations Division
Plant Services Building
Seattle, WA 98195-4285

RE: UW Graves Hall Exterior Timber and Framing Assessment

UW Purchase Order #78425PS

Dear Mr. McKinney:

Project Background:

In November of 2013 SHKS Architects visited the Graves Building with Bill McKinney and Tom Berg to observe the condition of the timber roof framing that had been recently exposed. It was evident at this visit that damage to the timber framing had occurred over the years and that some of the damage appeared to be quite significant. After observing the conditions SHKS Architects and their consultant, Case Forensics were retained to conduct observe, test, analyze, evaluate and make recommendations regarding the deteriorated timber framing at Graves Hall.

On January 7th, 8th and 9th SHKS and Case Forensics performed field observation of the deteriorated material. Case Forensics conducted drill resistance testing at 421 test locations to collect data regarding the internal condition of the timber members. The findings of this testing and analysis is included in Case Forensics' memo dated January 28th, 2014 and included as Appendix A to this report.

Findings:

Of the 421 locations tested by Case, 100 are determined to be in poor condition requiring replacement of a portion or all of the subject timber. In general the affected timbers are located in the outer boundary of the roof structure typically in the first 4 to 6 feet of boundary area. There are concentrated areas of damage located in the northwest corner and southwest corner of the building and along the north and south boundaries. Additionally, the roofing membrane is the original 3 ply built up assembly installed when the building was first constructed. The membrane is in its 50th year of service and is well beyond its expected service life and should be replaced completely. There is damage to the roof structure which will require repair or replacement of materials. This work should be done at the same time as the re-roofing project to take advantage of access to the roof sheathing and framing while the existing

roof is demolished. In the period before a repair and re-roofing project is undertaken, measures should be put in place to temporarily support the damaged areas and direct pedestrian traffic away from the areas directly below the compromised structure. Temporary support can be accomplished by means of scaffold shoring or other system appropriate for the conditions in the field. Temporary support systems should be design and installed by a company familiar with the project conditions.

Access to the roof should be limited to those areas outside of the boundary zones until temporary protection measures are in place.

Recommendations:

The following recommendations represent our professional opinion of the measures to be taken to mitigate current conditions and effect repairs to extend the life of the building.

1. Interim: Support highly damaged areas until repair/replacement can occur. These areas are located at the four corners of the building and should be fully supported by temporary structure until the repair project is undertaken. At three locations provide additional pole shoring or other means or support to support deteriorated beam ends. Temporary fencing should be provided to prevent pedestrians from passing under any portion of the roof overhang. Where entrance or egress from the building is required overhead protection should be provided.

2. Roofing: Remove and replace roofing at main roof and penthouse. Install new modified bitumen roofing assembly with granulated cap sheet consistent with University standards. Install over new insulation described below.

3. Roof Insulation: Remove and replace rigid roof insulation at main roof and penthouse. Increase insulation to meet current energy code requirement. Install insulation over vapor barrier/ temporary roof.

4. Roof Sheathing: Remove and replace all deteriorated sheathing with new plywood sheathing at main roof and penthouse. Framing: Remove and replace deteriorated framing members. Replace roof joists, soffit framing and miscellaneous blocking as required to eliminate presence of rot and mold.

5. Glu-Laminated timbers: Remove and replace all glu-laminated timbers from building column line to end of timber at overhang at main roof and penthouse. Provide architectural grade material fabricated to match existing profiles. Install concealed steel support system to support timbers. See Fig.4, Appendix C, for illustration of concealed support concept. Attach supporting steel structure to existing framing material and conceal in joist space.

6. Sheet Metal Flashings: Remove and replace sheet metal flashings with copper and stainless steel flashing material. Use Copper material at all exposed conditions and stainless material at concealed conditions. Install cap flashings over exposed timber ends.

7. Built-in Gutter: Line gutter with soldered stainless steel gutter liner installed over a Kemperol liner. Coat stainless liner with Kemperol system.

8. Downspouts: Remove and replace downspouts. Increase size of downspout to 3 inch diameter and modify location to prevent penetration of wood timber.

9. Ventilation: Assure soffit areas are well ventilated

Cost:

A Pre-Design Cost Plan was developed by Haley Consulting in consultation with SHKS Architects according to the recommendations outlined above. See Appendix B for a copy of the Pre-Design Cost Plan. The cost plan includes projected construction costs, contractor overhead, profit, sales tax, escalation and a design contingency reflective of the conceptual nature of the project at the time the costs were developed. Soft costs for consulting fees, Owner management expenses and other owner expenses are not included. The anticipated cost for repair is One Million Two Hundred Forty Six Dollars ($1,246,000) assuming project construction will occur beginning in June 2015.

Schedule:

We recommend that measures to support the most severely deteriorated areas be undertaken as soon as practicable and that construction of the repair outlined in this report be undertaken no later than the summer of 2015.

Sincerely,

Jonathan Hartung
Principal

Campus Utilities and Sitework Program
Prioritization List

Priority	Project Description	Biennium	Program	Subprogram	Total Score
1	MHSC BB-Tower Replace Transformers and Switches	25-27	Campus Utilities & Sitework	Electrical Infrastructure	4.7
2	Transformers - Design and Planning	25-27	Campus Utilities & Sitework	Electrical Infrastructure	4.6
3	Electrical Upgrades - PBX	25-27	Campus Utilities & Sitework	Electrical Infrastructure	3.8
4	Medium Voltage Switch & Cable Replacement Program - MW2527	27-29	Campus Utilities & Sitework	Electrical Infrastructure	3.6
5	Medium Voltage Switch & Cable Replacement Program - MW2729	29-31	Campus Utilities & Sitework	Electrical Infrastructure	3.6
6	Communication Building - Replace Transformers and Switches	27-29	Campus Utilities & Sitework	Electrical Infrastructure	2.5
7	Fluke Hall - Replace Transformers	27-29	Campus Utilities & Sitework	Electrical Infrastructure	2.9
8	MHSC J-Wing - Replace Transformers and Switches	31-33	Campus Utilities & Sitework	Electrical Infrastructure	2.9

MEP Modernization Program
Prioritization List

Priority	Project Description	Biennium	Program	Subprogram	Total Score
1	Pneumatic to DDC Controls	25-27	MEP Modernization	HVAC	3.2
2	Steam and CCW Meters	25-27	MEP Modernization	HVAC	3.2
3	Suzzallo Library - Lighting Control Replacement	25-27	MEP Modernization	Lighting	2.3
4	Mary Gates Hall - Lighting Control Replacement	25-27	MEP Modernization	Lighting	2.3
5	Electrical and Computer Engineering Building - Lighting Control Replacement	25-27	MEP Modernization	Lighting	2.3
6	Magnuson Health Sciences Center E - Lighting Control Replacement	25-27	MEP Modernization	Lighting	2.3
7	South Campus Center - Lighting Control Replacement	25-27	MEP Modernization	Lighting	2.3
8	Molecular Engineering & Sciences Building - Lighting Control Replacement	25-27	MEP Modernization	Lighting	2.3
9	Social Work - Lighting Control Replacement	25-27	MEP Modernization	Lighting	2.0
10	Odegaard Library - Lighting Control Replacement	25-27	MEP Modernization	Lighting	2.0
11	Magnuson Health Sciences Center H (old H wing) - Lighting Control Replacement	25-27	MEP Modernization	Lighting	2.3
12	Magnuson Health Sciences I -wing - Lighting Control Replacement	25-27	MEP Modernization	Lighting	2.5
13	Samuel E. Kelly Ethnic Cultural Center - Lighting Control Replacement	25-27	MEP Modernization	Lighting	2.0
14	William H. Gates Hall - Lighting Control Replacement	25-27	MEP Modernization	Lighting	2.0
15	Paul G. Allen Center for Computer Science & Engineering - Lighting Control Replacement	25-27	MEP Modernization	Lighting	2.0

Fire Life Safety Program
Prioritization List

Priority	Project Description	Biennium	Program	Subprogram	Total Score
1	Bank of America Executive Ed Center Fire Alarm Panel Replacement	25-27	Fire Life Safety	Fire Alarm	4.7
2	Benson Hall Fire Alarm Panel Replacement	25-27	Fire Life Safety	Fire Alarm	4.7
3	Bloedel Hall Fire Alarm Panel Replacement	25-27	Fire Life Safety	Fire Alarm	4.7
4	Chemistry Building Fire Alarm Panel Replacement	25-27	Fire Life Safety	Fire Alarm	4.7
5	Fishery Sciences Bldg Fire Alarm Panel Replacement	25-27	Fire Life Safety	Fire Alarm	4.7
6	Gowen and Smith Halls Fire Alarm Panel Replacement	25-27	Fire Life Safety	Fire Alarm	4.7
7	Magnuson Health Science Center A-Wing Fire Alarm Panel Replacement	25-27	Fire Life Safety	Fire Alarm	4.7
8	Magnuson Health Science Center B-Wing Fire Alarm Panel Replacement	25-27	Fire Life Safety	Fire Alarm	4.7
9	Magnuson Health Science Center C & D -Wings Fire Alarm Panel Replacement	25-27	Fire Life Safety	Fire Alarm	4.7
10	Magnuson Health Science Center E & F -Wings Fire Alarm Panel Replacement	25-27	Fire Life Safety	Fire Alarm	4.7
11	Magnuson Health Science Center G & H -Wings Fire Alarm Panel Replacement	25-27	Fire Life Safety	Fire Alarm	4.7
12	Magnuson Health Science Center H Addn-Wing Fire Alarm Panel Replacement	25-27	Fire Life Safety	Fire Alarm	4.7
13	Magnuson Health Science Center I-Wing Fire Alarm Panel Replacement	25-27	Fire Life Safety	Fire Alarm	4.7
14	Magnuson Health Science Center J-Wing Fire Alarm Panel Replacement	25-27	Fire Life Safety	Fire Alarm	4.7
15	Magnuson Health Science Center K-Wing Fire Alarm Panel Replacement	25-27	Fire Life Safety	Fire Alarm	4.7
16	Magnuson Health Science Center T-Wing Fire Alarm Panel Replacement	25-27	Fire Life Safety	Fire Alarm	4.7
17	Henry Art Gallery Fire Alarm Panel Replacement	25-27	Fire Life Safety	Fire Alarm	4.7
18	Hutchinson Hall Fire Alarm Panel Replacement	25-27	Fire Life Safety	Fire Alarm	4.7
19	Marine Sciences Fire Alarm Panel Replacement	25-27	Fire Life Safety	Fire Alarm	4.7
20	Ocean Sciences Fire Alarm Panel Replacement	25-27	Fire Life Safety	Fire Alarm	4.7
21	Oceanography Teaching Bldg Fire Alarm Panel Replacement	25-27	Fire Life Safety	Fire Alarm	4.7
22	Paul Allen Center for CSE Fire Alarm Panel Replacement	25-27	Fire Life Safety	Fire Alarm	4.7
23	Magnuson Health Science Center T-Wing Fire Alarm Panel Replacement	25-27	Fire Life Safety	Fire Alarm	4.7
24	Henry Art Gallery Fire Alarm Panel Replacement	25-27	Fire Life Safety	Fire Alarm	4.7
25	Hutchinson Hall Fire Alarm Panel Replacement	25-27	Fire Life Safety	Fire Alarm	4.7
26	Marine Sciences Fire Alarm Panel Replacement	25-27	Fire Life Safety	Fire Alarm	4.7
27	Ocean Sciences Fire Alarm Panel Replacement	25-27	Fire Life Safety	Fire Alarm	4.7

Priority	Project Description	Biennium	Program	Subprogram	Total Score
28	Oceanography Teaching Bldg Fire Alarm Panel Replacement	25-27	Fire Life Safety	Fire Alarm	4.7
29	Paul Allen Center for CSE Fire Alarm Panel Replacement	25-27	Fire Life Safety	Fire Alarm	4.7

IT INFRASTRUCTURE

RECOMMISSIONING REPORT

FOR

UNIVERSITY OF WASHINGTON

4545 HEAT RECOVERY CHILLER RECOMMISSIONING

February 29, 2024

For: University of Washington

Earl Wayman

1400 NE Campus Parkway

Seattle, WA 98195

By: Integrity Energy Services

Victor Arroyo

1505 NW Gilman Blvd, Suite 1

Issaquah, WA 98027

Table of Contents

1. Executive Summary 3

A. Project Overview 3

B. Process 3

C. Results 4

D. Conclusion 6

E. Appendix – Functional Performance Tests (FPT) 7

1. EXECUTIVE SUMMARY

A. Project Overview

The University of Washington is concerned with the declining efficiency in the HVAC systems located at the 4545 Building. They are looking to develop a plan to improve the operability and efficiency of these systems. To that end, the University of Washington has requested that Integrity Energy Services provide recommissioning services at the 4545 building. The goals of recommissioning as it relates to the data center are as follows:

- Review equipment documentation.
- Test building automated controls and HVAC equipment.
- Identify potential issues with sequence of operations and HVAC equipment.
- Improve system operation, reliability, and efficiency.

The existing HVAC system consists of a heat recovery chiller (HRC), chillers (CH), air handling units (AHU), computer room air conditioning units (CRAC), hot water boilers (HWG), perimeter radiators, fluid coolers (FC), variable air volume units (VAV), and associated terminal units, pumps, dampers, and valves. These systems serve the data center. The building received minor equipment and system renovations in 2006. The current BAS interface is a Metasys system which was last reviewed and updated in 2006.

Recommissioning efforts were provided on the following HVAC systems:

- Heat Recovery Chiller
- Blue Loop CRACs
- AHU-4
- Boilers
- Perimeter Radiant Heaters
- Associated actuators, valves, and dampers

B. Process

IES conducted two site visits to assess current building operations and gather systems data. Through the site visit and functional performance testing, deficiencies were observed and opportunities for improvement were identified.

IES will communicate observed deficiencies along with recommended corrective actions to the University of Washington via this report. IES may conduct additional site visits to retest equipment, after corrective actions are implemented, and to backcheck resolution of deficiencies.

As part of this recommissioning effort, IES provided the following commissioning services to verify proper equipment operation based on control sequences and appropriate display of system operation at the BAS graphical user interface (front-end computer):

- Reviewed system adherence to control sequence and mechanical drawings.
- Reviewed available documentation.
- Functionally tested equipment operation.
- Visual inspection of equipment.

C. Results

The recommissioning process at the University of Washington 4545 building resulted in identifying numerous areas for improvement. The following are the prioritized issues that were identified along with recommendations from IES.

High Priority

- It was noted during testing that the heat load for the data center far exceeds the cooling capacity of the blue loop. This forces the BAS to enable the grey loop to help the blue loop meet cooling demands. The grey loop is intended to provide redundancy should the blue loop ever fail, and they shouldn't run simultaneously during normal operations. With both loops needed to run simultaneously to meet daily cooling demands the data center loses cooling redundancy and is in danger of losing the ability to cool the data center should either loop fail. IES recommends reducing the data center heat load to a level that allows the blue loop to handle cooling demands on its own and returns the grey loop to its intended role as a redundant/backup cooling system.
- Due to the increased heat load, the HRC has been in operation for longer periods than originally intended, significantly increasing wear and tear, shortening the life of the chiller. We recommend that UW and/or UWIT determine whether the data center will remain at the current location long-term or be moved to another location within the next 2-3 years, and should strongly consider replacing the HRC with a newer unit if the plan is to remain at the 4545 building long-term.
- Discrepancy was found between heat recovery chiller submittal and manufacturer's manual. Per the submittal, condenser water leaving temperature at full load should be 118°F, but the manufacturer's manual states that this unit has a maximum condenser leaving fluid temperature of 110°F. It has been noted during HRC operation that the unit is unable to meet the leaving water temperature setpoint and will go into alarm and shutdown if leaving water temperatures reaches approximately 106°F and above. The chiller manufacturer was onsite to review system operation and recommendations that the high pressure cutout switch be replaced. It appears that this unit doesn't adhere to design documents.

- Portions of the sequence of operations have been modified and/or removed from the BAS, and there is no change log available. The lack of a change log makes it impossible to track what has been changed and why, making it difficult to confirm that equipment is operating per design. There is also the possibility that mechanical failures have been circumvented with software changes. IES recommends a full review, update, and testing of the sequence of operations for the 4545 building.
- Equipment nomenclature and points list in the BAS do not match the mechanical drawings. BAS graphics and points list need to be reviewed and updated to match information on mechanical drawings.
- The Testing, Adjusting, and Balancing (TAB) report is unavailable. The University of Washington should have TAB work performed to confirm that airflow throughout the building matches the design. This will also establish a baseline that will be used as a reference for future work in the building.
- Currently, the boilers are sequenced to operate only when the heat recovery chiller is offline. Also, the boilers operate on a lead/lag schedule, but their associated pumps do not. Recommend reviewing operation of boiler to determine if they should be enabled when the HRC is online to help the unit meet water temperature setpoints, and whether it is feasible to have the circulation pumps operate on a lead/lag schedule as well to save energy and prolong equipment life.

Medium Priority

- Air handling unit four (AHU-4) is unable to meet the heating and cooling needs of the first floor. AHU-4 is an antiquated multizone, hot deck/cold deck unit and should be replaced. This unit does not serve the data center and is not part of the HRC loop.
- We were unable to confirm that the perimeter radiant heating system operates as the first stage of heating per the sequence, which compounds the heating issue on the first floor. There is no logic in the BAS that reflects this part of the sequence. Recommend that it be determined whether the perimeter radiant heaters are still necessary or if the system should be decommissioned. This unit does not serve the data center and is not part of the HRC loop.
- Condenser/heat recovery water temperature and boiler temperature control resets have been removed from the BAS. Without a change log available, we are unable to determine why this part of the sequence of controls was deleted from the BAS. While updating the sequence of operations, IES recommends confirming whether the resets should remain or be removed.
- The chilled water leaving temperature was 50.5°F, but the setpoint was 48°F. Recommend further investigation as to why chilled water was not meeting its setpoint, it could be a potential symptom of chiller issue noted above.

- The boiler freeze protection logic was set to disable the boilers and associated pumps if outside air temperature fell below 38°F. The action should be the opposite. Recommend freeze protection logic for the boilers be changed to enable boilers when outside air temperature falls below 38°F.

Low Priority

- Thermostats on the first floor are installed near doors that open to the exterior. IES recommends that thermostats should be placed on a wall that isn't exposed to the outside environment.
- AHU-4 outside air damper was reported to be clogged. A maintenance plan and schedule should be created if not I place already. Otherwise, equipment maintenance and upkeep should be spot checked to confirm that the tasks were completed.
- AHU-4 dampers were overridden. We were unable to confirm if these overrides were made at the request of the building owner or tenants. The overrides were removed by the controls technician, but moving forward, any overrides placed in the BAS should have owner approval and the owner and tenants should be notified when they are in place. A separate change log should be created to track these changes.
- AHU-4 supply fan speed may be too high. Unit heating capability improved when mechanical technician decreased fan speed. This issue can be addressed during TAB work in building.
- There is no status available for the boiler pumps at the BAS. Per the controls technician, the wiring for this point is damaged. Unable to confirm damaged wire during testing.
- Equipment setpoints were missing throughout the BAS. This will be corrected when building controls are updated.
- Manual dampers on the first floor were found closed. It is unknown why they were closed, but they were reopened by a maintenance technician.
- Outside air temperature point was not available to the perimeter radiant heaters. Controls technician fixed this issue during testing.

D. Conclusion

Integrity Energy Services thanks the University of Washington for the opportunity to recommission the systems located in the 4545 building. During the recommissioning process, IES discovered several issues ranging in severity that are having an adverse effect on the efficiency and performance of building systems. We look forward to working hand in hand with the University of Washington in developing a comprehensive plan to address and resolve the issues listed in this report.

UNIVERSITY of WASHINGTON

ADA Barrier Removal Implementation Plan

for the

University of Washington – Seattle Campus

September 2021

TABLE OF CONTENTS

PROJECT GOALS **3**

PROJECT IDENTIFICATION **4**

APPROACH & METHODOLOGY **6**

DESIGN ELEMENTS & REFERENCE DOCUMENTS **7**

BARRIER REMOVAL PROJECT CONCEPTS **12**

BENTON LANE SHARED USE ROADWAY 13

MASON ROAD PATHWAY REPLACEMENT 16

STEVENS WAY CURB RAMP IMPROVEMENTS 19

MEMORIAL WAY NE 23

SKAGIT AND KING LANES SHARED USE ROADWAY 29

SPOKANE LANE NE SHARED USE ROADWAY 32

WHITMAN COURT NE PATHWAY REPLACEMENT 35

PARRINGTON LAWN PATHWAY REPLACEMENT 40

DENNY YARD PATHWAY REPLACEMENT 43

RAINIER VISTA NORTH PATHWAY REPLACEMENT 50

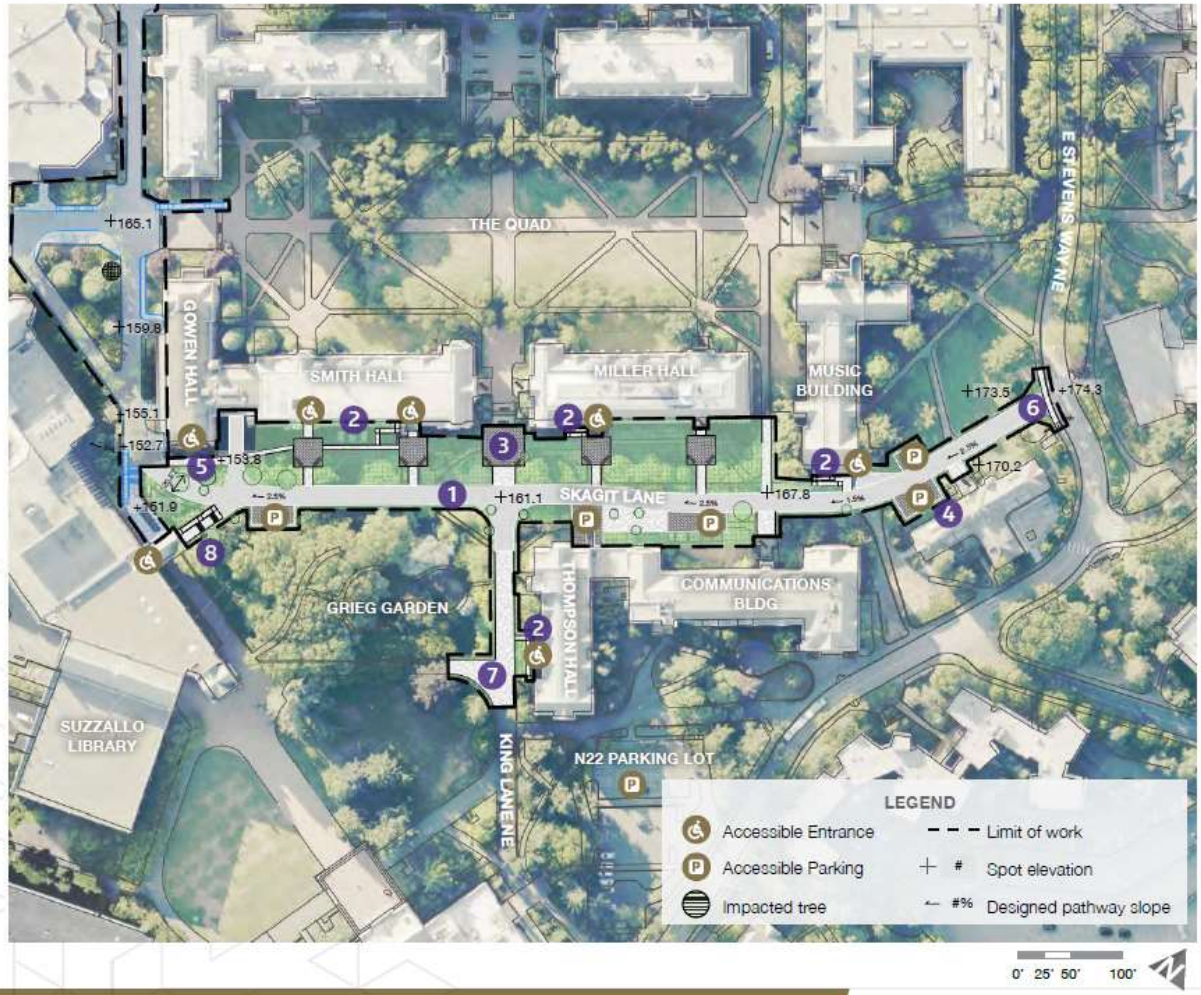
SCIENCE QUAD PATHWAY REPLACEMENT 53

RAINIER VISTA SOUTH PATHWAY REPLACEMENT 57

BARRIER REMOVAL PROJECT CONCEPTS

SKAGIT AND KING LANES SHARED USE ROADWAY

UNIVERSITY of WASHINGTON



Project Description

This project is intended to reconstruct Skagit Lane and portions of King Lane to improve accessibility between the new N22 parking lot, major campus buildings, and campus housing. The project is intended to reconstruct the existing paths and roadway into a single shared space with improved access to accessible building entrances and better delineation of vehicle and bike parking. Project intends to provide accessible connections between Stevens Way NE and multiple campus buildings as well as accessible parking in the N22 lot, in addition to connecting to improvements at Spokane Lane and Whitman Court, eventually providing accessible access from campus housing into the center of campus.

Scope

1. Reconstruct Skagit Lane NE into shared use pathway using Vehicle Surfacing, Type 1 to provide ADA compliant slopes while maintaining access for emergency vehicles, maintenance vehicles, and passenger vehicles. Provide lighting along corridor using Historical Fixture.
2. Correct barriers to accessibility to building entrances by reconstructing wheelchair ramps to accessible entrances including Smith Hall, Miller Hall, Thomson Hall, and the Music Building to remove ADA barriers.
3. Opportunity for communal gathering spaces with seating and lighting improvements at Smith Hall and Miller Hall. Use Pedestrian Surfacing, Type 1, and Historical Lighting.
4. Provide parking for ADA stalls at all lots and maintenance vehicles using Vehicle Surfacing, Type 2.
5. Construct vehicle and pedestrian access to Spokane Lane. Coordinate tree protection, removal and replacement with UW Urban Forest Specialist (arborist).
6. Improve entrance to Skagit Lane NE by providing a rolled-curb access that discourages vehicle use while maintaining access for emergency and other vehicles.
7. Reconstruct King Lane NE to remove non-compliant ADA slopes and hazards using Pedestrian Surfacing, Type 1.
8. Construct staircase and wheelchair ramp to connect Skagit Lane to Suzzallo Library.

Estimated Budget in 2021 – $4,053,000

SKAGIT AND KING LANES

SHARED USE ROADWAY

Site Area (SF).....92,236
Ex Hardscape (SF).....55,025
Ex Softscape (SF).....37,211
New Hardscape (SF).....47,345
New Softscape (SF) 42,842

Cost Estimate 2021

ASSUMPTIONS

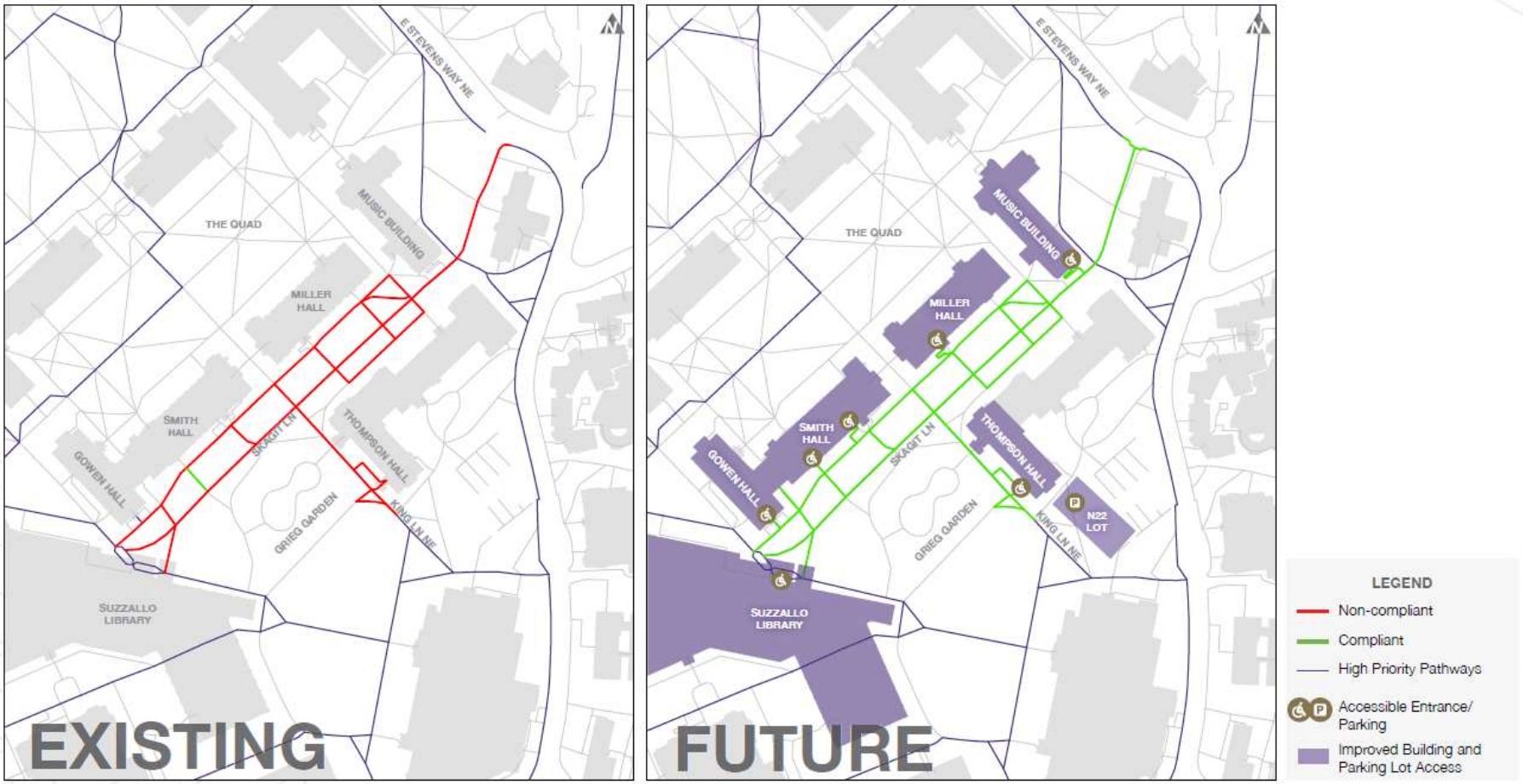
1. The following costs are not included in this estimate: pavement rehabilitation, construction inspection, or environmental abatement.
2. Unit costs include a planning level estimate of material, labor, and equipment costs.

DESCRIPTION	QTY	UNIT	COST	TOTAL
TESC	1	LS	$10,000	$10,000
Surveying	1	LS	$10,000	$10,000
Demolition - hardscape	1,019	CY	$65	$66,234
Clearing & grubbing - softscape	459	CY	$45	$20,673
Earthwork - Import / Export	3,416	CY	$35	$119,565
Storm Drain Allowance	1	LS	$50,000	$50,000
Misc. Utilities Allowance	1	LS	$30,000	$30,000
Lighting / Power	14	Each	$10,000	$140,000
Wheelchair ramp with handrails	10	Each	$10,000	$100,000
Staircase with handrails	4	Each	$10,000	$40,000
Hardscape (concrete w/sandblast or exposed agg. finish)	47,345	SF	$20	$946,900
Softscape (planting, irrigation, etc.)	42,842	SF	$12	$514,104
Retaining Wall	1	LS	$75,000	$75,000
Site Furnishings (benches, tables, bike racks, etc)	1	LS	$25,000	$25,000
Misc / Specialty Item	1	LS	$5,000	$5,000
			Sub Total	*$2,153,000*
Contingency (campus engineering, campus in-plant services advertising) @ 30%				$646,000
Design (15% of Sub Total[1])				$323,000
Mobilization (10% of Sub Total[1])				$216,000
Project temporary traffic and pedestrian control (12% of Sub Total[1])				$259,000
UW Project Management (PM Fee, 4% and CM Fee, 2% of Sub Total[1])				$130,000
Construction Permit (5% of Sub Total[1])				$108,000
Sales Tax (10.1% of Sub Total[1])				$218,000
			TOTAL PROJECT ESTIMATE	**$4,053,000**

1. Estimates for construction costs are based on the best information available at this time and will require adjustments as more detailed information becomes available. This estimate should be used for planning purposes only.

SKAGIT AND KING LANES SHARED USE ROADWAY

UNIVERSITY of WASHINGTON



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OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/9/2024 10:00AM

Project Number: 40000160
Project Title: UW Tacoma - Campus Power Repairs (Phase 3)
Project Class: Preservation

Description

Starting Fiscal Year: 2026
Agency Priority: 3

Project Summary

The University of Washington requests $3.9 million of funding appropriations from the State 057 Building Construction Account for design and construction of the UW Tacoma - Campus Power Repairs - Phase 3. The final funding makeup for the project, which could include other sources, is still under discussion and this approach/information has been shared with OFM Staff.

Project Description

1. Identify the problem or opportunity addressed. Why is the request a priority? This narrative should identify unserved/underserved people or communities, operating budget savings, public safety improvements or other backup necessary to understand the need for the request. For preservation projects, it is helpful to include information about the current condition of the facility or system.

On July 6, 2024, a car accident destroyed the main power switch that feeds eighteen buildings on the University of Washington Tacoma (UWT) campus. The incident exposed critical vulnerabilities in the existing campus power system. The UW President declared a State of Emergency on July 9, 2024, to facilitate replacement of campus electrical equipment and infrastructure. These repairs were critical to public health, safety and the day-to-day operations of the campus and adjacent community. The University was fortunate to receive $1M in Emergency Funding from the State to help offset a portion of the costs incurred to restore temporary power to campus.

UWT utilized reserves to help fund Phase 1 of the repair effort, which included bringing in generators to stand power back up on campus and Phase 2, that returned the campus to the electrical grid through the use of a temporary electrical switch leased from Tacoma Public Utilities (TPU). This request is for Phase 3 which includes the design of a Four Bay - S&C Electric Company medium voltage switch lineup to replace the failed main switch at the UWT campus. This phase will enable UWT to move back to a permanent solution and return the leased equipment to TPU. The solution will also include design and construction of a new duct bank to provide a pathway to the new switch gear and a pathway back to Main Vault 1 to connect the new equipment with the existing campus infrastructure.

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

The request will support the design, procurement and installation of the new switchgear destroyed in July 2024. Lead time for the switch gear is 16-18 months once ordered. Phase 3 is estimated to cost $3.9M.

TASK	*Date Range*
Planning	*July 2025 – August 2025*
Design	*September 2025 – March2026*
Construction	*April2026 – November 2027*
Closeout	*December 2027 – June 2028*

A C-100 form is attached.

3. How would the request address the problem or opportunity identified in question 1?What would be the result of not acting?

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/9/2024 10:00AM

Project Number: 40000160
Project Title: UW Tacoma - Campus Power Repairs (Phase 3)
Project Class: Preservation

Description

UWT is currently powered utilizing a leased switch from TPU. The lease has been established for twelve months and will need to be extended to accommodate the long lead times for the new switchgear. If the project is not funded and if TPU does not extend the lease, UWT would be forced back onto truck mounted generators that would cost approximately $1.3M in monthly rental fees. The rental fees include maintenance of the generators, fuel, security, and fencing.

4. What alternatives were explored? Why was the recommended alternative chosen? Be prepared to provide detailed cost backup. If this project has an associated predesign, please summarize the alternatives the predesign considered.

No alternatives were considered. The only option is to procure and install replacement switchgear to power the campus.

5. Which clientele would be impacted by the budget request? Where and how many units would be added, people or communities served, etc.

All faculty, staff, students, and small businesses that lease retail space are impacted by this request.

6. Does this project or program leverage non-state funding? If yes, how much by source? If the other funding source requires cost share, also include the minimum state(or other) share of project cost allowable and the supporting citation or documentation.

Sources for funding the project are still under discussion.

7. Describe how this project supports the agency's strategic master plan or would improve agency performance. Reference feasibility studies, master plans, space programming and other analyses as appropriate.

UWT is currently in process of updating the campus master plan. This project restores UWT to permanent power, and additionally sets up the campus for a future loop that will provide redundancy to the campus.

8. Does this decision package include funding for any Information Technology related costs including hardware, software (to include cloud-based services), contracts or staff? If the answer is yes, you will be prompted to attach a complete IT addendum. (See Chapter 10 of the operating budget instructions for additional requirements.)

Not applicable

9. If the project is linked to the Puget Sound Action Agenda, describe the impacts on the Action Agenda, including expenditure and FTE detail. See Chapter 14 (Puget Sound Recovery and Governor's Salmon Strategy) in the 2025-27 Operating Budget Instructions.

Not applicable

10. How does this project contribute to meeting the greenhouse gas emissions limits established in RCW 70A.45.050,clean buildings performance standards in RCW 19.27A.210, or other statewide goals to reduce carbon pollution and/or improve energy efficiency? Please elaborate. For buildings subject to the clean buildings performance standards, describe your compliance pathway for the building, and include information about energy audits, metering, and energy benchmarking.

This project does not directly contribute to meeting greenhouse gas emissions but will allow the continued switch from natural gas fired equipment across campus by providing the electrical capacity for future decarbonization efforts.

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/9/2024 10:00AM

Project Number: 40000160
Project Title: UW Tacoma - Campus Power Repairs (Phase 3)
Project Class: Preservation

Description

11. How is your proposal impacting equity in the state? Which communities are impacted by this proposal? Include both demographic and geographic communities. How are disparities in communities impacted?

Tacoma's Hilltop neighborhood is located just west of campus and is historically racially diverse and typically underserved. Campus administration is actively working to embrace the community and is looking for opportunities to bring services to campus to help serve this community, as well as surrounding neighborhoods.

12. Is this project eligible for Direct Pay? If the answer is yes, you must include this project to the list of direct pay projects and information for submittal (see Chapter 1.7 of the capital budget instructions for additional instructions).

This project is not eligible for Direct Pay.

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

This project is critical to maintaining campus and surrounding retail partner operations at the UW Tacoma Campus.

14. Reappropriation: if the project was originally funded prior to the 2021-23 biennium, describe the project and each subproject, including the original appropriation year, status of the project and an explanation why a reappropriation is needed.

Not applicable

15. If the project is linked to the Governor's Salmon Strategy provide an explanation of how the budget request relates to a salmon strategy action, is urgent in the coming biennium to advance salmon recovery, is aligned with a federally approved salmon recovery plan, and/or advances a known tribal priority.

Not applicable

16. In the agency summary, include the statement, "Related to implementing the Governor's Salmon Strategy." See Chapter 14 in the 2025-27 operating budget instructions for more information.(Note: This question is not in CBS but does need a response if applicable).

Not applicable

Location
City: Tacoma **County:** Pierce **Legislative District:** 027

Project Type
Infrastructure (Major Projects)

Growth Management impacts
Not applicable

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Current Biennium	2025-27 Fiscal Period Reapprops	2025-27 Fiscal Period New Approps
057-1	State Bldg Constr-State	3,900,000				3,900,000

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
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Project Number: 40000160
Project Title: UW Tacoma - Campus Power Repairs (Phase 3)
Project Class: Preservation

Funding

	Total	**3,900,000**	**0**	**0**	**0**	**3,900,000**

		Future Fiscal Periods			
		2027-29	**2029-31**	**2031-33**	**2033-35**
057-1	State Bldg Constr-State				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

No Operating Impact

Narrative

This project replaces existing infrastructure and no addition M&O is required.

OFM

Capital Project Request

2025-27 Biennium

*

Parameter	Entered As	Interpreted As
Biennium	2025-27	2025-27
Agency	360	360
Version	02-A	02-A
Project Classification	*	All Project Classifications
Capital Project Number	40000160	40000160
Sort Order	Project Class	Project Class
Include Page Numbers	N	No
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 2024

Agency	University of Washington	
Project Name	UW Tacoma - Campus Power Repairs (Phase 3)	
OFM Project Number	40000160	

Contact Information		
Name	John Wetzel	
Phone Number	206-616-5924	
Email	wetzej@uw.edu	

Statistics			
Gross Square Feet		MACC per Gross Square Foot	
Usable Square Feet		Escalated MACC per Gross Square Foot	
Alt Gross Unit of Measure			
Space Efficiency		A/E Fee Class	B
Construction Type	Other Sch. B Projects	A/E Fee Percentage	12.90%
Remodel	Yes	Projected Life of Asset (Years)	
Additional Project Details			
Procurement Approach	DBB	Art Requirement Applies	No
Inflation Rate	3.33%	Higher Ed Institution	Yes
Sales Tax Rate %	10.30%	Location Used for Tax Rate	Tacoma
Contingency Rate	10%		
Base Month (Estimate Date)	August-24	OFM UFI# (from FPMT, if available)	
Project Administered By	Agency		

Schedule			
Predesign Start	July-25	Predesign End	August-25
Design Start	September-25	Design End	March-26
Construction Start	April-26	Construction End	November-27
Construction Duration	19 Months		

Green cells must be filled in by user

Project Cost Summary

Total Project	$3,687,956	Total Project Escalated	$3,900,409
		Rounded Escalated Total	$3,900,000

Amount funded in Prior Biennia	**$0**
Amount in current Biennium	**$3,900,000**
Next Biennium	**$0**
Out Years	**$0**

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

Consultant Services			
Predesign Services	$0		
Design Phase Services	$220,691		
Extra Services	$140,000		
Other Services	$99,151		
Design Services Contingency	$45,984		
Consultant Services Subtotal	**$505,827**	**Consultant Services Subtotal Escalated**	**$533,101**

Construction			
Maximum Allowable Construction Cost (MACC)	$2,254,000	Maximum Allowable Construction Cost (MACC) Escalated	$2,375,942
DBB Risk Contingencies	$0		
DBB Management	$0		
Owner Construction Contingency	$225,400		$243,838
Non-Taxable Items	$0		$0
Sales Tax	$255,378	Sales Tax Escalated	$269,837
Construction Subtotal	**$2,734,778**	**Construction Subtotal Escalated**	**$2,889,617**

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	$221,560		
DES Additional Services Subtotal	$0		
Other Project Admin Costs	$0		
Project Administration Subtotal	**$221,560**	**Project Administration Subtotal Escalated**	**$239,684**

Other Costs			
Other Costs Subtotal	**$225,791**	**Other Costs Subtotal Escalated**	**$238,007**

Project Cost Estimate			
Total Project	**$3,687,956**	Total Project Escalated	**$3,900,409**
		Rounded Escalated Total	**$3,900,000**

Funding Summary

	Project Cost (Escalated)	Funded in Prior Biennia	Current Biennium 2025-2027	2027-2029	Out Years
Acquisition					
Acquisition Subtotal	$0		$0		**$0**
Consultant Services					
Consultant Services Subtotal	$533,101		$533,101		**$0**
Construction					
Construction Subtotal	$2,889,617		$2,889,617		**$0**
Equipment					
Equipment Subtotal	$0		$0		**$0**
Artwork					
Artwork Subtotal	$0		$0		**$0**
Agency Project Administration					
Project Administration Subtotal	$239,684		$239,684		**$0**
Other Costs					
Other Costs Subtotal	$238,007		$238,007		**$0**
Project Cost Estimate					
Total Project	**$3,900,409**	**$0**	**$3,900,409**	**$0**	**$0**
	$3,900,000	**$0**	**$3,900,000**	**$0**	**$0**
Percentage requested as a new appropriation			**100%**		

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

What has been completed or is underway with a previous appropriation?
Not applicable
Insert Row Here

What is planned with a future appropriation?
No future appropriation are expected
Insert Row Here

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**	**1.0342**	**$0**	Escalated to Design Start
2) Construction Documents				
A/E Basic Design Services	$220,691			69% of A/E Basic Services
Other				
Insert Row Here				
Sub TOTAL	**$220,691**	**1.0427**	**$230,115**	Escalated to Mid-Design
3) Extra Services				
Civil Design (Above Basic Svcs)	$50,000			
Geotechnical Investigation	$30,000			
Commissioning	$40,000			
Site Survey				
Testing	$10,000			
LEED Services				
Voice/Data Consultant				
Value Engineering				
Constructability Review				
Environmental Mitigation (EIS)				
Landscape Consultant				
Haz Mat Consultant	$10,000			
Insert Row Here				
Sub TOTAL	**$140,000**	**1.0427**	**$145,978**	Escalated to Mid-Design
4) Other Services				
Bid/Construction/Closeout	$99,151			31% of A/E Basic Services
HVAC Balancing				
Staffing				
Insert Row Here				
Sub TOTAL	**$99,151**	**1.0818**	**$107,262**	Escalated to Mid-Const.
5) Design Services Contingency				
Design Services Contingency	$45,984			
Other				
Insert Row Here				
Sub TOTAL	**$45,984**	**1.0818**	**$49,746**	Escalated to Mid-Const.

CONSULTANT SERVICES TOTAL	**$505,827**		**$533,101**	

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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	$1,754,000			
G60 - Other Site Construction				
New Duct Bank	$500,000			
Insert Row Here				
Sub TOTAL	**$2,254,000**	**1.0541**	**$2,375,942**	
2) Related Project Costs				
Offsite Improvements				
City Utilities Relocation				
Parking Mitigation				
Stormwater Retention/Detention				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.0541**	**$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				
Other Direct Cost				
Insert Row Here				
Sub TOTAL	**$0**	**1.0818**	**$0**	
4) Maximum Allowable Construction Cost				
MACC Sub TOTAL	**$2,254,000**		**$2,375,942**	
	NA		*NA per 0*	

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7) Owner Construction Contingency				
Allowance for Change Orders	$225,400			
Other				
Insert Row Here				
Sub TOTAL	**$225,400**	**1.0818**	**$243,838**	
8) Non-Taxable Items				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.0818**	**$0**	
9) Sales Tax				
Sub TOTAL	**$255,378**		**$269,837**	
CONSTRUCTION CONTRACTS TOTAL	**$2,734,778**		**$2,889,617**	

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Cost Estimate Details

Equipment					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Equipment					
E10 - Equipment					
E20 - Furnishings					
F10 - Special Construction					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.0818**	**$0**	
2) Non Taxable Items					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.0818**	**$0**	
3) Sales Tax					
Sub TOTAL	**$0**			**$0**	
EQUIPMENT TOTAL	**$0**			**$0**	

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Cost Estimate Details

Artwork					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Artwork					
Project Artwork	$0				0.5% of total project cost for new construction
Higher Ed Artwork	$19,502				0.5% of total project cost for new and renewal construction
Other	-$19,502				
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**
1) Agency Project Management					
Agency Project Management	$221,560				
Additional Services					
Other					
Insert Row Here					
Subtotal of Other	*$0*				
PROJECT MANAGEMENT TOTAL	**$221,560**		**1.0818**	**$239,684**	

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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					
Advertising	$500				
EH&S Support	$25,000				
Security/Traffic Control	$135,000				
Engineering Services	$25,000				
Facilities Shops Support	$20,000				
Building Permit	$18,680				
Builder's Risk Insurance	$1,611				
OTHER COSTS TOTAL	**$225,791**		**1.0541**	**$238,007**	

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OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:41AM

Project Number: 40000161
Project Title: UW Bothell - Asset Preservation (Minor Works) 25-27 Group 1

Description

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $4.53 million of funding appropriations from the UW 064 Building Account to support Minor Works (projects valued at $2M or less) on the Bothell Campus. Once the capital budget is enacted, the final Minor Works project lists will be provided to OFM for review and approval, and to the House Capital Budget and Senate Ways and Means committees for review and comment.

Project Description

Miscellaneous repair and renewal projects for the Bothell Campus such as (but not limited to): code and safety projects, electrical, exteriors, infrastructure, interiors, mechanical, site work and utilities. These projects support ongoing campus preservation and renewal efforts to provide the facilities required to meet the needs of increasing student enrollment, programs and an enhanced student experience.

Location

City: Bothell **County:** King **Legislative District:** 001

Project Type

Infrastructure Preservation (Minor Works)

Growth Management impacts

Not applicable

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Current Biennium	2025-27 Fiscal Period Reapprops	New Approps
064-1	UW Building Account-State	4,530,000				4,530,000
	Total	**4,530,000**	**0**	**0**	**0**	**4,530,000**

Acct Code	Account Title	Future Fiscal Periods 2027-29	2029-31	2031-33	2033-35
064-1	UW Building Account-State				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

No Operating Impact

SubProjects

SubProject Number: 40000187
SubProject Title: Interior Improvements

Project Number: **40000161**
Project Title: **UW Bothell - Asset Preservation (Minor Works) 25-27 Group 1**

SubProjects

SubProject Number: **40000187**
SubProject Title: **Interior Improvements**

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $1.134 million of funding appropriations from the UW 064 Building Account to support miscellaneous building repair and renewal projects such as (but not limited to): interior doors, space improvements/modifications, flooring and wall repair/painting.

Project Description

Miscellaneous building repair and renewal projects such as (but not limited to): interior doors, space improvements/modifications, flooring and wall repair/painting.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $454 thousand of funding appropriations from the UW 064 Building Account to support miscellaneous building structure and envelope projects such as (but not limited to): cladding cleaning/repairs, foundations, masonry, painting, seismic improvements, structural flooring, exterior entries, windows, and wood refinishing.

Project Description

Miscellaneous building structure and envelope projects such as (but not limited to): cladding cleaning/repairs, foundations, masonry, painting, seismic improvements, structural flooring, exterior entries, windows, and wood refinishing.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $454 thousand of funding appropriations from the UW 064 Building Account to support miscellaneous code and safety issue projects such as (but not limited to): ADA compliance, access control systems, fire alarm/sprinkler systems, safe access, security, and slip/trip/fall hazards.

Project Description

Miscellaneous code and safety issue projects such as (but not limited to): ADA compliance, access control systems, fire alarm/sprinkler systems, safe access, security, and slip/trip/fall hazards.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $1.354 million of funding appropriations from the UW 064 Building Account to support miscellaneous campus infrastructure projects.

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:41AM

Project Number: **40000161**
Project Title: **UW Bothell - Asset Preservation (Minor Works) 25-27 Group 1**

SubProjects

SubProject Number: **40000190**
SubProject Title: **Infrastructure**

Project Description

Miscellaneous campus infrastructure projects.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $1.134 million of funding appropriations from the UW 064 Building Account to support miscellaneous site work projects such as (but not limited to): pathway/roadway paving, emergency site utilities, irrigation, landscaping, and metering and controls.

Project Description

Miscellaneous site work projects such as (but not limited to): pathway/roadway paving, emergency site utilities, irrigation, landscaping, and metering and controls.

Location

City: Bothell	**County:** King	**Legislative District:** 001
City: Bothell	**County:** King	**Legislative District:** 001
City: Bothell	**County:** King	**Legislative District:** 001
City: Bothell	**County:** King	**Legislative District:** 001
City: Bothell	**County:** King	**Legislative District:** 001

Project Type

Facility Preservation (Minor Works)
Health, Safety and Code Requirements (Minor Works)
Infrastructure Preservation (Minor Works)
Infrastructure Preservation (Minor Works)
Infrastructure Preservation (Minor Works)

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:41AM

Project Number: 40000161
Project Title: UW Bothell - Asset Preservation (Minor Works) 25-27 Group 1

SubProjects

SubProject Number: 40000187
SubProject Title: Interior Improvements

Growth Management impacts
Not applicable

Growth Management impacts
Not applicable

Growth Management impacts
Not applicable

Growth Management impacts
Not applicable

Growth Management impacts
Not applicable

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Expenditures Current Biennium	2025-27 Fiscal Period Reapprops	2025-27 Fiscal Period New Approps
064-1	UW Building Account-State	1,134,000				1,134,000
064-1	UW Building Account-State	454,000				454,000
064-1	UW Building Account-State	454,000				454,000
064-1	UW Building Account-State	1,354,000				1,354,000
064-1	UW Building Account-State	1,134,000				1,134,000
	Total	**4,530,000**	**0**	**0**	**0**	**4,530,000**

Acct Code	Account Title	Future Fiscal Periods 2027-29	2029-31	2031-33	2033-35
064-1	UW Building Account-State				
064-1	UW Building Account-State				
064-1	UW Building Account-State				
064-1	UW Building Account-State				
064-1	UW Building Account-State				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:41AM

Project Number: 40000161
Project Title: UW Bothell - Asset Preservation (Minor Works) 25-27 Group 1

SubProjects

SubProject Number: 40000187
SubProject Title: Interior Improvements

No Operating Impact

No Operating Impact

No Operating Impact

No Operating Impact

No Operating Impact

OFM

Capital Project Request

2025-27 Biennium

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Parameter	Entered As	Interpreted As
Biennium	2025-27	2025-27
Agency	360	360
Version	02-A	02-A
Project Classification	*	All Project Classifications
Capital Project Number	40000161	40000161
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

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:42AM

Project Number: 40000162
Project Title: UW Bothell - Asset Preservation (Minor Works) 25-27 Group 2

Description

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $2.04 million of funding appropriations from the UW 064 Building Account to support Minor Works (projects valued at $2M or less) on the Bothell Campus. Once the capital budget is enacted, the final Minor Works project lists will be provided to OFM for review and approval, and to the House Capital Budget and Senate Ways and Means committees for review and comment.

Project Description

Miscellaneous repair and renewal projects for the Bothell Campus such as (but not limited to): code and safety projects, electrical, exteriors, infrastructure, interiors, mechanical, site work and utilities. These projects support ongoing campus preservation and renewal efforts to provide the facilities required to meet the needs of increasing student enrollment, programs and an enhanced student experience.

Location

City: Bothell **County:** King **Legislative District:** 001

Project Type

Infrastructure Preservation (Minor Works)

Growth Management impacts

Not applicable

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Current Biennium	2025-27 Fiscal Period Reapprops	New Approps
064-1	UW Building Account-State	2,040,000				2,040,000
	Total	**2,040,000**	**0**	**0**	**0**	**2,040,000**

Acct Code	Account Title	Future Fiscal Periods 2027-29	2029-31	2031-33	2033-35
064-1	UW Building Account-State				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

No Operating Impact

SubProjects

SubProject Number: 40000192
SubProject Title: Interior Improvements

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:42AM

Project Number: **40000162**
Project Title: **UW Bothell - Asset Preservation (Minor Works) 25-27 Group 2**

SubProjects

SubProject Number: **40000192**
SubProject Title: **Interior Improvements**

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $511 thousand of funding appropriations from the UW 064 Building Account to support miscellaneous building repair and renewal projects such as (but not limited to): interior doors, space improvements/modifications, flooring and wall repair/painting.

Project Description

Miscellaneous building repair and renewal projects such as (but not limited to): interior doors, space improvements/modifications, flooring and wall repair/painting.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $204 thousand of funding appropriations from the UW 064 Building Account to support miscellaneous building structure and envelope projects such as (but not limited to): cladding cleaning/repairs, foundations, masonry, painting, seismic improvements, structural flooring, exterior entries, windows, and wood refinishing.

Project Description

Miscellaneous building structure and envelope projects such as (but not limited to): cladding cleaning/repairs, foundations, masonry, painting, seismic improvements, structural flooring, exterior entries, windows, and wood refinishing.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $204 thousand of funding appropriations from the UW 064 Building Account to support miscellaneous code and safety issue projects such as (but not limited to): ADA compliance, access control systems, fire alarm/sprinkler systems, safe access, security, and slip/trip/fall hazards.

Project Description

Miscellaneous code and safety issue projects such as (but not limited to): ADA compliance, access control systems, fire alarm/sprinkler systems, safe access, security, and slip/trip/fall hazards.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $610 thousand of funding appropriations from the UW 064 Building Account to support miscellaneous campus infrastructure projects.

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:42AM

Project Number: **40000162**
Project Title: **UW Bothell - Asset Preservation (Minor Works) 25-27 Group 2**

SubProjects

SubProject Number: **40000195**
SubProject Title: **Infrastructure**

Project Description

Miscellaneous campus infrastructure projects.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $511 thousand of funding appropriations from the UW 064 Building Account to support miscellaneous site work projects such as (but not limited to): pathway/roadway paving, emergency site utilities, irrigation, landscaping, and metering and controls.

Project Description

Miscellaneous site work projects such as (but not limited to): pathway/roadway paving, emergency site utilities, irrigation, landscaping, and metering and controls.

Location

City: Bothell	**County:** King	**Legislative District:** 001
City: Bothell	**County:** King	**Legislative District:** 001
City: Bothell	**County:** King	**Legislative District:** 001
City: Bothell	**County:** King	**Legislative District:** 001
City: Bothell	**County:** King	**Legislative District:** 001

Project Type

Facility Preservation (Minor Works)
Facility Preservation (Minor Works)
Health, Safety and Code Requirements (Minor Works)
Infrastructure Preservation (Minor Works)
Infrastructure Preservation (Minor Works)

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360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:42AM

Project Number: 40000162
Project Title: UW Bothell - Asset Preservation (Minor Works) 25-27 Group 2

SubProjects

SubProject Number: 40000192
SubProject Title: Interior Improvements

Growth Management impacts
Not applicable

Growth Management impacts
Not applicable

Growth Management impacts
Not applicable

Growth Management impacts
Not applicable

Growth Management impacts
Not applicable

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Expenditures Current Biennium	2025-27 Fiscal Period Reapprops	2025-27 Fiscal Period New Approps
064-1	UW Building Account-State	511,000				511,000
064-1	UW Building Account-State	204,000				204,000
064-1	UW Building Account-State	204,000				204,000
064-1	UW Building Account-State	610,000				610,000
064-1	UW Building Account-State	511,000				511,000
	Total	**2,040,000**	**0**	**0**	**0**	**2,040,000**

Acct Code	Account Title	Future Fiscal Periods 2027-29	2029-31	2031-33	2033-35
064-1	UW Building Account-State				
064-1	UW Building Account-State				
064-1	UW Building Account-State				
064-1	UW Building Account-State				
064-1	UW Building Account-State				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:42AM

Project Number: **40000162**
Project Title: **UW Bothell - Asset Preservation (Minor Works) 25-27 Group 2**

SubProjects

SubProject Number: **40000192**
SubProject Title: **Interior Improvements**

No Operating Impact

No Operating Impact

No Operating Impact

No Operating Impact

No Operating Impact

OFM

Capital Project Request

2025-27 Biennium

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Parameter	Entered As	Interpreted As
Biennium	2025-27	2025-27
Agency	360	360
Version	02-A	02-A
Project Classification	*	All Project Classifications
Capital Project Number	40000162	40000162
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

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:42AM

Project Number: 40000163
Project Title: UW Seattle - Asset Preservation (Minor Works) 25-27

Description

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $22.08 million of funding appropriations from the UW 064 Building Account to support Minor Works (projects valued at $2M or less) on the Seattle Campus. Once the capital budget is enacted, the final Minor Works project lists will be provided to OFM for review and approval, and to the House Capital Budget and Senate Ways and Means committees for review and comment.

Project Description

Miscellaneous repair and renewal projects for the Seattle Campus such as (but not limited to): code and safety projects, electrical, exteriors, infrastructure, interiors, mechanical, site work and utilities. These projects support ongoing campus preservation and renewal efforts to provide the facilities required to meet the needs of increasing student enrollment, programs and an enhanced student experience.

Location

City: Seattle **County:** King **Legislative District:** 043

Project Type

Facility Preservation (Minor Works)

Growth Management impacts

Not applicable

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Current Biennium	2025-27 Fiscal Period Reapprops	2025-27 Fiscal Period New Approps
064-1	UW Building Account-State	22,080,000				22,080,000
	Total	**22,080,000**	**0**	**0**	**0**	**22,080,000**

Acct Code	Account Title	Future Fiscal Periods 2027-29	2029-31	2031-33	2033-35
064-1	UW Building Account-State				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

No Operating Impact

SubProjects

SubProject Number: 40000166
SubProject Title: Accessibility 25-27

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:42AM

Project Number: **40000163**
Project Title: **UW Seattle - Asset Preservation (Minor Works) 25-27**

SubProjects

SubProject Number: **40000166**
SubProject Title: **Accessibility 25-27**

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $600 thousand of funding appropriations from the UW 064 Building Account to support miscellaneous Americans with Disabilities Act (ADA) compliance projects such as (but not limited to): door closers/operators, interior improvements/upgrades, signage, and egress improvements.

Project Description

Miscellaneous Americans with Disabilities Act (ADA) compliance projects such as (but not limited to): door closers/operators, interior improvements/upgrades, signage, and egress improvements.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $950 thousand of funding appropriations from the UW 064 Building Account to support miscellaneous campus conveyance systems projects such as (but not limited to): drive replacements, ongoing repairs, and full/partial elevator/escalator/lift refurbishments.

Project Description

Miscellaneous campus conveyance systems projects such as (but not limited to): drive replacements, ongoing repairs, and full/partial elevator/escalator/lift refurbishments.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $650 thousand of funding appropriations from the UW 064 Building Account to support miscellaneous campus electrical distribution projects such as (but not limited to): cabling/switch replacement, circuit breakers, emergency systems, generators, switch monitoring, and site transformers.

Project Description

Miscellaneous campus electrical distribution projects such as (but not limited to): cabling/switch replacement, circuit breakers, emergency systems, generators, switch monitoring, and site transformers.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $855 thousand of funding appropriations from the UW 064 Building Account to support miscellaneous campus electrical distribution projects such as (but not limited to): cabling/switch replacement, circuit breakers, emergency systems, generators, switch monitoring, and site transformers.

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:42AM

Project Number: **40000163**
Project Title: **UW Seattle - Asset Preservation (Minor Works) 25-27**

SubProjects

SubProject Number: **40000169**
SubProject Title: **Electrical (Misc.) 25-27**

Project Description

Miscellaneous campus electrical distribution projects such as (but not limited to): cabling/switch replacement, circuit breakers, emergency systems, generators, switch monitoring, and site transformers.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $1.05 million of funding appropriations from the UW 064 Building Account to support miscellaneous building structure and envelope projects such as (but not limited to): cladding cleaning/repairs, foundations, masonry, painting, seismic improvements, structural flooring, exterior entries, windows, and wood refinishing.

Project Description

Miscellaneous building structure and envelope projects such as (but not limited to): cladding cleaning/repairs, foundations, masonry, painting, seismic improvements, structural flooring, exterior entries, windows, and wood refinishing.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $1 million of funding appropriations from the UW 064 Building Account to support miscellaneous building mechanical systems projects such as (but not limited to): air handling units, chillers, controls, cooling towers, critical systems, heat pumps, metering, resource conservation, software upgrades, supply fans, and variable frequency drives.

Project Description

Miscellaneous building mechanical systems projects such as (but not limited to): air handling units, chillers, controls, cooling towers, criticalsystems, heat pumps, metering, resource conservation, software upgrades, supply fans, and variable frequency drives.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $600 thousand of funding appropriations from the UW 064 Building Account to support miscellaneous building mechanical systems projects such as (but not limited to): air handling units, chillers, controls, cooling towers, critical systems, heat pumps, metering, resource conservation, software upgrades, supply fans, and variable frequency drives.

Project Description

Miscellaneous building mechanical systems projects such as (but not limited to): air handling units, chillers, controls, cooling towers, criticalsystems, heat pumps, metering, resource conservation, software upgrades, supply fans, and variable frequency drives.

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:42AM

Project Number: **40000163**
Project Title: **UW Seattle - Asset Preservation (Minor Works) 25-27**

SubProjects

SubProject Number: **40000172**
SubProject Title: **HVAC (Misc. #1) 25-27**

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $945 thousand of funding appropriations from the UW 064 Building Account to support miscellaneous building mechanical systems projects such as (but not limited to): air handling units, chillers, cooling towers, critical systems, heat pumps, supply fans, and variable frequency drives.

Project Description

Miscellaneous building mechanical systems projects such as (but not limited to): air handling units, chillers, cooling towers, critical systems, heat pumps, supply fans, and variable frequency drives.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $1.1 million of funding appropriations from the UW 064 Building Account to support miscellaneous building repair and renewal projects in the Health Sciences Maintenance Zone such as (but not limited to): interior doors, space improvements/modifications, flooring and wall repair/painting.

Project Description

Miscellaneous building repair and renewal projects such as (but not limited to): interior doors, space improvements/modifications, flooring and wall repair/painting.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $1.35 million of funding appropriations from the UW 064 Building Account to support miscellaneous building repair and renewal projects in the Central Maintenance Zone such as (but not limited to): interior doors, space improvements/modifications, flooring and wall repair/painting.

Project Description

Miscellaneous building repair and renewal projects such as (but not limited to): interior doors, space improvements/modifications, flooring and wallrepair/painting.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $1.35 million of funding appropriations from the UW 064 Building Account to support miscellaneous building repair and renewal projects in the Northeast Maintenance Zone such as (but not limited to): interior doors, space improvements/modifications, flooring and wall repair/painting.

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:42AM

Project Number: **40000163**
Project Title: **UW Seattle - Asset Preservation (Minor Works) 25-27**

SubProjects

SubProject Number: **40000176**
SubProject Title: **Northeast Zone Interiors 25-27**

Project Description

Miscellaneous building repair and renewal projects such as (but not limited to): interior doors, space improvements/modifications, flooring and wall repair/painting.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $1.28 million of funding appropriations from the UW 064 Building Account to support miscellaneous building repair and renewal projects in the Southwest Maintenance Zone such as (but not limited to): interior doors, space improvements/modifications, flooring and wall repair/painting.

Project Description

Miscellaneous building repair and renewal projects such as (but not limited to): interior doors, space improvements/modifications, flooring and wallrepair/painting.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $800 thousand of funding appropriations from the UW 064 Building Account to support miscellaneous building plumbing systems projects such as (but not limited to): boilers, converters, drains, hot water tanks, natural gas, piping, and valves.

Project Description

Miscellaneous building plumbing systems projects such as (but not limited to): boilers, converters, drains, hot water tanks, natural gas, piping, andvalves.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $500 thousand of funding appropriations from the UW 064 Building Account to support miscellaneous building plumbing systems projects such as (but not limited to): boilers, converters, drains, hot water tanks, natural gas, piping, and valves.

Project Description

Miscellaneous building plumbing systems projects such as (but not limited to): boilers, converters, water treatment, RODI, drains, hot water tanks, natural gas, piping, and valves.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:42AM

Project Number: **40000163**
Project Title: **UW Seattle - Asset Preservation (Minor Works) 25-27**

SubProjects

SubProject Number: **40000180**
SubProject Title: **Safety 25-27**

Project Summary

The University of Washington requests $1.525 million of funding appropriations from the UW 064 Building Account to support miscellaneous code and safety issue projects such as (but not limited to): ADA compliance, access control systems, fire alarm/sprinkler systems, safe access, security, and slip/trip/fall hazards.

Project Description

Miscellaneous code and safety issue projects such as (but not limited to): ADA compliance, access control systems, fire alarm/sprinkler systems, safe access, security, and slip/trip/fall hazards.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $775 thousand of funding appropriations from the UW 064 Building Account to support miscellaneous site work projects such as (but not limited to): pathway/roadway paving, emergency site utilities, irrigation, landscaping, and metering and controls.

Project Description

Miscellaneous site work projects such as (but not limited to): pathway/roadway paving, emergency site utilities, irrigation, landscaping, and metering and controls.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $1.55 million of funding appropriations from the UW 064 Building Account to support miscellaneous campus utilities projects such as (but not limited to): chilled water distribution, compressed air, steam distribution, and tunnel system utility improvements.

Project Description

Miscellaneous campus utilities projects such as (but not limited to): chilled water distribution, compressed air, steam distribution, and tunnel system utility improvements.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $1.2 million of funding appropriations from the UW 064 Building Account to support miscellaneous Power Plant equipment replacements such as (but not limited to): boilers, chillers, cooling towers, and electrical.

Project Description

Miscellaneous Power Plant equipment replacements such as (but not limited to): boilers, chillers, cooling towers, and electrical.

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:42AM

Project Number: **40000163**
Project Title: **UW Seattle - Asset Preservation (Minor Works) 25-27**

SubProjects

SubProject Number: **40000183**
SubProject Title: **Utilities (Power Plant)**

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $1.5 million of funding appropriations from the UW 064 Building Account to support miscellaneous code and safety issue projects such as (but not limited to): fire alarm/sprinkler systems, safe access, security, and slip/trip/fall hazards.

Project Description

Miscellaneous code and safety issue projects such as (but not limited to): fire alarm/sprinkler systems, safe access, security, and slip/trip/fall hazards.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $2 million of funding appropriations from the UW 064 Building Account to fund miscellaneous information technology projects such as (but not limited to): cabling, communications, distribution frameworks, and wired/wireless networks.

Project Description

Miscellaneous information technology projects such as (but not limited to): cabling, communications, distribution frameworks, and wired/wireless networks.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $500 thousand of funding appropriations from the UW 064 Building Account to fund miscellaneous facility repair projects at several of our Field Stations (Friday Harbor Labs, Olympic Natural Resource Center, and the Center for Sustainable Forestry at Pack Forest).

Project Description

Miscellaneous facility repair projects at several of our Field Stations (Friday Harbor Labs, Olympic Natural Resource Center, and the Center for Sustainable Forestry at Pack Forest).

Location

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:42AM

Project Number: 40000163
Project Title: UW Seattle - Asset Preservation (Minor Works) 25-27

SubProjects

Location

SubProject Number: 40000166
SubProject Title: Accessibility 25-27

City: Seattle	**County:** King	**Legislative District:** 043
City: Seattle	**County:** King	**Legislative District:** 043
City: Seattle	**County:** King	**Legislative District:** 043
City: Seattle	**County:** King	**Legislative District:** 043
City: Seattle	**County:** King	**Legislative District:** 043
City: Seattle	**County:** King	**Legislative District:** 043
City: Seattle	**County:** King	**Legislative District:** 043
City: Seattle	**County:** King	**Legislative District:** 043
City: Seattle	**County:** King	**Legislative District:** 043
City: Seattle	**County:** King	**Legislative District:** 043
City: Seattle	**County:** King	**Legislative District:** 043
City: Seattle	**County:** King	**Legislative District:** 043
City: Seattle	**County:** King	**Legislative District:** 043
City: Seattle	**County:** King	**Legislative District:** 043
City: Seattle	**County:** King	**Legislative District:** 043
City: Seattle	**County:** King	**Legislative District:** 043
City: Seattle	**County:** King	**Legislative District:** 043
City: Seattle	**County:** King	**Legislative District:** 043
City: Seattle	**County:** King	**Legislative District:** 043
City: Seattle	**County:** King	**Legislative District:** 043
City: Seattle	**County:** King	**Legislative District:** 043

Project Type

Facility Preservation (Minor Works)
Facility Preservation (Minor Works)
Facility Preservation (Minor Works)
Facility Preservation (Minor Works)
Facility Preservation (Minor Works)
Facility Preservation (Minor Works)
Facility Preservation (Minor Works)
Facility Preservation (Minor Works)
Facility Preservation (Minor Works)
Facility Preservation (Minor Works)
Facility Preservation (Minor Works)
Facility Preservation (Minor Works)
Facility Preservation (Minor Works)
Health, Safety and Code Requirements (Minor Works)
Health, Safety and Code Requirements (Minor Works)
Health, Safety and Code Requirements (Minor Works)

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:42AM

Project Number: **40000163**
Project Title: **UW Seattle - Asset Preservation (Minor Works) 25-27**

SubProjects

Project Type

SubProject Number: **40000168**
SubProject Title: **Electrical (Utilities) 25-27**

Infrastructure Preservation (Minor Works)
Infrastructure Preservation (Minor Works)
Infrastructure Preservation (Minor Works)
Infrastructure Preservation (Minor Works)
Infrastructure Preservation (Minor Works)

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:42AM

Project Number: **40000163**
Project Title: **UW Seattle - Asset Preservation (Minor Works) 25-27**

SubProjects

SubProject Number: **40000166**
SubProject Title: **Accessibility 25-27**

Growth Management impacts
Not applicable

Growth Management impacts
Not applicable

Growth Management impacts
Not applicable

Growth Management impacts
Not applicable

Growth Management impacts
Not applicable

Growth Management impacts
Not applicable

Growth Management impacts
Not applicable

Growth Management impacts
Not applicable

Growth Management impacts
Not applicable

Growth Management impacts
Not applicable

Growth Management impacts
Not applicable

Growth Management impacts
Not applicable

Growth Management impacts
Not applicable

Growth Management impacts
Not applicable

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:42AM

Project Number: **40000163**
Project Title: **UW Seattle - Asset Preservation (Minor Works) 25-27**

SubProjects

SubProject Number: **40000179**
SubProject Title: **Plumbing (Campus)**

Growth Management impacts
Not applicable

Growth Management impacts
Not applicable

Growth Management impacts
Not applicable

Growth Management impacts
Not applicable

Growth Management impacts
Not applicable

Growth Management impacts
Not applicable

Growth Management impacts
Not applicable

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:42AM

Project Number: 40000163
Project Title: UW Seattle - Asset Preservation (Minor Works) 25-27

SubProjects

SubProject Number: 40000166
SubProject Title: Accessibility 25-27

Funding			Expenditures		2025-27 Fiscal Period	
Acct Code	Account Title	Estimated Total	Prior Biennium	Current Biennium	Reapprops	New Approps
064-1	UW Building Account-State	600,000				600,000
064-1	UW Building Account-State	950,000				950,000
064-1	UW Building Account-State	650,000				650,000
064-1	UW Building Account-State	855,000				855,000
064-1	UW Building Account-State	1,050,000				1,050,000
064-1	UW Building Account-State	1,000,000				1,000,000
064-1	UW Building Account-State	600,000				600,000
064-1	UW Building Account-State	945,000				945,000
064-1	UW Building Account-State	1,100,000				1,100,000
064-1	UW Building Account-State	1,350,000				1,350,000
064-1	UW Building Account-State	1,350,000				1,350,000
064-1	UW Building Account-State	1,280,000				1,280,000
064-1	UW Building Account-State	800,000				800,000
064-1	UW Building Account-State	500,000				500,000
064-1	UW Building Account-State	1,525,000				1,525,000
064-1	UW Building Account-State	775,000				775,000
064-1	UW Building Account-State	1,550,000				1,550,000
064-1	UW Building Account-State	1,200,000				1,200,000
064-1	UW Building Account-State	1,500,000				1,500,000
064-1	UW Building Account-State	2,000,000				2,000,000
064-1	UW Building Account-State	500,000				500,000
	Total	**22,080,000**	**0**	**0**	**0**	**22,080,000**

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:42AM

Project Number: 40000163
Project Title: UW Seattle - Asset Preservation (Minor Works) 25-27

SubProjects

SubProject Number: 40000166
SubProject Title: Accessibility 25-27

		Future Fiscal Periods			
		2027-29	2029-31	2031-33	2033-35
064-1	UW Building Account-State				
064-1	UW Building Account-State				
064-1	UW Building Account-State				
064-1	UW Building Account-State				
064-1	UW Building Account-State				
064-1	UW Building Account-State				
064-1	UW Building Account-State				
064-1	UW Building Account-State				
064-1	UW Building Account-State				
064-1	UW Building Account-State				
064-1	UW Building Account-State				
064-1	UW Building Account-State				
064-1	UW Building Account-State				
064-1	UW Building Account-State				
064-1	UW Building Account-State				
064-1	UW Building Account-State				
064-1	UW Building Account-State				
064-1	UW Building Account-State				
064-1	UW Building Account-State				
064-1	UW Building Account-State				
064-1	UW Building Account-State				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:42AM

Project Number: **40000163**
Project Title: **UW Seattle - Asset Preservation (Minor Works) 25-27**

SubProjects

SubProject Number: **40000166**
SubProject Title: **Accessibility 25-27**

No Operating Impact

No Operating Impact

No Operating Impact

No Operating Impact

No Operating Impact

No Operating Impact

No Operating Impact

No Operating Impact

No Operating Impact

No Operating Impact

No Operating Impact

No Operating Impact

No Operating Impact

No Operating Impact

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No Operating Impact

No Operating Impact

No Operating Impact

OFM

Capital Project Request

2025-27 Biennium

*

Parameter	Entered As	Interpreted As
Biennium	2025-27	2025-27
Agency	360	360
Version	02-A	02-A
Project Classification	*	All Project Classifications
Capital Project Number	40000163	40000163
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

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OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:43AM

Project Number: **40000164**
Project Title: **UW Tacoma - Asset Preservation (Minor Works) 25-27 Group 1**

Description

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $5.415 million of funding appropriations from the UW 064 Building Account to support Minor Works (projects valued at $2M or less) on the Tacoma Campus. Once the capital budget is enacted, the final Minor Works project lists will be provided to OFM for review and approval, and to the House Capital Budget and Senate Ways and Means committees for review and comment.

Project Description

Miscellaneous repair and renewal projects for the Tacoma Campus such as (but not limited to): code and safety projects, electrical, exteriors, infrastructure, interiors, mechanical, site work and utilities. These projects support ongoing campus preservation and renewal efforts to provide the facilities required to meet the needs of increasing student enrollment, programs and an enhanced student experience.

Location

City: Tacoma **County:** Pierce **Legislative District:** 027

Project Type

Facility Preservation (Minor Works)

Growth Management impacts

Not applicable

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Current Biennium	2025-27 Fiscal Period Reapprops	2025-27 Fiscal Period New Approps
064-1	UW Building Account-State	5,415,000				5,415,000
	Total	**5,415,000**	**0**	**0**	**0**	**5,415,000**

Acct Code	Account Title	Future Fiscal Periods 2027-29	2029-31	2031-33	2033-35
064-1	UW Building Account-State				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

No Operating Impact

SubProjects

SubProject Number: **40000197**
SubProject Title: **Exterior Improvements**

Project Number: **40000164**
Project Title: **UW Tacoma - Asset Preservation (Minor Works) 25-27 Group 1**

SubProjects

SubProject Number: **40000197**
SubProject Title: **Exterior Improvements**

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $950 thousand of funding appropriations from the UW 064 Building Account to fund miscellaneous building structure and envelope projects such as (but not limited to): cladding cleaning/repairs, foundations, masonry, painting, seismic improvements, structural flooring, windows, and wood refinishing.

Project Description

Miscellaneous building structure and envelope projects such as (but not limited to): cladding cleaning/repairs, foundations, masonry, painting, seismic improvements, structural flooring, windows, and wood refinishing.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $650 thousand of funding appropriations from the UW 064 Building Account to support miscellaneous roof repair/replacement projects.

Project Description

Miscellaneous roof repair/replacement projects.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $495 thousand of funding appropriations from the UW 064 Building Account to support miscellaneous building repair and renewal projects such as (but not limited to): interior doors, space improvements/modifications, flooring and wall repair/painting.

Project Description

Miscellaneous building repair and renewal projects such as (but not limited to): interior doors, space improvements/modifications, flooring and wall repair/painting.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $350 thousand of funding appropriations from the UW 064 Building Account to support miscellaneous code and safety issue projects such as (but not limited to): ADA compliance, access control systems, fire alarm/sprinkler systems, safe access, security, and slip/trip/fall hazards.

Project Description

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:43AM

Project Number: **40000164**
Project Title: **UW Tacoma - Asset Preservation (Minor Works) 25-27 Group 1**

SubProjects

SubProject Number: **40000200**
SubProject Title: **Code & Safety**

Miscellaneous code and safety issue projects such as (but not limited to): ADA compliance, access control systems, fire alarm/sprinkler systems, safe access, security, and slip/trip/fall hazards.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $1.47 million of funding appropriations from the UW 064 Building Account to support miscellaneous nominal campus infrastructure projects.

Project Description

Miscellaneous nominal campus infrastructure projects.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $1.5 million of funding appropriations from the UW 064 Building Account to support miscellaneous substantive campus infrastructure projects.

Project Description

Miscellaneous substantive campus infrastructure projects.

Location

City: Tacoma	**County:** Pierce	**Legislative District:** 027
City: Tacoma	**County:** Pierce	**Legislative District:** 027
City: Tacoma	**County:** Pierce	**Legislative District:** 027
City: Tacoma	**County:** Pierce	**Legislative District:** 027
City: Tacoma	**County:** Pierce	**Legislative District:** 027
City: Tacoma	**County:** Pierce	**Legislative District:** 027

Project Type

Facility Preservation (Minor Works)
Facility Preservation (Minor Works)
Facility Preservation (Minor Works)
Health, Safety and Code Requirements (Minor Works)
Infrastructure Preservation (Minor Works)
Infrastructure Preservation (Minor Works)

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:43AM

Project Number: 40000164
Project Title: UW Tacoma - Asset Preservation (Minor Works) 25-27 Group 1

SubProjects

SubProject Number: 40000197
SubProject Title: Exterior Improvements

Growth Management impacts
Not applicable

Growth Management impacts
Not applicable

Growth Management impacts
Not applicable

Growth Management impacts
Not applicable

Growth Management impacts
Not applicable

Growth Management impacts
Not applicable

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Expenditures Current Biennium	2025-27 Fiscal Period Reapprops	2025-27 Fiscal Period New Approps
064-1	UW Building Account-State	950,000				950,000
064-1	UW Building Account-State	650,000				650,000
064-1	UW Building Account-State	495,000				495,000
064-1	UW Building Account-State	350,000				350,000
064-1	UW Building Account-State	1,470,000				1,470,000
064-1	UW Building Account-State	1,500,000				1,500,000
	Total	**5,415,000**	**0**	**0**	**0**	**5,415,000**

Acct Code	Account Title	Future Fiscal Periods 2027-29	2029-31	2031-33	2033-35
064-1	UW Building Account-State				
064-1	UW Building Account-State				
064-1	UW Building Account-State				
064-1	UW Building Account-State				
064-1	UW Building Account-State				
064-1	UW Building Account-State				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:43AM

Project Number: **40000164**
Project Title: **UW Tacoma - Asset Preservation (Minor Works) 25-27 Group 1**

SubProjects

SubProject Number: **40000197**
SubProject Title: **Exterior Improvements**

No Operating Impact

No Operating Impact

No Operating Impact

No Operating Impact

No Operating Impact

No Operating Impact

Narrative
No additional M&O required.
Narrative
No additional M&O required.

OFM

Capital Project Request

2025-27 Biennium

*

Parameter	Entered As	Interpreted As
Biennium	2025-27	2025-27
Agency	360	360
Version	02-A	02-A
Project Classification	*	All Project Classifications
Capital Project Number	40000164	40000164
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

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:44AM

Project Number: **40000165**
Project Title: **UW Tacoma - Asset Preservation (Minor Works) 25-27 Group 2**

Description

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $2.435 million of funding appropriations from the UW 064 Building Account to support Minor Works (projects valued at $2M or less) on the Tacoma Campus. Once the capital budget is enacted, the final Minor Works project lists will be provided to OFM for review and approval, and to the House Capital Budget and Senate Ways and Means committees for review and comment.

Project Description

Miscellaneous repair and renewal projects for the Tacoma Campus such as (but not limited to): code and safety projects, electrical, exteriors, infrastructure, interiors, mechanical, site work and utilities. These projects support ongoing campus preservation and renewal efforts to provide the facilities required to meet the needs of increasing student enrollment, programs and an enhanced student experience.

Location

City: Tacoma **County:** Pierce **Legislative District:** 027

Project Type

Facility Preservation (Minor Works)

Growth Management impacts

Not applicable

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Current Biennium	2025-27 Fiscal Period Reapprops	New Approps
064-1	UW Building Account-State	2,435,000				2,435,000
	Total	**2,435,000**	**0**	**0**	**0**	**2,435,000**

Acct Code	Account Title	Future Fiscal Periods 2027-29	2029-31	2031-33	2033-35
064-1	UW Building Account-State				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

No Operating Impact

SubProjects

SubProject Number: **40000203**
SubProject Title: **Roof Replacements**

360 - University of Washington
Capital Project Request

2025-27 Biennium

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Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:44AM

Project Number: **40000165**
Project Title: **UW Tacoma - Asset Preservation (Minor Works) 25-27 Group 2**

SubProjects

SubProject Number: **40000203**
SubProject Title: **Roof Replacements**

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $650 thousand of funding appropriations from the UW 064 Building Account to support miscellaneous roof repair/replacement projects.

Project Description

Miscellaneous roof repair/replacement projects.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $335 thousand of funding appropriations from the UW 064 Building Account to support miscellaneous building repair and renewal projects such as (but not limited to): interior doors, space improvements/modifications, flooring and wall repair/painting.

Project Description

Miscellaneous building repair and renewal projects such as (but not limited to): interior doors, space improvements/modifications, flooring and wall repair/painting.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $750 thousand of funding appropriations from the UW 064 Building Account to support miscellaneous code and safety issue projects such as (but not limited to): ADA compliance, access control systems, fire alarm/sprinkler systems, safe access, security, and slip/trip/fall hazards.

Project Description

Miscellaneous code and safety issue projects such as (but not limited to): ADA compliance, access control systems, fire alarm/sprinkler systems, safe access, security, and slip/trip/fall hazards.

Starting Fiscal Year: 2026
Project Class: Preservation
Agency Priority: 4

Project Summary

The University of Washington requests $700 thousand of funding appropriations from the UW 064 Building Account to support miscellaneous nominal campus infrastructure projects.

Project Description

Miscellaneous nominal campus infrastructure projects.

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:44AM

Project Number: 40000165
Project Title: UW Tacoma - Asset Preservation (Minor Works) 25-27 Group 2

SubProjects

SubProject Number: 40000206
SubProject Title: Infrastructure (Nominal)

Location

City: Tacoma	**County:** Pierce	**Legislative District:** 027
City: Tacoma	**County:** Pierce	**Legislative District:** 027
City: Tacoma	**County:** Pierce	**Legislative District:** 027
City: Tacoma	**County:** Pierce	**Legislative District:** 027

Project Type

Facility Preservation (Minor Works)
Facility Preservation (Minor Works)
Health, Safety and Code Requirements (Minor Works)
Infrastructure Preservation (Minor Works)

Growth Management impacts

Not applicable

Growth Management impacts

Not applicable

Growth Management impacts

Not applicable

Growth Management impacts

Not applicable

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Current Biennium	2025-27 Fiscal Period Reapprops	New Approps
064-1	UW Building Account-State	650,000				650,000
064-1	UW Building Account-State	335,000				335,000
064-1	UW Building Account-State	750,000				750,000
064-1	UW Building Account-State	700,000				700,000
	Total	**2,435,000**	**0**	**0**	**0**	**2,435,000**

Acct Code	Account Title	Future Fiscal Periods 2027-29	2029-31	2031-33	2033-35
064-1	UW Building Account-State				
064-1	UW Building Account-State				
064-1	UW Building Account-State				
064-1	UW Building Account-State				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:44AM

Project Number: 40000165
Project Title: UW Tacoma - Asset Preservation (Minor Works) 25-27 Group 2

SubProjects

SubProject Number: 40000203
SubProject Title: Roof Replacements

No Operating Impact

No Operating Impact

No Operating Impact

No Operating Impact

OFM

Capital Project Request

2025-27 Biennium

*

Parameter	Entered As	Interpreted As
Biennium	2025-27	2025-27
Agency	360	360
Version	02-A	02-A
Project Classification	*	All Project Classifications
Capital Project Number	40000165	40000165
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

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360 - University of Washington
Capital Project Request

2025-27 Biennium

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Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 9:47AM

Project Number: 30000808
Project Title: UW Major Infrastructure
Project Class: Preservation

Description

Starting Fiscal Year: 2018
Agency Priority: 5

Project Summary

The University of Washington requests $10.3 million of funding appropriations and $238 thousand of reappropriations from the UW 064 Building Account for Phase 5 of our ongoing, multi-phase UW Major Infrastructure (Seismic Improvements) project to upgrade unreinforced masonry (URM) buildings on the Seattle Campus.

Project Description

Additional funding to continue seismic improvements of facilities on UW's Seattle Campus.

Location

City: Seattle **County:** King **Legislative District:** 043

Project Type

Remodel/Renovate/Modernize (Major Projects)

Growth Management impacts

The Growth Strategies legislation of 1990 requires state agencies to comply with local land use regulations adopted pursuant to the Growth Management Act. The University of Washington acknowledges this through the development of the Campus Master Plan, in compliance with the City of Seattle Major Institutions District Municipal Code and Comprehensive Plan goals and policies.

Funding

			Expenditures		2025-27 Fiscal Period	
Acct Code	Account Title	Estimated Total	Prior Biennium	Current Biennium	Reapprops	New Approps
057-1	State Bldg Constr-State	2,000,000	544,000	1,218,000	238,000	
064-1	UW Building Account-State	107,400,000	40,043,000	7,432,000	7,325,000	10,300,000
	Total	**109,400,000**	**40,587,000**	**8,650,000**	**7,563,000**	**10,300,000**

		Future Fiscal Periods			
		2027-29	2029-31	2031-33	2033-35
057-1	State Bldg Constr-State				
064-1	UW Building Account-State	12,300,000	11,500,000	8,100,000	10,400,000
	Total	**12,300,000**	**11,500,000**	**8,100,000**	**10,400,000**

Operating Impacts

No Operating Impact

OFM

Capital Project Request

2025-27 Biennium

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Parameter	Entered As	Interpreted As
Biennium	2025-27	2025-27
Agency	360	360
Version	02-A	02-A
Project Classification	*	All Project Classifications
Capital Project Number	30000808	30000808
Sort Order	Project Class	Project Class
Include Page Numbers	N	No
For Word or Excel	N	N
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

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Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 2:42PM

Project Number: 92000002
Project Title: UW Tacoma Campus Soil Remediation
Project Class: Preservation

Description

Starting Fiscal Year: 2013
Agency Priority: 6

Project Summary

The University of Washington requests $2 million of funding appropriations in the current biennium and an ongoing $2 million in future biennia for UW Tacoma Campus Soil Remediation. A request for the reappropriation of $3.957 million of previous funding is also included. The ability of the UW Tacoma to provide the capacity necessary to meet its mandate for higher education opportunity in the South Puget Sound Region is reliant on future capital investments including building renovations, new building partnerships, campus site improvements and real estate acquisitions.

Project Description

14. Reappropriation: if the project was originally funded prior to the 2021-23 biennium, describe the project and each subproject, including the original appropriation year, status of the project and an explanation why a reappropriation is needed.

The funding provided for this project is utilized on an as needed basis, based upon what capital projects are in motion at the time on the UW Tacoma campus.

This request provides funding to continue the ongoing Remedial Investigation and prepare any necessary reporting. These regulatory requirements are stipulated in Agreed Order DE 11081, which is enforced by the Washing State Department of Ecology. It will also cover other costs associated with the legacy contamination across campus including but not limited to assessments of sites being considered for purchase or development. The UW anticipates the need to continue the purchase of individual real estate parcels and build new facilities to enable the Tacoma campus to accommodate future enrollment growth in accordance with the legislatively mandated expansion.

Location

City: Tacoma **County:** Pierce **Legislative District:** 027

Project Type

Special Programs

Growth Management impacts

The Growth Strategies legislation of 1990 requires state agencies to comply with local land use regulations adopted pursuant to the Growth Management Act. The University of Washington Tacoma campus is located within the Tacoma South Downtown Subarea Plan which is consistent with the Pierce County Comprehensive Plan goals and policies.

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Current Biennium	2025-27 Fiscal Period Reapprops	2025-27 Fiscal Period New Approps
057-1	State Bldg Constr-State	4,300,000	4,300,000			
173-1	State Toxics Control-State	2,158,000	2,158,000			
23N-1	MTC Capital Account-State	15,786,000	1,786,000	43,000	3,957,000	2,000,000
	Total	**22,244,000**	**8,244,000**	**43,000**	**3,957,000**	**2,000,000**

Future Fiscal Periods

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 2:42PM

Project Number: 92000002
Project Title: UW Tacoma Campus Soil Remediation
Project Class: Preservation

Funding

		2027-29	2029-31	2031-33	2033-35
057-1	State Bldg Constr-State				
173-1	State Toxics Control-State				
23N-1	MTC Capital Account-State	2,000,000	2,000,000	2,000,000	2,000,000
	Total	**2,000,000**	**2,000,000**	**2,000,000**	**2,000,000**

Operating Impacts

No Operating Impact

OFM

Capital Project Request

2025-27 Biennium

*

Parameter	Entered As	Interpreted As
Biennium	2025-27	2025-27
Agency	360	360
Version	02-A	02-A
Project Classification	*	All Project Classifications
Capital Project Number	92000002	92000002
Sort Order	Project Class	Project Class
Include Page Numbers	N	No
For Word or Excel	N	N
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

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OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:32AM

Project Number: **40000147**
Project Title: **FY24 Energy Renewal Program**

Description

Starting Fiscal Year: 2024
Project Class: Preservation
Agency Priority: 0

Project Summary

The University of Washington requests a total of $38.9 million of funding reappropriations from the Climate Commitment Account 26-C for five specific projects that support ongoing energy renewal and decarbonization efforts across all three campuses and UW Medical Center facilities. Please refer to the detailed Agency Summaries provided for each subproject.

Project Description

Not required for reappropriation requests but have been included in subproject descriptions.

Location

City: Seattle **County:** King **Legislative District:** 043

Project Type

Infrastructure (Major Projects)

Growth Management impacts

Not applicable.

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Current Biennium	2025-27 Fiscal Period Reapprops	2025-27 Fiscal Period New Approps
26C-1	Climate Commit Accou-State					
	Total	**0**	**0**	**0**	**0**	**0**

Acct Code	Account Title	Future Fiscal Periods 2027-29	2029-31	2031-33	2033-35
26C-1	Climate Commit Accou-State				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

No Operating Impact

SubProjects

SubProject Number: **40000140**
SubProject Title: **UW Seattle - Centralized Chilled Water Capacity Improvements**

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:32AM

Project Number: **40000147**
Project Title: **FY24 Energy Renewal Program**

SubProjects

SubProject Number: **40000140**
SubProject Title: **UW Seattle - Centralized Chilled Water Capacity Improvements**

Starting Fiscal Year: 2024
Project Class: Preservation
Agency Priority: 0

Project Summary

The University of Washington requests $14 million of funding reappropriations from the Climate Commitment Account 26-C to support one of our foundational Clean Energy Strategy enabling projects that will install approximately 1,400 LF of new 18" - 22" diameter central cooling water (CCW) distribution utility piping to help move decentralized cooling loads in the William H. Foege Building (Bioengineering & Genome Sciences), Ocean Sciences and the I, J, & K wings of the Magnuson Health Sciences Center to the central cooling water system.

Project Description

1. What is the problem/opportunity? Identify: priority, underserved people/communities, operating budget savings, public safety improvements & clarifying details. Preservation projects: include information about the current condition of the facility/system.

The climate is changing resulting in hotter, prolonged weather patterns and an increased need for cooling. Many campus spaces and buildings rely on natural ventilation for cooling, with mechanical cooling (using electricity to create cool air) traditionally prioritized for data centers, large lecture halls, libraries, research spaces and other areas where cooling is essential to program needs. As a result, many campus buildings do not have any cooling, do not have enough cooling, and/or have inefficient cooling. All these new cooling requirements place a significant burden on our electrical system. This is in addition to the additional electrical demand needed to decarbonize our campus. In order for UW to be successful in its decarbonization efforts it needs to maximize its efficiency with the electricity it receives, and enabling more efficient cooling is a critical step in this process. This can be summarized as "resource efficient decarbonization."

Some of the first projects that UW can implement to achieve resource efficient decarbonization is to increase the supply of chilled water from its central system, improve the distribution of that chilled water out to campus buildings, and either supplement or replace cooling loads in critical research areas.

The existing campus district energy system is the most efficient means of providing chilled water /cooling to campus buildings. The Centralized Chiller Water Capacity Improvements include an extension of the current chilled water piping system and connecting cooling equipment for five existing buildings to the central cooling system. Presently these buildings rely on a combination of stand-alone chilled water equipment and connections from the Central Plant. This project enables the elimination of the less efficient building-scale systems, as well as increasing flow capacity which will significantly improve the present condition where existing spaces become starved for cooling on warm weather days.

The buildings impacted by this project are the William H. Foege Building (Bioengineering & Genome Sciences), Ocean Sciences Building and portions of the Magnuson Health Sciences buildings occupied by six Health Science schools. Cooling in these buildings is required to support the vivaria, laboratory, and teaching spaces and to mitigate the heat from scientific equipment such as low temperature freezers and incubators. Cooling is currently being provided by less reliable and less efficient decentralized cooling units.

The current district cooling piping in the utility tunnels under Magnuson Health Sciences buildings is connected to multiple buildings. While these connections serve some of the process loads in the buildings, there is decentralized cooling equipment that cannot be connected due to lack of capacity in the current system. The existing decentralized cooling equipment is inefficient, increases the electrical demand, and has high deferred maintenance costs. Due to the lack of

SubProjects

SubProject Number: 40000140
SubProject Title: UW Seattle - Centralized Chilled Water Capacity Improvements

capacity in the existing piping, UW Facilities are unable to implement a key pillar of UW's Clean Energy Strategy without addressing the distribution capacity in this section of the system. This area of the campus represents a significant amount of decentralized, inefficient chilling that is stranded unless this utility work and equipment connections are completed. Further, by consolidating cooling capacity within the central system, all the low-grade waste heat generated from cooling the buildings is now consolidated and available to be used as part of an initial hot water loop in and around the West Campus Utility Plant.

2. What will the request produce or construct (predesign/design of a building, additional space, etc.)? When will the project start/end? Identify if the project can be phased, and if so, which phase is included in the request. Provide detailed cost backup.

This project will produce a design and complete installation of approximately 1,400 LF of new 18" – 22" diameter central cooling water (CCW) distribution utility piping through an existing utility tunnel space and associated pipe support racks and other services to improve the distribution utility system in this portion of campus. Project will begin in July 2024 and be completed by June 2025. No phasing is anticipated at this time. There will be critical shut down/cut over work that will impact critical customers that will have to be scheduled well in advance and done off-season(winter). It will be key to ensure these constraints are integrated into the project schedule from the beginning and prioritized so that all schedule objectives of the project are met. Once the piping extension is installed, cooling loads in the Foege Building (Bioengineering & Genome Sciences), Ocean Sciences and the I, J, & K wings of Magnuson Health Sciences Center will be connected to the central system. Equipment improvements at individual buildings may include the removal of existing building chillers & cooling towers (at end-of-lifecycle) and connections to the central district cooling system which may include additional heat exchangers and pumps.

A detailed C-100 Cost Template is included in the decision package.

3. 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 provide the additional capacity necessary to address the current limits of the system in this portion of campus to enable one component of the UW Energy Transformation strategy of re-centralizing inefficient distributed chilling.

This is essential utilities/infrastructure work. Without this infrastructure, we are unable to connect inefficient decentralized cooling loads and implement one of the pillars of the UW's Energy Transformation Strategy.

4. What alternatives were explored? Why was the recommended alternative chosen? Be prepared to provide detailed cost backup. If this project has an associated predesign, please summarize the alternatives the predesign considered.

There are no alternatives that accomplish the necessary results of increasing the capacity of our distribution system without providing the scope outlined above.

5. Which clientele would be impacted by the budget request? Where and how many units would be added, people or communities served, etc.

UW Campus Energy, Utilities & Operations is the primary client for this project and UW's six Health Science schools, including the School of Medicine, are the primary occupants of the buildings served by this utility improvement.

Project Number: **40000147**
Project Title: **FY24 Energy Renewal Program**

SubProjects

SubProject Number: **40000140**
SubProject Title: **UW Seattle - Centralized Chilled Water Capacity Improvements**

6. Does this project or program leverage non-state funding? If yes, how much by source? If the other funding source requires cost share, also include the minimum state (or other) share OF project cost allowable and the supporting citation or documentation.

No, this project will not leverage funding sources other than Climate Commitment Account funds.

7. Describe how this project supports the agency's strategic master plan or would improve agency performance. Reference feasibility studies, master plans, space programming and other analyses as appropriate.

This project is key to the UW's Energy Transformation Strategy of re-centralizing inefficient distributed chilling to enable resource-efficient decarbonization. This scope was also recommended in the UW Facilities 2006 Utilities Master Plan and a design was completed in 2011. Since 2011, construction of the West Campus Utility Plant (WCUP) and other major improvements have been completed that make the 2011 design obsolete. This project would update the piping & equipment design and complete the installation of piping, equipment, and equipment load connections.

8. Does this project include IT related costs, including hardware, software, cloud based services, contracts or staff? If yes, attach IT Addendum.

No, this project does not include any IT related costs.

9. If the project is linked to the Puget Sound Action Agenda, describe the impacts on the Action Agenda, including expenditure and FTE detail. See Chapter 12 Puget Sound Recovery) in the 2021-23 Operating Budget Instructions.

No, this project is not linked to the Puget Sound Action Agenda.

10. How does this project contribute to meeting the greenhouse gas emissions limits established in RCW 70A.45.050, Clean Buildings performance standards in RCW19.27A.210, or other statewide goals to reduce carbon pollution and/or improve efficiency?

The Centralized Chiller Water Capacity Improvements are a resource efficient decarbonization project. It enables UW to be more efficient with its electricity, reducing electrical demand, which will enable future electrically based decarbonization projects to proceed. UW presently has electrical capacity constraints with its electrical utility, Seattle City Light, and that limits decarbonization efforts. This is an enabling project that helps 'make-ready' the campus for direct decarbonization projects.

11. How does this project impact equity in the state? Which communities are impacted by this proposal? Include both demographic and geographic communities. How are disparities in communities impacted?

The University believes that both new and renovated facilities do a much better job of taking historically marginalized communities into account, as they are able to be more accessible and inclusive, take a wider array of learning styles and methods into account, and generally utilize new information, processes, and technology in a way that older facilities cannot adequately support. In this case, the ability to provide adequate cooling to support spaces in a sizable portion of South Campus will benefit all.

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

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

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Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:32AM

Project Number: **40000147**
Project Title: **FY24 Energy Renewal Program**

SubProjects

SubProject Number: **40000140**
SubProject Title: **UW Seattle - Centralized Chilled Water Capacity Improvements**

Central cooling is one piece of the five-part strategy to transition the Seattle campus utility system to 100% clean energy and decarbonize the heating and cooling system. Expanding the central cooling system frees up electrical capacity and replaces inefficient, aging building chillers. Increasing the cooling capacity of the existing system and connecting additional existing loads is essential utility work that enables a significant piece of the UW Energy Transformation strategy. Not funding this request will directly impact UW's ability to implement that strategy and delay the re-centralization of distributed cooling, to enable resource-efficient decarbonization.

Starting Fiscal Year: 2024
Project Class: Preservation
Agency Priority: 0

Project Summary

The University of Washington requests $6.5 million of funding reappropriations from the Climate Commitment Account 26-C to support energy renewal upgrades at our Bothell Campus. This project will upgrade one (1) 1,000-ton chiller at the Central Plant and replace twenty-one (21) domestic gas heaters with electric gas heaters. These projects will help reduce our greenhouse gas emissions by installing more efficient equipment to bring the campus further into compliance with the Washington State Clean Buildings Standard.

Project Description

1. What is the problem/opportunity? Identify: priority, underserved people/communities, operating budget savings, public safety improvements & clarifying details. Preservation projects: include information about the current condition of the facility/system.

The University of Washington Bothell has several opportunities to help reduce our greenhouse gas emissions by installing more efficient equipment to bring the campus further into compliance with the Washington State Clean Building Standards. The campus also prioritizes the planned replacement of aging equipment that can further reduce equipment outages, reduce the need for service calls and costly maintenance, and reduce our use of phased out refrigerants, like R-22.

A key component of this project is upgrading one of the campus' main chillers. The new chiller will be more efficient and utilize a 513a environmentally acceptable refrigerant type. This investment will enable us to right size our chiller plant operation to best serve the campus chilled water needs. We are currently not able to efficiently operate the 1,000-ton chiller due to ongoing operational issues, high energy cost, and plant mechanical systems operational inefficiencies when the existing chiller is brought online.

2. What will the request produce or construct(predesign/design of a building, additional space, etc.)? When will the project start/end? Identify if the project can be phased, and if so, which phase is included in the request. Provide detailed cost backup.

The proposed project will upgrade one (1) 1000-ton chiller, optimizing the campus' Physical Plant, and replace twenty-one (21) domestic gas heaters with electric gas heaters. The project cannot be phased.

Proposed Project Schedule:
ESCO Team Selection - June 2024
Design/Energy Audit - July 2024 through September 2024
Construction - September 2024 through September 2025
Project Closeout - October 2025 through December 2025
We do not anticipate any expenditures before July 2024

Project Number: 40000147
Project Title: FY24 Energy Renewal Program

SubProjects

SubProject Number: 40000142
SubProject Title: UW Bothell - Central Plant Optimization & Gas Boiler Replacements

A detailed C-100 Cost Estimate is included in the decision package.

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

The replacement of the 1000-ton chiller will allow us to meet the expectations in the Clean Buildings Performance Standard and eliminate our reliance on R-22 refrigerant. The chosen chiller model, a York YVAA, is one of the most energy efficient models on the market and can improve efficiency by up to 40%. It uses an eco-friendly refrigerant, eliminating the need for the campus to utilize R-22 refrigerant.

The replacement of aging natural gas heaters with electric heat pumps will eliminate the use of natural gas heating in all our buildings and will further reduce our greenhouse gas emissions.

4. What alternatives were explored? Why was the recommended alternative chosen? Be prepared to provide detailed cost backup. If this project has an associated predesign, please summarize the alternatives the predesign considered.

No alternatives were explored, since the new energy code is driving the elimination of natural gas source systems. In addition, our campus decarbonization plan is driving us to move away from natural gas-based heating systems.

5. Which clientele would be impacted by the budget request? Where and how many units would be added, people or communities served, etc.

The reliability of our campus will be increased with the replacement of aging, inefficient equipment, providing continuous service to our campus community that includes nearly 5,500 FTE.

6. Does this project or program leverage non-state funding? If yes, how much by source? If the other funding source requires cost share, also include the minimum state (or other) share OF project cost allowable and the supporting citation or documentation.

No, this project will not leverage funding sources other than Climate Commitment Account funds.

7. Describe how this project supports the agency's strategic master plan or would improve agency performance. Reference feasibility studies, master plans, space programming and other analyses as appropriate.

*This project improves campus performance by providing cleaner running and efficient equipment. Additionally, it supports the goals of the **UW Bothell Campus Sustainability Action Plan**, established in 2018 and updated in 2022.The Action Plan included strategic goals to conserve energy and reduce greenhouse gas emissions. Replacement of high energy consuming equipment with more energy efficient equipment will contribute to the success of this goal. In addition, this investment will reduce our carbon emissions by switching our domestic hot water systems to clean electric energy.*

8. Does this project include IT related costs, including hardware, software, cloud based services, contracts or staff? If yes, attach IT Addendum.

No, this project does not include any IT related costs.

Project Number: 40000147
Project Title: FY24 Energy Renewal Program

SubProjects

SubProject Number: 40000142
SubProject Title: UW Bothell - Central Plant Optimization & Gas Boiler Replacements

9. If the project is linked to the Puget Sound Action Agenda, describe the impacts on the Action Agenda, including expenditure and FTE detail. See Chapter 12 Puget Sound Recovery) in the 2021-23 Operating Budget Instructions.

No, this project is not linked to the Puget Sound Action Agenda.

10. How does this project contribute to meeting the greenhouse gas emissions limits established in RCW 70A.45.050, Clean Buildings performance standards in RCW 19.27A.210, or other statewide goals to reduce carbon pollution and/or improve efficiency?

The project meets the objectives established by the State of Washington in the following ways:

1) The chiller plant investment will enable us to continue to meet our clean building Energy Use Intensity (EUI) targets. We anticipate improving the energy efficiency of the plant by over 10% compared to operating the existing 1000-ton chiller.
2) Since R-22 refrigerant is no longer allowed in Washington State, an investment in a chiller with an eco-friendly refrigerant source will ensure that we are meeting all local and state environmental regulations around refrigerant requirements.
3) The domestic hot water heaters will eliminate the carbon emissions associated with natural gas heating. All new units will be electrical based and meet the state energy code requirements while supporting the UW Bothell vision of reducing carbon emissions on campus.
4) The chiller plant investment would enable our Tier 1 buildings to maintain their current EUI's and remain below the EUI for their intended Building Activity Types, even as the campus expands in both size and student population.

11. How does this project impact equity in the state? Which communities are impacted by this proposal? Include both demographic and geographic communities. How are disparities in communities impacted?

This project will replace existing equipment and no community impact, other than the campus community, is expected.

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

Nothing at this time.

Starting Fiscal Year: 2024
Project Class: Preservation
Agency Priority: 0

Project Summary

The University of Washington requests $8.4 million of funding reappropriations from the Climate Commitment Account 26-C to support energy renewal upgrades at our Tacoma Campus. The project would replace gas-fired boilers and associated infrastructure components with electric condenser boilers or heat pumps in compliance with the Washington State Clean Buildings Performance Standard. Both options are energy efficient and meet the Department of Energy's and ASHRAE's recommendation of replacing gas-fired equipment.

Project Description

1. What is the problem/opportunity? Identify priority, underserved people/communities, operating budget savings, public safety improvements & clarifying details. Preservation projects: include information about the current condition of the facility/system.

Project Number: 40000147
Project Title: FY24 Energy Renewal Program

SubProjects

SubProject Number: 40000143
SubProject Title: UW Tacoma - Gas Boiler Replacements

UW Tacoma campus's primary heating source is natural gas (category, Schedule 41/PSE), used to heat hydronic (hot water) loops. Inefficient gas-fired boilers are increasing in maintenance costs due to end-life cycle components, alternative third-party replacement parts, and insufficient qualified, skilled trades to maintain legacy equipment.

There is an opportunity to eliminate the use of fossil fuels for heating and improve outdoor and indoor air quality in an underserved community. The underserving community, such as the Tacoma community, relies on the UW Tacoma campus as a gathering resource to be a welcoming space for student use, engagement, outreach opportunities, and- academic and professional development. The bulk of the proposed power source is electricity that comes from clean, renewable hydroelectric energy. The operating cost is half the cost of using natural gas (therms).

The project will also directly benefit the underserved community by providing clean energy solutions and the University's leading commitment to decarbonize.

2. What will the request produce or construct (predesign/design of a building, additional space, etc.)? When will the project start/end? Identify if the project can be phased in, and if so, which phase is included in the request. Provide detailed cost backup.

The request will produce sustainable energy-efficient hydronic systems that will benefit UW Tacoma and Tacoma community. Due to weather-dependent heating support, the project will be phased in during the cooling seasons and completed at the beginning of the heating season over two years. This request is for the first phase of carbon reduction projects on the Tacoma Campus.

Proposed Project Schedule:
Design - July 2024 through March 2025
Construction - March 2025 through October 2026

A detailed C-100 Cost Template is included in the decision package.

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

The request would resolve/address unscheduled downtime that impacts the teaching and learning environment and reduce the impact on a stressed operating budget. It would also eliminate fossil fuels for heating campus hydronic loops and reduce greenhouse gas emissions. No action would result in continued unscheduled interruptions to the teaching and learning environment (too cold/too hot buildings); impacting the operating budget on reactive repairs. The University of Washington Tacoma is an urban campus that supports a largely underserved community.

4. What alternatives were explored? Why was the recommended alternative chosen? Be prepared to provide detailed cost backup. If this project has an associated predesign, please summarize the alternatives the predesign considered.

The project would replace the gas-fired boilers and associated infrastructure components with electric condenser boilers or heat pumps in compliance with the Washington State Clean Buildings Performance Standard. Both options are energy efficient and meet the Department of Energy's and ASHRAE's recommendation of replacing gas-fired equipment.

Project Number: 40000147
Project Title: FY24 Energy Renewal Program

SubProjects

SubProject Number: 40000143
SubProject Title: UW Tacoma - Gas Boiler Replacements

5. Which clientele would be impacted by the budget request? Where and how many units would be added, people or communities served, etc.

The budget request benefits generations of the UW Tacoma campus community, the Tacoma community, and future patrons.

6. Does this project or program leverage non-state funding? If yes, how much by source? If the other funding source requires cost share, also include the minimum state(or other) share OF project cost allowable and the supporting citation or documentation.

No, this project will not leverage funding sources other than Climate Commitment Account funds.

7. Describe how this project supports the agency's strategic master plan or would improve agency performance. Reference feasibility studies, master plans, space programming and other analyses as appropriate.

These infrastructure improvements align with the 2008 UW Tacoma Campus Master Plan.

8. Does this project include IT related costs, including hardware, software, cloud based services, contracts or staff? If yes, attach IT Addendum.

No, this project does not include any IT related costs.

9. If the project is linked to the Puget Sound Action Agenda, describe the impacts on the Action Agenda, including expenditure and FTE detail. See Chapter 12 Puget Sound Recovery) in the 2021-23 Operating Budget Instructions.

No, this project is not linked to the Puget Sound Action Agenda.

10. How does this project contribute to meeting the greenhouse gas emissions limits established in RCW 70A.45.050, Clean Buildings performance standards in RCW19.27A.210, or other statewide goals to reduce carbon pollution and/or improve efficiency?

The project complies with the 2009 UW Climate Action Plan (CAP) and the new, comprehensive 2020 UW Sustainability Action Plan which aligns with the latest greenhouse gas emissions limits set forth in the RCW. The Sustainability Action Plan builds on the work of the Climate Action Plan to reflect the UW's current sustainability goals.

11. How does this project impact equity in the state? Which communities are impacted by this proposal? Include both demographic and geographic communities. How are disparities in communities impacted?

The project would significantly impact the Tacoma and South Puget Sound Communities (10/high risks). Environmental Health Disparities Ratings, ranked from (1 low risk) up to 10 (high risk), are as follows:
> Environmental Exposures (10 – highest risk);
> Environmental Effects (10);
> Socioeconomic Factors (9 and 10); and
> Sensitive, Populations (10 – highest risk).
Resource: https://fortress.wa.gov/doh/wtn/WTNIBL/Map/EHD. According to the Washington State Department of Health Dashboard, the UW Tacoma campus and its surrounding neighborhoods have an extremely high risk of health disparities

SubProjects

SubProject Number: 40000143
SubProject Title: UW Tacoma - Gas Boiler Replacements

factors.

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

Approved funding will resolve the issue of non-compliance with the Washington State Clean Building Act. In addition, replacing essential heating equipment will reduce UW Tacoma's deferred maintenance, reduce unscheduled maintenance repairs, and reduce impact on the teaching and learning environment. Without being granted this request, it will take UW Tacoma decades to eliminate the use of fossil fuels as a heating source.

Starting Fiscal Year: 2024
Project Class: Preservation
Agency Priority: 0

Project Summary

The University of Washington requests $2 million of funding reappropriations from the Climate Commitment Account 26-C to support the preparation of a predesign/feasibility study for a Central Utility Plant at the 44-acre UW Medical Center - Northwest Campus in North Seattle. This project would take the initial steps in creating an implementation plan to develop a Central Utility Plant which will address the decentralized utility infrastructure (meaning individual utility systems provided at each facility) which creates problems in terms of maintenance, reliability, and excess energy consumption working towards the ultimate goal of campus decarbonization.

Project Description

1. What is the problem/opportunity? Identify: priority, underserved people/communities, operating budget savings, public safety improvements & clarifying details. Preservation projects: include information about the current condition of the facility/system.

The utility infrastructure of the community-based, non-profit hospital located at UW Medical Center - Northwest (UWMC NW) is currently decentralized and this creates problems in terms of maintenance, reliability, and excess energy consumption. This project would take the initial steps in creating a phased plan to develop a Central Utility Plant which will address the aforementioned issues, as well as working towards the ultimate goal of campus decarbonization.

2. What will the request produce or construct (predesign/design of a building, additional space, etc.)? When will the project start/end? Identify if the project can be phased, and if so, which phase is included in the request. Provide detailed cost backup.

The request would produce a predesign/feasibility study to determine the best approach to developing a Central Utility Plant on the UWMC NW Campus. If funding is provided, work on the study would begin in June/July 2024 and conclude by June 2025. No phasing of the study work is anticipated.

A detailed C-100 Cost Template is included in the decision package.

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

If the request is not funded, the UWMC NW Campus will continue to struggle with a deteriorating, decentralized utility infrastructure that will preclude the necessary upgrades and growth in service that are planned for the facility. Continued reliance on outdated, decentralized equipment strains maintenance resources and puts the UWMC - NW Campus at risk of

SubProjects

SubProject Number: 40000144
SubProject Title: UWMC - NW Campus Central Utility Plant Planning

increased service disruptions and equipment failures that do not serve the public's best interest.

4. What alternatives were explored? Why was the recommended alternative chosen? Be prepared to provide detailed cost backup. If this project has an associated predesign, please summarize the alternatives the predesign considered.

There are no alternatives that will deliver the same results to address the aging, decentralized utility infrastructure other than defining an approach to develop a Central Utility Plant.

5. Which clientele would be impacted by the budget request? Where and how many units would be added, people or communities served, etc.

The patients, staff, and surrounding community of UW Medical Center - Northwest are the primary clientele for this request. UWMC NW is a full-service medical center that offers emergency and inpatient and outpatient medical, surgical, and therapeutic care. The hospital offers personalized, quality care on a beautiful, easy-to-access, 44-acre campus that includes the neighboring Northwest Outpatient Medical Center and Specialty Care Meridian Pavilion. Creating a Central Utility Plant to support this North Seattle facility will benefit thousands.

6. Does this project or program leverage non-state funding? If yes, how much by source? If the other funding source requires cost share, also include the minimum state (or other) share OF project cost allowable and the supporting citation or documentation.

No, this project will not leverage funding sources other than Climate Commitment Account funds.

7. Describe how this project supports the agency's strategic master plan or would improve agency performance. Reference feasibility studies, master plans, space programming and other analyses as appropriate.

UWMC NW is currently in the process of updating their existing 1991 Master Plan with a strategic Major Institution Master Plan (MIMP) to help guide development of the 44-acre Northwest Campus over the next several decades to help support anticipated growth in both inpatient (103%) and outpatient (45%) services. The development of a Central Utility Plant to support both new and existing development is a foundational piece of the MIMP strategy.

8. Does this project include IT related costs, including hardware, software, cloud based services, contracts or staff? If yes, attach IT Addendum.

No, this project does not include any IT related costs.

9. If the project is linked to the Puget Sound Action Agenda, describe the impacts on the Action Agenda, including expenditure and FTE detail. See Chapter 12 Puget Sound Recovery) in the 2021-23 Operating Budget Instructions.

No, this project is not linked to the Puget Sound Action Agenda.

10. How does this project contribute to meeting the greenhouse gas emissions limits established in RCW 70A.45.050, Clean Buildings performance standards in RCW19.27A.210, or other statewide goals to reduce carbon pollution and/or improve efficiency?

Project Number: 40000147
Project Title: FY24 Energy Renewal Program

SubProjects

SubProject Number: 40000144
SubProject Title: UWMC - NW Campus Central Utility Plant Planning

The new Central Utility Plant facility would be built with state of the art, district energy capabilities which would limit greenhouse gas emissions and ensure compliance with the Clean Buildings Performance Standard and other agency mandates.

This project would also allow the UWMC NW to replace numerous pieces of antiquated equipment and building systems that currently contribute to unnecessary energy consumption purely due to the inefficient nature of the old technology. In addition, continued reliance on this outdated equipment strains maintenance resources and puts the UWMC NW Campus at risk of increased service disruptions and equipment failures.

11. How does this project impact equity in the state? Which communities are impacted by this proposal? Include both demographic and geographic communities. How are disparities in communities impacted?

The University believes that both new and renovated facilities do a much better job of taking historically marginalized communities into account. In this case, the ability to provide reliable utility systems for the entire UWMC NW Campus portfolio will ensure that the communities served by this facility will continue to have access to a full-service medical center well into the future.

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

Development of a Central Utility Plant is the key component to upgrading the UWMC NW Campus utility infrastructure towards a goal of 100% clean energy and decarbonizing the existing heating and cooling systems.

Starting Fiscal Year: 2024
Project Class: Preservation
Agency Priority: 0

Project Summary

The University of Washington requests $8 million of funding reappropriations from the Climate Commitment Account 26-C to fund HVAC Systems Renewal projects for our UW Medical Center Montlake Campus. A recent UWMC facility condition assessment identified numerous critical assets related to HVAC systems that are long past their expected service life and prone to failure.

Project Description

1. What is the problem/opportunity? Identify: priority, underserved people/communities, operating budget savings, public safety improvements & clarifying details. Preservation projects: include information about the current condition of the facility/system.

The UW Medical Center - Montlake has numerous aging HVAC units that are at end-of-life and need to be replaced to avoid service disruptions. These new units will be more energy efficient, reducing electrical consumption and increasing reliability.

2. What will the request produce or construct (predesign/design of a building, additional space, etc.)? When will the project start/end? Identify if the project can be phased, and if so, which phase is included in the request. Provide detailed cost backup.

The request would support installation (construction) of several new HVAC units and associated equipment to address failing assets. If funding is provided, work on design/procurement would begin in June/July 2024 and conclude by June 2025. No phasing of the work is anticipated.

Project Number: 40000147
Project Title: FY24 Energy Renewal Program

SubProjects

SubProject Number: 40000145
SubProject Title: UWMC - Montlake Campus HVAC Systems Renewal

A detailed C-100 Cost Template is included in the decision package.

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

The result of not taking action could be failure of the HVAC units, which would require a reduction/disruption of services at UWMC.

There are no alternatives that will deliver the same results to address the failing equipment.

4. What alternatives were explored? Why was the recommended alternative chosen? Be prepared to provide detailed cost backup. If this project has an associated predesign, please summarize the alternatives the predesign considered.

There are no alternatives to replacing these end-of-life HVAC units and associated systems. When they fail, they must be replaced.

5. Which clientele would be impacted by the budget request? Where and how many units would be added, people or communities served, etc.

The patients, staff, and surrounding community of UW Medical Center – Montlake Campus are the primary clientele for this request. Every day, more than 5,500 dedicated and compassionate UWMC team members bring passion and commitment to the care of our patients and their families. UW Medical Center - Montlake is one of the world's foremost academic health centers, delivering exceptional, multidisciplinary care to a vast array of patients who come to us from across the globe.

6. Does this project or program leverage non-state funding? If yes, how much by source? If the other funding source requires cost share, also include the minimum state (or other) share OF project cost allowable and the supporting citation or documentation.

No, this project will not leverage funding sources other than Climate Commitment Account funds.

7. Describe how this project supports the agency's strategic master plan or would improve agency performance. Reference feasibility studies, master plans, space programming and other analyses as appropriate.

This project is aligned with the 2019 University of Washington Master Plan, which includes a 10-year conceptual plan as required by the City-University Agreement and provides design guidance and development standards for plan implementation. The Seattle City Council and Board of Regents approved the plan in February 2019.

8. Does this project include IT related costs, including hardware, software, cloud based services, contracts or staff? If yes, attach IT Addendum.

No, this project does not include any IT related costs.

9. If the project is linked to the Puget Sound Action Agenda, describe the impacts on the Action Agenda, including expenditure and FTE detail. See Chapter 12 Puget Sound Recovery) in the 2021-23 Operating Budget Instructions.

Project Number: 40000147
Project Title: FY24 Energy Renewal Program

SubProjects

SubProject Number: 40000145
SubProject Title: UWMC - Montlake Campus HVAC Systems Renewal

No, this project is not linked to the Puget Sound Action Agenda.

10. How does this project contribute to meeting the greenhouse gas emissions limits established in RCW 70A.45.050, Clean Buildings performance standards in RCW19.27A.210, or other statewide goals to reduce carbon pollution and/or improve efficiency?

This project would allow the UWMC Montlake Campus to replace several pieces of HVAC equipment and building systems that currently contribute to unnecessary energy consumption purely due to the inefficient nature of the decades old technology. In addition, continued reliance on this end-of-life equipment strains maintenance resources and puts the UWMC Montlake Campus at risk of increased service disruptions and equipment failures.

11. How does this project impact equity in the state? Which communities are impacted by this proposal? Include both demographic and geographic communities. How are disparities in communities impacted?

The University believes that both new and renovated facilities do a much better job of taking historically marginalized communities into account. In this case, the ability to provide reliable HVAC systems for portions of the UWMC Montlake Campus portfolio will ensure that the communities served by this facility will continue to benefit from the medical center well into the future.

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

Not at this time.

Location

City: Bothell	**County:** King	**Legislative District:** 001
City: Seattle	**County:** King	**Legislative District:** 043
City: Seattle	**County:** King	**Legislative District:** 043
City: Seattle	**County:** King	**Legislative District:** 046
City: Tacoma	**County:** Pierce	**Legislative District:** 027

Project Type

Infrastructure (Major Projects)
Infrastructure (Major Projects)
Infrastructure (Major Projects)
Infrastructure (Major Projects)
Infrastructure (Major Projects)

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360 - University of Washington
Capital Project Request

2025-27 Biennium

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Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:32AM

Project Number: 40000147
Project Title: FY24 Energy Renewal Program

SubProjects

SubProject Number: 40000140
SubProject Title: UW Seattle - Centralized Chilled Water Capacity Improvements

Growth Management impacts
Not applicable.

Growth Management impacts
Not applicable.

Growth Management impacts
Not applicable.

Growth Management impacts
Not applicable.

Growth Management impacts
Not applicable.

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Expenditures Current Biennium	2025-27 Fiscal Period Reapprops	2025-27 Fiscal Period New Approps
26C-1	Climate Commit Accou-State					
26C-1	Climate Commit Accou-State					
26C-1	Climate Commit Accou-State					
26C-1	Climate Commit Accou-State					
26C-1	Climate Commit Accou-State					
	Total	**0**	**0**	**0**	**0**	**0**

Acct Code	Account Title	Future Fiscal Periods 2027-29	2029-31	2031-33	2033-35
26C-1	Climate Commit Accou-State				
26C-1	Climate Commit Accou-State				
26C-1	Climate Commit Accou-State				
26C-1	Climate Commit Accou-State				
26C-1	Climate Commit Accou-State				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:32AM

Project Number: **40000147**
Project Title: **FY24 Energy Renewal Program**

SubProjects

SubProject Number: **40000140**
SubProject Title: **UW Seattle - Centralized Chilled Water Capacity Improvements**

No Operating Impact

No Operating Impact

No Operating Impact

No Operating Impact

No Operating Impact

Narrative

This funding supports a predesign/feasibility study.

OFM

Capital Project Request

2025-27 Biennium

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Parameter	Entered As	Interpreted As
Biennium	2025-27	2025-27
Agency	360	360
Version	02-A	02-A
Project Classification	*	All Project Classifications
Capital Project Number	40000147	40000147
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

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OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

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Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:25AM

Project Number: 40000132
Project Title: Infrastructure Renewal
Project Class: Preservation

Description

Starting Fiscal Year: 2024
Agency Priority: 0

Project Summary

The University of Washington requests a total of $21.424 million of funding reappropriations from the UW 064 Building Account ($9.082 million) and Climate Commitment Account 26-C ($12.342 million) to support a variety of infrastructure renewal projects across the Seattle Campus. The majority of these projects also help the University begin to address the Clean Buildings Performance Standard.

Project Description

Not required for reappropriation requests.

Location

City: Seattle **County:** King **Legislative District:** 043

Project Type

Infrastructure (Major Projects)

Growth Management impacts

The Growth Strategies legislation of 1990 requires state agencies to comply with local land use regulations adopted pursuant to the Growth Management Act. The University of Washington acknowledges this through the development of the Campus Master Plan, in compliance with the City of Seattle Major Institutions District Municipal Code and Comprehensive Plan goals and policies.

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Expenditures Current Biennium	2025-27 Fiscal Period Reapprops	2025-27 Fiscal Period New Approps
064-1	UW Building Account-State	9,175,000		93,000	9,082,000	
26C-1	Climate Commit Accou-State	15,000,000		2,658,000	12,342,000	
	Total	**24,175,000**	**0**	**2,751,000**	**21,424,000**	**0**

Acct Code	Account Title	Future Fiscal Periods 2027-29	2029-31	2031-33	2033-35
064-1	UW Building Account-State				
26C-1	Climate Commit Accou-State				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

No Operating Impact

Narrative

These projects will help eliminate a portion of our deferred maintenance backlog and do not require additional staff to execute at this time.

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:25AM

Project Number: 40000132
Project Title: Infrastructure Renewal
Project Class: Preservation

Operating Impacts

OFM

Capital Project Request

2025-27 Biennium

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Parameter	Entered As	Interpreted As
Biennium	2025-27	2025-27
Agency	360	360
Version	02-A	02-A
Project Classification	*	All Project Classifications
Capital Project Number	40000132	40000132
Sort Order	Project Class	Project Class
Include Page Numbers	N	No
For Word or Excel	N	N
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

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360 - University of Washington
Capital Project Request

2025-27 Biennium

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Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 9:46AM

Project Number: 20091002
Project Title: Anderson Hall Renovation
Project Class: Preservation

Description

Starting Fiscal Year: 2024
Agency Priority: 0

Project Summary

The University of Washington requests $23.455 million of funding reappropriations from the State 057 Building Construction Account for the construction phase of the Anderson Hall Renovation.

Project Description

Not required for reappropriation requests.

Location

City: Seattle **County:** King **Legislative District:** 043

Project Type

Remodel/Renovate/Modernize (Major Projects)

Growth Management impacts

Not applicable

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Current Biennium	2025-27 Fiscal Period Reapprops	New Approps
057-1	State Bldg Constr-State	28,850,000	200,000	5,195,000	23,455,000	
148-6	HE - Dedicated Locl-Non-Appropria	11,950,000				11,950,000
	Total	**40,800,000**	**200,000**	**5,195,000**	**23,455,000**	**11,950,000**

		Future Fiscal Periods 2027-29	2029-31	2031-33	2033-35
057-1	State Bldg Constr-State				
148-6	HE - Dedicated Locl-Non-Appropria				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

No Operating Impact

OFM

Capital Project Request

2025-27 Biennium

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Parameter	Entered As	Interpreted As
Biennium	2025-27	2025-27
Agency	360	360
Version	02-A	02-A
Project Classification	*	All Project Classifications
Capital Project Number	20091002	20091002
Sort Order	Project Class	Project Class
Include Page Numbers	N	No
For Word or Excel	N	N
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 9:48AM

Project Number: 40000049
Project Title: Magnuson Health Sciences Phase II- Renovation/Replacement
Project Class: Preservation

Description

Starting Fiscal Year: 2024
Agency Priority: 0

Project Summary

The University of Washington requests $48.436 million of funding reappropriations from the State 057 Building Construction Account for the construction phase of the Magnuson Health Sciences Phase II - Renovation/Replacement.

Project Description

Not required for reappropriation requests.

Location

City: Seattle **County:** King **Legislative District:** 043

Project Type

Remodel/Renovate/Modernize (Major Projects)

Growth Management impacts

The Growth Strategies legislation of 1990 requires state agencies to comply with local land use regulations adopted pursuant to the Growth Management Act. The University of Washington acknowledges this through the development of the Campus Master Plan, in compliance with the City of Seattle Major Institutions District Municipal Code and Comprehensive Plan goals and policies.

Funding

Acct Code	Account Title	Expenditures: Estimated Total	Expenditures: Prior Biennium	Expenditures: Current Biennium	2025-27 Fiscal Period: Reapprops	2025-27 Fiscal Period: New Approps
057-1	State Bldg Constr-State	64,000,000	2,989,000	12,575,000	48,436,000	
148-6	HE - Dedicated Locl-Non-Appropria	2,100,000				2,100,000
	Total	**66,100,000**	**2,989,000**	**12,575,000**	**48,436,000**	**2,100,000**

Acct Code	Account Title	Future Fiscal Periods: 2027-29	2029-31	2031-33	2033-35
057-1	State Bldg Constr-State				
148-6	HE - Dedicated Locl-Non-Appropria				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

No Operating Impact

OFM

Capital Project Request

2025-27 Biennium

*

Parameter	Entered As	Interpreted As
Biennium	2025-27	2025-27
Agency	360	360
Version	02-A	02-A
Project Classification	*	All Project Classifications
Capital Project Number	40000049	40000049
Sort Order	Project Class	Project Class
Include Page Numbers	N	No
For Word or Excel	N	N
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:23AM

Project Number: 40000103
Project Title: UW Seattle - Asset Preservation (Minor Works) 23-25
Project Class: Preservation

Description

Starting Fiscal Year: 2024
Agency Priority: 0

Project Summary

The University of Washington requests $27.887 million of funding reappropriations from the UW 064 Building Account to fund Minor Works (projects valued at $2M or less) on the Seattle Campus.

Project Description

No required for reappropriation requests.

Location

City: Seattle **County:** King **Legislative District:** 043

Project Type

Facility Preservation (Minor Works)
Health, Safety and Code Requirements (Minor Works)
Infrastructure Preservation (Minor Works)
Program (Minor Works)

Growth Management impacts

Not Applicable.

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Current Biennium	2025-27 Fiscal Period Reapprops	New Approps
064-1	UW Building Account-State	37,396,000		9,509,000	27,887,000	
	Total	**37,396,000**	**0**	**9,509,000**	**27,887,000**	**0**

Acct Code	Account Title	Future Fiscal Periods 2027-29	2029-31	2031-33	2033-35
064-1	UW Building Account-State				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

No Operating Impact

OFM

Capital Project Request

2025-27 Biennium

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Parameter	Entered As	Interpreted As
Biennium	2025-27	2025-27
Agency	360	360
Version	02-A	02-A
Project Classification	*	All Project Classifications
Capital Project Number	40000103	40000103
Sort Order	Project Class	Project Class
Include Page Numbers	N	No
For Word or Excel	N	N
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:24AM

Project Number: 40000129
Project Title: UW Bothell - Asset Preservation (Minor Works) 23-25
Project Class: Preservation

Description

Starting Fiscal Year: 2024
Agency Priority: 0

Project Summary

The University of Washington requests $3.345 million of funding reappropriations from the UW 064 Building Account to fund Minor Works (projects valued at $2M or less) on the Bothell Campus.

Project Description

Not required for reappropriation requests.

Location

City: Bothell **County:** King **Legislative District:** 001

Project Type

Facility Preservation (Minor Works)
Health, Safety and Code Requirements (Minor Works)
Infrastructure Preservation (Minor Works)

Growth Management impacts

Not Applicable.

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Expenditures Current Biennium	2025-27 Fiscal Period Reapprops	2025-27 Fiscal Period New Approps
064-1	UW Building Account-State	3,895,000		550,000	3,345,000	
	Total	**3,895,000**	**0**	**550,000**	**3,345,000**	**0**

Acct Code	Account Title	Future Fiscal Periods 2027-29	2029-31	2031-33	2033-35
064-1	UW Building Account-State				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

No Operating Impact

OFM

Capital Project Request

2025-27 Biennium

*

Parameter	Entered As	Interpreted As
Biennium	2025-27	2025-27
Agency	360	360
Version	02-A	02-A
Project Classification	*	All Project Classifications
Capital Project Number	40000129	40000129
Sort Order	Project Class	Project Class
Include Page Numbers	N	No
For Word or Excel	N	N
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:25AM

Project Number: 40000131
Project Title: UW Tacoma - Asset Preservation (Minor Works) 23-25
Project Class: Preservation

Description

Starting Fiscal Year: 2024
Agency Priority: 0

Project Summary

The University of Washington requests $1.571 million of funding reappropriations from the UW 064 Building Account to fund Minor Works (projects valued at $2M or less) on the Tacoma Campus.

Project Description

Not required for reappropriation requests.

Location

City: Tacoma **County:** Pierce **Legislative District:** 027

Project Type

Facility Preservation (Minor Works)
Health, Safety and Code Requirements (Minor Works)
Infrastructure Preservation (Minor Works)

Growth Management impacts

Not Applicable.

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Expenditures Current Biennium	2025-27 Fiscal Period Reapprops	2025-27 Fiscal Period New Approps
064-1	UW Building Account-State	3,234,000		1,663,000	1,571,000	
	Total	**3,234,000**	**0**	**1,663,000**	**1,571,000**	**0**

Acct Code	Account Title	Future Fiscal Periods 2027-29	2029-31	2031-33	2033-35
064-1	UW Building Account-State				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

No Operating Impact

OFM

Capital Project Request

2025-27 Biennium

*

Parameter	Entered As	Interpreted As
Biennium	2025-27	2025-27
Agency	360	360
Version	02-A	02-A
Project Classification	*	All Project Classifications
Capital Project Number	40000131	40000131
Sort Order	Project Class	Project Class
Include Page Numbers	N	No
For Word or Excel	N	N
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/9/2024 10:02AM

Project Number: 40000210
Project Title: Campus Asset Renewal Program FUTURE
Project Class: Preservation

Description

Starting Fiscal Year: 2028
Agency Priority: 14

Project Summary

This is a placeholder for future Campus Asset Renewal Program projects.

Project Description

This is a placeholder for future Campus Asset Renewal Program projects.

Location

City: Seattle **County:** King **Legislative District:** 043

Project Type

Remodel/Renovate/Modernize (Major Projects)

Growth Management impacts

Not applicable

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Current Biennium	2025-27 Fiscal Period Reapprops	New Approps
057-1	State Bldg Constr-State	580,000,000				
	Total	**580,000,000**	**0**	**0**	**0**	**0**

Acct Code	Account Title	Future Fiscal Periods 2027-29	2029-31	2031-33	2033-35
057-1	State Bldg Constr-State	130,000,000	140,000,000	150,000,000	160,000,000
	Total	**130,000,000**	**140,000,000**	**150,000,000**	**160,000,000**

Operating Impacts

No Operating Impact

OFM

Capital Project Request

2025-27 Biennium

*

Parameter	Entered As	Interpreted As
Biennium	2025-27	2025-27
Agency	360	360
Version	02-A	02-A
Project Classification	*	All Project Classifications
Capital Project Number	40000210	40000210
Sort Order	Project Class	Project Class
Include Page Numbers	N	No
For Word or Excel	N	N
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/9/2024 10:03AM

Project Number: 40000207
Project Title: Clean Energy Transformation FUTURE
Project Class: Preservation

Description

Starting Fiscal Year: 2028
Agency Priority: 15

Project Summary

This is a placeholder for future Clean Energy Transformation projects.

Project Description

This is a placeholder for future Clean Energy Transformation projects.

Location

City: Seattle **County:** King **Legislative District:** 043

Project Type

Infrastructure (Major Projects)

Growth Management impacts

Not applicable

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Expenditures Current Biennium	2025-27 Fiscal Period Reapprops	2025-27 Fiscal Period New Approps
26C-1	Climate Commit Accou-State	689,600,000				
	Total	**689,600,000**	**0**	**0**	**0**	**0**

Acct Code	Account Title	Future Fiscal Periods 2027-29	2029-31	2031-33	2033-35
26C-1	Climate Commit Accou-State	190,200,000	176,800,000	162,600,000	160,000,000
	Total	**190,200,000**	**176,800,000**	**162,600,000**	**160,000,000**

Operating Impacts

No Operating Impact

OFM

Capital Project Request

2025-27 Biennium

*

Parameter	Entered As	Interpreted As
Biennium	2025-27	2025-27
Agency	360	360
Version	02-A	02-A
Project Classification	*	All Project Classifications
Capital Project Number	40000207	40000207
Sort Order	Project Class	Project Class
Include Page Numbers	N	No
For Word or Excel	N	N
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/9/2024 10:04AM

Project Number: 40000208
Project Title: Infrastructure Renewal FUTURE
Project Class: Preservation

Description

Starting Fiscal Year: 2028
Agency Priority: 16

Project Summary

This is a placeholder for future Infrastructure Renewal projects.

Project Description

This is a placeholder for future Infrastructure Renewal projects.

Location

City: Seattle **County:** King **Legislative District:** 043

Project Type

Infrastructure (Major Projects)

Growth Management impacts

Not applicable

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Expenditures Current Biennium	2025-27 Fiscal Period Reapprops	2025-27 Fiscal Period New Approps
064-1	UW Building Account-State	200,000,000				
	Total	**200,000,000**	**0**	**0**	**0**	**0**

Acct Code	Account Title	Future Fiscal Periods 2027-29	2029-31	2031-33	2033-35
064-1	UW Building Account-State	50,000,000	50,000,000	50,000,000	50,000,000
	Total	**50,000,000**	**50,000,000**	**50,000,000**	**50,000,000**

Operating Impacts

No Operating Impact

OFM

Capital Project Request

2025-27 Biennium

*

Parameter	Entered As	Interpreted As
Biennium	2025-27	2025-27
Agency	360	360
Version	02-A	02-A
Project Classification	*	All Project Classifications
Capital Project Number	40000208	40000208
Sort Order	Project Class	Project Class
Include Page Numbers	N	No
For Word or Excel	N	N
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/9/2024 10:05AM

Project Number: 40000209
Project Title: Asset Preservation (Minor Works) FUTURE
Project Class: Preservation

Description

Starting Fiscal Year: 2028
Agency Priority: 17

Project Summary

This is a placeholder for future Asset Preservation (Minor Works) projects.

Project Description

This is a placeholder for future Asset Preservation (MinorWorks) projects.

Location

City: Seattle **County:** King **Legislative District:** 043

Project Type

Facility Preservation (Minor Works)

Growth Management impacts

Not applicable

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Current Biennium	2025-27 Fiscal Period Reapprops	New Approps
064-1	UW Building Account-State	172,700,000				
	Total	**172,700,000**	**0**	**0**	**0**	**0**

Acct Code	Account Title	Future Fiscal Periods 2027-29	2029-31	2031-33	2033-35
064-1	UW Building Account-State	37,650,000	40,950,000	46,900,000	47,200,000
	Total	**37,650,000**	**40,950,000**	**46,900,000**	**47,200,000**

Operating Impacts

No Operating Impact

OFM

Capital Project Request

2025-27 Biennium

*

Parameter	Entered As	Interpreted As
Biennium	2025-27	2025-27
Agency	360	360
Version	02-A	02-A
Project Classification	*	All Project Classifications
Capital Project Number	40000209	40000209
Sort Order	Project Class	Project Class
Include Page Numbers	N	No
For Word or Excel	N	N
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

TAB C
PROGRAMMATIC PROJECTS

New Requests	
40000146	Chemical Sciences & Bagley Hall
Reappropriations	
40000100	Intellectual House – Phase 2
40000101	UW Tacoma – Land Acquisition
91000027	UWMC NW – Campus Behavioral Health Renovation
91000016	Ctr. for Advanced Materials and Clean Energy Research Test Beds
40000098	UW Clean Energy Testbeds

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UW PROGRAMMATIC PROJECTS

Request Summaries

Chemical Sciences & Bagley Hall - $125M for Construction

The University of Washington requests $125 million from the State 057 Building Construction Account for construction work associated with the Chemical Sciences Building project. Chemistry is a core component of the undergraduate and graduate educational experience at the UW and a new Chemical Sciences Building (CSB) will enable the UW to attract and retain world-class faculty and graduate students and to develop new interdisciplinary hands-on educational opportunities to train the next generation of chemical scientists in the state. In addition to the new building, the University will address significant deferred maintenance and increase undergraduate capacity through the demolition of the Chemistry Library and renovations of existing Chemistry spaces in Bagley Hall, which is ranked #2 on the list of facilities with deferred renewal and life safety needs.

Total project cost is estimated at $291 million with $161 million coming from local sources. Design of the CSB is underway, with selection of the design-build partner imminent and construction anticipated to begin in March 2026, with full occupancy in April 2028 (Tentative occupancy for Bagley Hall is April 2030). Compared to previous submissions to the state, the CSB project was reduced in scope to a total project cost of $191 million as reflected in the FY25 Supplemental Request. The state funding request was subsequently reduced from $200 million to $130 million ($5 million in design and $125 million).

Intellectual House (wəɬəbʔaltxʷ) Phase 2 - $9M in Reappropriations

The University of Washington requests $9 million of funding reappropriations from the State 057 Building Construction Account for design and construction of the Intellectual House - Phase 2. Total project cost is now estimated at $15.3 million with $6.33 million coming from philanthropy and local sources.

UW Tacoma – Land Acquisition - $7.7M in Reappropriations

The University of Washington requests $7.7 million dollars of funding reappropriations from the State 057 Building Construction Account to acquire seven (7) properties within the existing established boundaries of the University of Washington - Tacoma Campus.

Funding has been expended from this account, but the CBS does not capture any of the expended funding to date.

UWMC NW – Campus Behavioral Health Renovation - $12.039M in Reappropriations

The University of Washington requests $12.039 million of reappropriations from the State 057 Building Construction Account for the ongoing construction phase of the Behavioral Health Teaching Renovation.

Ctr. for Advanced Materials and Clean Energy Research Test Beds (Site W27) $11.693M Reappropriations

The University of Washington requests $11.693 million of funding reappropriations from the State 057 Building Construction Account for the CAMCET Test Beds (Site W27). No additional State funding is anticipated for this project as a Public Private Partnership (P3) will be used to develop the site.

This project was originally funded in the 15-17 biennium ($9M) and the 17-19 biennium ($20M). Reappropriations are required for this project due to issues related to previous developer selection litigation and current developer financing constraints which have delayed the project for several years. The UW is also working with Seattle City Light and the developer (Wexford) to determine electrical service vault locations as well as proposed tunnel/utility connections to service the site which is taking longer than anticipated.

UW Clean Energy Testbeds - $5.936M in Reappropriations

The University of Washington requests $5.936 million of funding reappropriations from the Climate Commitment Account 26-C for the UW Clean Energy Testbeds.

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OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

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Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 3:14PM

Project Number: 40000146
Project Title: Chemical Sciences & Bagley Hall
Project Class: Program

Description

Starting Fiscal Year: 2024
Agency Priority: 1

Project Summary

The University of Washington requests $125 million from the State 057 Building Construction Account for construction work associated with the Chemical Sciences Building project. Chemistry is a core component of the undergraduate and graduate educational experience at the UW and a new Chemical Sciences Building (CSB) will enable the UW to attract and retain world-class faculty and graduate students and to develop new interdisciplinary hands-on educational opportunities to train the next generation of chemical scientists in the state. In addition to the new building, the University will address significant deferred maintenance and increase undergraduate capacity through the demolition of the Chemistry Library and renovations of existing Chemistry spaces in Bagley Hall, which is ranked #2 on the list of facilities with deferred renewal and life safety needs. Total project cost is estimated at $291 million with $161 million coming from local sources. Design of the CSB is underway, with selection of the design-build partner imminent and construction anticipated to begin in March 2026, with full occupancy in April 2028 (Tentative occupancy for Bagley Hall is April 2030). Compared to previous submissions to the state, the CSB project was reduced in scope to a total project cost of $191 million as reflected in the FY25 Supplemental Request. The state funding request was subsequently reduced from $200 million to $130 million ($5 million in design and $125 million).

Project Description

Please see the Chemical Sciences & Bagley Hall - Questions Attachment. Due to additional questions for the 25-27 Biennium and the length of our responses, they do not fit the online report format.

Location

City: Seattle **County:** King **Legislative District:** 043

Project Type

New Facilities/Additions (Major Projects)
Remodel/Renovate/Modernize (Major Projects)

Growth Management impacts

Not applicable.

New Facility: Yes

How does this fit in master plan

The University of Washington 2019 Campus Master Plan (CMP) is the primary regulatory vehicle for the University's future development, defining both the square footage to be constructed and the geographic location of such developments. The proposed location for the Chemical Sciences Building is site C17 within Central Campus as defined by the CMP. The new facility will occupy this site, supporting the hub of learning activity and knowledge sharing that is core to the Central Campus. The CMP creates a framework designed to enable the UW's continued evolution as a 21st century public higher education research and service institution. The CMP is founded on five guiding principles, the most significant relative to this project is Guiding Principle #2: Learning-Based Academic and Research Partnerships: Support and catalyze academic, teaching and research partnerships with allied industries; contribute to a highly livable innovation environment; and stimulate job growth and community and economic development.

Funding

	Expenditures	2025-27 Fiscal Period

OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 3:14PM

Project Number: 40000146
Project Title: Chemical Sciences & Bagley Hall
Project Class: Program

Funding

Acct Code	Account Title	Estimated Total	Prior Biennium	Current Biennium	Reapprops	New Approps
057-1	State Bldg Constr-State	130,000,000			5,000,000	125,000,000
148-6	HE - Dedicated Locl-Non-Appropria	161,000,000				61,000,000
	Total	**291,000,000**	**0**	**0**	**5,000,000**	**186,000,000**

		Future Fiscal Periods			
		2027-29	2029-31	2031-33	2033-35
057-1	State Bldg Constr-State				
148-6	HE - Dedicated Locl-Non-Appropria	50,000,000	50,000,000		
	Total	**50,000,000**	**50,000,000**	**0**	**0**

Operating Impacts

No Operating Impact

Narrative

The funding for Maintenance & Operations support will occur in a future request.

OFM

Capital Project Request

2025-27 Biennium

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Parameter	Entered As	Interpreted As
Biennium	2025-27	2025-27
Agency	360	360
Version	02-A	02-A
Project Classification	*	All Project Classifications
Capital Project Number	40000146	40000146
Sort Order	Project Class	Project Class
Include Page Numbers	N	No
For Word or Excel	N	N
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

40000146 - Chemical Sciences & Bagley Hall
Questions/Answers

Project Description

1. Identify the problem or opportunity addressed. Why is the request a priority? This narrative should identify unserved/underserved people or communities, operating budget savings, public safety improvements or other backup necessary to understand the need for the request. For preservation projects, it is helpful to include information about the current condition of the facility or system.

   Chemistry research is at a critical point due to the antiquated facilities in which the program is housed, which no longer meet the requirements of modern science and significantly constrain the type of science allowed. Issues such as temperature and humidity control (instability), major equipment system failure, and the lack of dedicated chemical storage and safe transport pathways create hazardous conditions for faculty and students. Additionally, minimal student collaboration areas, small lab configurations, and decentralized locations where research is conducted limits opportunities for interdepartmental collaboration that drives creativity and innovation.

   The curricular impact of not addressing these concerns goes well beyond Chemistry majors. Chemistry courses are required for students in many STEM and health sciences fields. Annually, Chemistry teaches more than 68,000 Student Credit Hours (SCH). All engineering students admitted directly to UW require at least one chemistry course for placement into an engineering major. All students applying to the UW School of Medicine (i.e., to become an MD) require two years of lab-based Chemistry/Biochemistry. Other health sciences programs typically require at least one year of Chemistry. The core introductory chemistry sequence alone (CHEM 142/152/162) serves as a prerequisite for 57 other UW Seattle STEM courses and enrolls approximately 5,600 students annually, generating about 28,000 SCH in addition to courses at UW Bothell and UW Tacoma.

   The construction of the Chemical Sciences Building (CSB) will enable a new mode of science where chemical research can transform into real-world applications in real-time. The proposed location of the CSB adjacent to the Chemistry Building, Bagley Hall, and Molecular and Nano Engineering Sciences facilities will create a chemical science cluster of excellence and interdisciplinary research.

   As currently envisioned, the Chemical Sciences Building will be a research and advanced learning facility housing all the Chemistry research labs currently located in Bagley Hall and the Chemistry Library. The project is currently estimated to be a ~110,000 GSF highly specialized research and instructional building with an anticipated project cost of $191 million. The proposed location is identified as site C17 in the UW 2019 Seattle Campus Master Plan. The project will include the demolition of the Chemistry Library and enable the University to vacate portions of Bagley Hall, enabling subsequent renovations in that facility while ensuring the continuity of program operations.

   The Chemistry Library, a 39,363 GSF facility built in 1957, is overwhelmed with program constraints, and occupies a development site that can accommodate over double the current program capacity. By replacing this facility with the CSB, it will remove over $20 million of deferred maintenance and projected renewal needs, equating to almost 50% of the current replacement value of the facility.

   As mentioned earlier, the combined CSB-Bagley project will also enable us to move forward with long-needed renovations in Bagley Hall. A total of $100 million will be deployed from local debt service commitments, which will replace similar debt commitments that are reaching the end of their amortization schedules. Bagley Hall, a 223,700 GSF facility built in 1937, is plagued with HVAC system deficiencies, electrical upgrade needs, and program constraints, and the planned investment is a fraction of the total identified need in the building. By relocating critical chemistry research out of antiquated space in Bagley Hall to the CSB, it enables a significant portion of Bagley to be repurposed for other uses such as much-needed classrooms, class labs, and office space. This, in turn, will reduce the challenging research-related HVAC and electrical demands and will contribute to a reduction in annual corrective maintenance and utility expenses associated with aging equipment and assets. In summary, we are redeploying debt service capacity to improve Bagley and tend to infrastructure while we focus simultaneously on meeting the research and instructional needs of one of our largest STEM disciplines.

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

   This request will enable the University to construct a ~110,000 GSF new facility dedicated to chemical sciences. The current schedule is shown below:

   - *Predesign* — *Fall 2022 - June 2024*
   - *Design-Build Partners Selection* — *June - December 2024*
   - *Design & Permitting* — *January 2025 - June 2026*
   - *Enabling Work & Construction* — *March 2026 - April 2028*
   - *Occupancy & Closeout* — *May 2028 - August 2029*

A detailed C-100 Cost Template for the CSB is included.

3. How would the request address the problem or opportunity identified in question 1? What would be the result of not acting?

   The purpose of the new Chemical Sciences Building is to support the broad overlap of common areas of excellence in research and pedagogy in the chemical sciences, enabling researchers and students to capitalize on these synergies. Faculty and research labs are currently housed in several physically separated, aging, and high-risk facilities (including Bagley Hall and the Chemistry Library Building), which are no longer appropriate for modern chemical research and instruction. The current research infrastructure presents serious roadblocks to development of new interdisciplinary courses and prevents faculty, student, and industry interactions necessary for developing the next generation workforce in the chemical sciences in the state and provide available and appropriate space needed to build on their areas of common interests and develop bold new research and education initiatives.

   Failure to address this ever-growing list of deficiencies will result in loss of grant revenue, loss of faculty (inc. graduate students), and have adverse effects on undergraduate enrollment across the institution in STEM and health sciences fields of study, as well as students applying to the UW School of Medicine. Since significant portions of Washington state's workforce depend on graduates who possess a background in chemistry, failure to address these deficiencies will have a negative impact on the state's economy across multiple industries including aerospace, computer science, engineering, and medicine to name a few.

   Our inability to cohesively co-develop and modernize new interdisciplinary course offerings because of existing facility limitations has also resulted in important missed opportunities for funding and discovery. For example, we currently lack modern temperature-controlled instructional laboratory spaces to house instrumentation for quantum technologies. Shared research and instructional spaces will significantly enhance our ability to build on existing research synergies and to provide cutting-edge education and training experiences for our students.

4. What alternatives were explored? Why was the recommended alternative chosen? Be prepared to provide detailed cost backup. If this project has an associated predesign, please summarize the alternatives the predesign considered.

   Numerous alternatives have been explored during the initial formation and predesign process. This has led to the development of a Chemical Sciences Modernization "program" that includes two distinct (yet complimentary) phases. The first is the construction of the new Chemical Sciences Building on the location of the existing Chemistry Library. The second is the partial renovation of Bagley Hall.

   The renovation of Bagley Hall has been a goal of the University for several decades dating back to the University's 'Restore the Core Program' in the early 2000's. However, to address the issues identified in Bagley, chemistry lab surge space or permanent space is required to accommodate both teaching and research while the renovations take place. Ultimately, the preferred option of relocating research labs to a new facility will provide the opportunity to backfill the space vacated in Bagley Hall with organic chemistry instructional labs and related programs housed in other compromised facilities across campus, alleviating the existing bottleneck in organic chemistry and enabling expanded access for undergraduate students. The University is prioritizing local funding to address the deferred renewal needs and strategic renovation of Bagley Hall to demonstrate our commitment to addressing our deferred maintenance backlog in support of critical academic programs.

   The predesign was submitted to OFM in July 2024. A detailed C-100 Cost Template for the CSB is included

5. Which clientele would be impacted by the budget request? Where and how many units would be added, people or communities served, etc.

   Chemistry is a core program and chemistry courses are prerequisites for students in STEM fields. Chemistry faculty collaborate closely with other researchers across the university and the Pacific Northwest and are awarded ~$30 million in externally funded grants and contracts annually ensuring that our students are at the forefront of chemical discovery and skill development. The new facility will enable the college to continue to attract and retain world-class faculty and graduate students that in return, will increase the offering of quality educational opportunities for undergraduate students in the state. Some of the more specific benefits of the request are summarized in the following narratives.

   Improved Faculty, Student, and Industry Interaction
   The proposed Chemical Sciences Building will provide the necessary environment to grow faculty, student, and industry interactions. For example, our department is a national leader in areas of data science intersecting with chemical, materials, energy research, and bioanalytical chemistry. These skills are now identified as essential elements for the future workforce in chemical and materials centered industries that are critical to Washington State's economy, including aerospace, microelectronics, healthcare, and quantum information technology. Yet, our current facilities are ill-equipped to enable research, instruction, and training in these rapidly growing fields. The CSB will be a catalyst for new economic activity for Washington state, for training the future workforce with the skills the industry expects, and for incubating and translating new technologies from the laboratory to the

marketplace. The new CSB building will be crucial in meeting student demand for hands-on independent research projects and the development of modern interdisciplinary courses for training the next generation of chemical scientists in the state.

Collaborative Teaching Opportunities
The Chemistry department is involved in exciting collaborative teaching outcomes. Chemistry faculty successfully led a five-year, $3 million National Science Foundation (NSF) grant to develop a sustainable and cohesive graduate curriculum at the nexus of data science and chemical sciences and engineering. The NSF traineeship program, Accelerating Quantum Enabled Technologies, is another example where chemistry faculty members are working closely with physicists and engineers to establish a unique curriculum to train the next generation of students about materials with the goal of enabling quantum technologies, harnessing quantum in device engineering, and developing algorithms inspired by or exploiting quantum phenomena.

Research Advancement
The Chemical Sciences Building will allow us to build on existing areas of research excellence. The discovery and application of advanced materials for clean energy applications are one of the most prominent examples. The UW Molecular Engineering and Sciences Institute, the joint UW/Pacific Northwest National Laboratory materials institute (NW IMPACT), a newly funded DOE Energy Frontier Research Center, the NSF Materials Research Science and Engineering Center, and the Washington Clean Energy Institute are all examples of impactful collaborative research which centers around the Chemical Sciences. These efforts have also naturally supported growing initiatives in the materials science aspects of UW QuantumX and new quantum information technologies.

Specific examples of UW chemistry research include development of assays to detect treatable newborn screening for genetic diseases, using polymer chemistry to 3D print sustainable materials for construction, developing at-home blood sampling technologies to understand the human body's response to wildfire smoke, developing photo-responsive magnetic quantum materials, development of data analysis software for biofuels, forensics, food safety and industrial feed stocks, and discovering how the first cells formed four billion years ago on Earth.

Established and emerging areas of collaborative Chemical Science research at UW include synthetic biology, basic and applied polymer science and engineering, applications of machine learning and AI across a spectrum of computational molecular science and engineering activities, and chemical catalysis and reaction engineering. A more thorough integration of these joint research activities in one building would enhance the ability of chemistry and other units across campus to attract and retain world-class faculty, carry out impactful long-term research projects, attract more interdisciplinary research funding, increase the number of joint appointees across units and colleges and grow our capacity to collaborate with PNNL in a more integrative fashion.

6. Does this project or program leverage non-state funding? If yes, how much by source? If the other funding source requires cost share, also include the minimum state (or other) share of project cost allowable and the supporting citation or documentation.

The project will leverage $161 million of non-state funding (55% of the anticipated total project cost). The combination of state and local funding sources is outlined below:

Supplemental Capital Request 2024 (Design)	*$ 5,000,000*
State Capital Request 25-27 (Construction)	*$ 125,000,000*
Central Equity/Debt	*$ 100,250,000*
Unit Equity (College of Arts & Sciences)	*$ 40,750,000*
Donor Funding	*$ 20,000,000*
Total Project Cost	*$ 291,000,000*

7. Describe how this project supports the agency's strategic master plan or would improve agency performance. Reference feasibility studies, master plans, space programming and other analyses as appropriate.

The University of Washington 2019 Campus Master Plan (CMP) is the primary regulatory vehicle for the University's future development, defining both the square footage to be constructed and the geographic location of such developments.

The proposed location for the Chemical Sciences Building is site C17 within Central Campus as defined by the CMP. The new facility will occupy this site, supporting the hub of learning activity and knowledge sharing that is core to the Central Campus.

The CMP creates a framework designed to enable the UW's continued evolution as a 21st century public higher education research and service institution. The CMP is founded on five guiding principles, the most significant relative to this project is Guiding Principle #2: Learning-Based Academic and Research Partnerships: Support and catalyze academic, teaching and research partnerships with allied industries; contribute to a highly livable innovation environment; and stimulate job growth and community and economic development.

8. Does this decision package include funding for any Information Technology related costs including hardware, software (to include cloud-based services), contracts or staff? If the answer is yes, you will be prompted to attach a complete IT addendum. (See Chapter 10 of the operating budget instructions for additional requirements.)

   Not applicable

9. If the project is linked to the Puget Sound Action Agenda, describe the impacts on the Action Agenda, including expenditure and FTE detail. See Chapter 14 (Puget Sound Recovery and Governor's Salmon Strategy) in the 2025-27 Operating Budget Instructions.

   Not applicable

10. How does this project contribute to meeting the greenhouse gas emissions limits established in RCW 70A.45.050, clean buildings performance standards in RCW 19.27A.210, or other statewide goals to reduce carbon pollution and/or improve energy efficiency? Please elaborate. For buildings subject to the clean buildings performance standards, describe your compliance pathway for the building, and include information about energy audits, metering, and energy benchmarking.

    The new facility with be built with state of the art, integrated building controls that allow for "real-time" management of the facilities energy usage via data analytics which will help limit greenhouse gas emissions and ensure compliance with the Clean Buildings Performance Standard. Increasing our energy efficiency is one of five key components to the University's Clean Energy Strategy (our decarbonization plan).

    This project will also allow the University to demolish an aging facility with numerous pieces of antiquated equipment and building systems that currently contribute to unnecessary energy use purely due to the inefficient nature of the old technology. In addition, continued reliance on this outdated equipment strains maintenance resources and puts the University at risk of service disruptions and equipment failures that jeopardize our ability to provide the level of energy service needed daily.

    The University has been at the forefront of ongoing discussions with Commerce and other groups/authorities in helping develop and establish strategies to ensure compliance with the greenhouse gas emission limits and the Clean Building Performance Standard can indeed be a reality.

11. How is your proposal impacting equity in the state? Which communities are impacted by this proposal? Include both demographic and geographic communities. How are disparities in communities impacted?

    As the heart of the UW's academic experience, the College of Arts & Sciences embraces, embodies, and explores the world in all its diversity.

    UW Chemistry is an integral part of the college and the university, and their courses and research programs leverage fundamental chemical principles and the diverse expertise of our students, staff, and faculty, to shape a sustainable, resilient, and just future. Together they tackle some of the biggest challenges facing science and society: clean water and energy for all, eradicating disease and promoting global public health, advancing the next generation of efficient, sustainable, and accessible technologies, and educating to advance scientific literacy, among others. UW chemists know that their best work will happen when members of our community are affirmed, empowered, and committed to our shared CHEM ideals:

    - ***COLLABORATION*** *that brings all people and ideas to the table*
    - ***HONOR*** *and respect for the people and lands in and around our community*
    - ***ENGAGEMENT*** *with tough questions and curiosity that drives discovery and change in science and society*
    - ***MOTIVATION*** *to strive for excellence in education and research at the frontiers of chemical science*

    At the University of Washington, diversity is integral to excellence. We value and honor diverse experiences and perspectives, strive to create welcoming and respectful learning environments, and promote access, opportunity, and justice for all.

    In addition to the principles mentioned above, the University believes that new facilities (inc. renovated spaces) do a much better job of taking historically marginalized communities into account, as they are able to be more accessible and inclusive, take a wider array of learning styles and methods into account, and generally utilize new information, processes, and technology in a way that older facilities cannot adequately support.

12. Is this project eligible for Direct Pay? If the answer is yes, you must include this project to the list of direct pay projects and information for submittal (see Chapter 1.7 of the capital budget instructions for additional instructions).

    Not applicable

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

In summary, the top highly research intensive (universities at the forefront of research and innovation) Chemistry departments in the world have tightly integrated research and teaching programs where new discoveries in basic chemical sciences at the molecular level translate into real-world solutions via engineering and materials science applications. The UW has a world-class department of Chemistry with vibrant research programs in basic and applied chemical sciences. Despite demonstrated excellence in research and pedagogy, the Chemistry Department at the University of Washington is unable to maximize its impact in training the next generation of scientists. The goals (and anticipated outcomes) of the project are well defined and outlined below.

Student/Faculty Growth and Retention: *Increase degree production through recruitment of faculty and graduate students resulting in an expansion of class offerings.*

Drive Interdisciplinary undergraduate research: *enable the development of modern interdisciplinary courses and meeting demands for hands-on independent research projects.*

Increase grant funding and foster modern Chemical Sciences research: *Create a modern research environment built around interdisciplinary collaboration.*

Synergy/Interdependence Between Research & Classroom: *Capitalize on synergy and interdependence between research and the classroom by creating an environment that drives innovation and research that feeds what is taught in the classroom.*

Essential Workforce Development: *Empower chemical and materials industries in Washington State.*

Industry Partnerships: *Grow and strengthen relationships with industry partners and subsequently create opportunities for more funding through collaboration opportunities.*

Modernization/Optimization: *Optimize space by 15% through the implementation of efficiencies, modernization, and economies of scale.*

14. Reappropriation: if the project was originally funded prior to the 2021-23 biennium, describe the project and each subproject, including the original appropriation year, status of the project and an explanation why a reappropriation is needed.

Not applicable

15. If the project is linked to the Governor's Salmon Strategy provide an explanation of how the budget request relates to a salmon strategy action, is urgent in the coming biennium to advance salmon recovery, is aligned with a federally approved salmon recovery plan, and/or advances a known tribal priority.

Not applicable

16. In the agency summary, include the statement, "Related to implementing the Governor's Salmon Strategy." See Chapter 14 in the 2025-27 operating budget instructions for more information. (Note: This question is not in CBS but does need a response if applicable).

Not applicable

STATE OF WASHINGTON
AGENCY / INSTITUTION PROJECT COST SUMMARY

Updated June 2024

Agency	University of Washington
Project Name	Chemical Sciences & Bagley Hall (Chemical Sciences Building)
OFM Project Number	40000146

Contact Information	
Name	John Wetzel
Phone Number	206-616-5924
Email	wetzej@uw.edu

Statistics			
Gross Square Feet	109,373	MACC per Gross Square Foot	$1,099
Usable Square Feet	67,779	Escalated MACC per Gross Square Foot	$1,195
Alt Gross Unit of Measure			
Space Efficiency	62.0%	A/E Fee Class	A
Construction Type	Laboratories (Research)	A/E Fee Percentage	6.52%
Remodel	No	Projected Life of Asset (Years)	
Additional Project Details			
Procurement Approach	DB-Progressive	Art Requirement Applies	Yes
Inflation Rate	3.33%	Higher Ed Institution	Yes
Sales Tax Rate %	10.35%	Location Used for Tax Rate	Seattle
Contingency Rate	5%		
Base Month (Estimate Date)	August-24	OFM UFI# (from FPMT, if available)	
Project Administered By	Agency		

Schedule			
Predesign Start	January-23	Predesign End	June-24
Design Start	July-24	Design End	June-26
Construction Start	March-26	Construction End	April-28
Construction Duration	25 Months		

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Project Cost Summary

Total Project	$176,420,327	Total Project Escalated	$191,000,000
		Rounded Escalated Total	$191,000,000
Amount funded in Prior Biennia			**$6,000,000**
Amount in current Biennium			**$185,000,000**
Next Biennium			**$0**
Out Years			**$0**

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

Consultant Services			
Predesign Services	$895,483		
Design Phase Services	$14,330,782		
Extra Services	$709,427		
Other Services	$3,905,050		
Design Services Contingency	-$2,554,343		
Consultant Services Subtotal	**$17,286,398**	**Consultant Services Subtotal Escalated**	**$17,843,858**

Construction			
Maximum Allowable Construction Cost (MACC)	$120,160,604	Maximum Allowable Construction Cost (MACC) Escalated	$130,753,625
DB-Progressive Risk Contingencies	$0		
DB-Progressive Management	$0		
Owner Construction Contingency	$8,767,664		$9,555,000
Non-Taxable Items	$1,416,104		$1,543,270
Sales Tax	$13,344,076	Sales Tax Escalated	$14,681,795
Construction Subtotal	**$143,688,447**	**Construction Subtotal Escalated**	**$156,533,690**

Equipment			
Equipment	$4,029,670		
Sales Tax	$417,071		
Non-Taxable Items	$0		
Equipment Subtotal	**$4,446,740**	**Equipment Subtotal Escalated**	**$4,846,058**

Artwork			
Artwork Subtotal	**$650,000**	**Artwork Subtotal Escalated**	**$650,000**

Agency Project Administration			
Agency Project Administration Subtotal	$5,292,223		
DES Additional Services Subtotal	-$1,441,112		
Other Project Admin Costs	$2,365,064		
Project Administration Subtotal	**$6,216,175**	**Project Administration Subtotal Escalated**	**$6,774,388**

Other Costs			
Other Costs Subtotal	**$4,132,567**	**Other Costs Subtotal Escalated**	**$4,352,006**

Project Cost Estimate			
Total Project	**$176,420,327**	Total Project Escalated	**$191,000,000**
		Rounded Escalated Total	**$191,000,000**

Funding Summary

	Project Cost (Escalated)	Funded in Prior Biennia	Current Biennium 2025-2027	2027-2029	Out Years
Acquisition					
Acquisition Subtotal	$0				**$0**
Consultant Services					
Consultant Services Subtotal	$17,843,858	$5,175,000	$12,668,858		**$0**
Construction					
Construction Subtotal	$156,533,690		$156,533,690		**$0**
Equipment					
Equipment Subtotal	$4,846,058		$4,846,058		**$0**
Artwork					
Artwork Subtotal	$650,000		$650,000		**$0**
Agency Project Administration					
Project Administration Subtotal	$6,774,388	$775,000	$5,999,388		**$0**
Other Costs					
Other Costs Subtotal	$4,352,006	$50,000	$4,302,006		**$0**
Project Cost Estimate					
Total Project	**$191,000,000**	**$6,000,000**	**$185,000,000**	**$0**	**$0**
	$191,000,000	**$6,000,000**	**$185,000,000**	**$0**	**$0**
	Percentage requested as a new appropriation		**97%**		

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

What has been completed or is underway with a previous appropriation?
Pre-design, design, and pre-construction phase work.
Insert Row Here

What is planned with a future appropriation?
Construction phase activities.
Insert Row Here

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	$864,983			
Environmental Analysis	$10,500			
Predesign Study				
Program Estimates	$20,000			
Insert Row Here				
Sub TOTAL	**$895,483**	**1.0000**	**$895,483**	Escalated to Design Start
2) Construction Documents				
A/E Basic Design Services	$5,800,225			69% of A/E Basic Services
Additional DB Consultant Fees	$8,530,557			
Insert Row Here				
Sub TOTAL	**$14,330,782**	**1.0290**	**$14,746,375**	Escalated to Mid-Design
3) Extra Services				
Civil Design (Above Basic Svcs)				
Geotechnical Investigation	$388,727			
Commissioning				
Site Survey	$92,323			
Testing				
LEED Services	$53,450			
Voice/Data Consultant				
Value Engineering				
Constructability Review				
Environmental Mitigation (EIS)				
Landscape Consultant				
Honorarium Payments	$38,873			
Hazardous Materials Consultant	$97,182			
Permit Expeditor	$24,295			
Partnering	$14,577			
Insert Row Here				
Sub TOTAL	**$709,427**	**1.0290**	**$730,000**	Escalated to Mid-Design
4) Other Services				
Bid/Construction/Closeout	$2,605,898			31% of A/E Basic Services
HVAC Balancing				
Staffing				
As-Builts	$66,067			
Commissioning and Training	$458,800			
Cost / Scheduling Consultant	$91,760			
Move Coordination	$183,520			
Testing	$458,800			
Transition Services	$91,760			

Insert Row Here	-$51,555			adjustment to align with UW C-100
Sub TOTAL	**$3,905,050**	**1.0898**	**$4,255,724**	Escalated to Mid-Const.
5) Design Services Contingency				
Design Services Contingency	$992,037			
Other	-$3,546,381			subtract auto-calculated cells above
Insert Row Here				
Sub TOTAL	**-$2,554,343**	**1.0898**	**-$2,783,724**	Escalated to Mid-Const.
CONSULTANT SERVICES TOTAL	**$17,286,398**		**$17,843,858**	

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Cost Estimate Details

Construction Contracts				
Item	**Base Amount**	**Escalation Factor**	**Escalated Cost**	**Notes**
1) Site Work				
G10 - Site Preparation	$1,425,000			
G20 - Site Improvements	$1,689,186			
G30 - Site Mechanical Utilities	$1,199,842			
G40 - Site Electrical Utilities	$1,064,748			
G60 - Other Site Construction				
Other				
Insert Row Here				
Sub TOTAL	**$5,378,777**	**1.0531**	**$5,664,390**	
2) Related Project Costs				
Offsite Improvements				
City Utilities Relocation				
Parking Mitigation				
Stormwater Retention/Detention				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.0531**	**$0**	
3) Facility Construction				
A10 - Foundations	$1,992,391			
A20 - Basement Construction	$2,740,914			
B10 - Superstructure	$11,834,265			
B20 - Exterior Closure	$7,273,079			
B30 - Roofing	$1,080,755			
C10 - Interior Construction	$4,580,199			
C20 - Stairs	$883,617			
C30 - Interior Finishes	$3,863,698			
D10 - Conveying	$1,294,905			
D20 - Plumbing Systems	$7,527,257			
D30 - HVAC Systems	$16,741,692			
D40 - Fire Protection Systems	$956,668			
D50 - Electrical Systems	$13,133,172			
F10 - Special Construction	$1,757,227			
F20 - Selective Demolition				
General Conditions	$11,120,767			
Other Direct Cost				
Additional Escalation	$1,774,043			
Contractor-furnished Equipment	$6,411,681			
DB General Conditions	$8,006,400			excl. NSS GC's, row 40 above
DB Project Contingency	$8,406,719			

DB Fee	$3,402,377			on UW C-100 the DB Fee is excl. from MACC
Insert Row Here				
Sub TOTAL	**$114,781,827**	**1.0898**	**$125,089,235**	
4) Maximum Allowable Construction Cost				
MACC Sub TOTAL	**$120,160,604**		**$130,753,625**	
	$1,099		*$1,195 per GSF*	
This Section is Intentionally Left Blank				
7) Owner Construction Contingency				
Allowance for Change Orders	$6,008,030			
Adjustment to Change Order Allowance	-$199,625			
Incentive Compensation	$2,752,799			
Moving Costs	$206,460			
Insert Row Here				
Sub TOTAL	**$8,767,664**	**1.0898**	**$9,555,000**	
8) Non-Taxable Items				
Additional Tax for Design Build Services	$1,416,104			
Insert Row Here				
Sub TOTAL	**$1,416,104**	**1.0898**	**$1,543,270**	
9) Sales Tax				
Sub TOTAL	**$13,344,076**		**$14,681,795**	
CONSTRUCTION CONTRACTS TOTAL	**$143,688,447**		**$156,533,690**	

Green cells must be filled in by user

Cost Estimate Details

Equipment				
Item	**Base Amount**	**Escalation Factor**	**Escalated Cost**	**Notes**
1) Equipment				
E10 - Equipment				
E20 - Furnishings	$3,532,758			
F10 - Special Construction				
Owner Furnished Equipment	$458,800			
Other	$38,112			Additional tax that escalated on UW's C-100
Insert Row Here				
Sub TOTAL	**$4,029,670**	**1.0898**	**$4,391,534**	
2) Non Taxable Items				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.0898**	**$0**	
3) Sales Tax				
Sub TOTAL	**$417,071**		**$454,524**	
EQUIPMENT TOTAL	**$4,446,740**		**$4,846,058**	

Green cells must be filled in by user

Cost Estimate Details

Artwork					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Artwork					
Project Artwork	$0				0.5% of total project cost for new construction
Higher Ed Artwork	$951,750				0.5% of total project cost for new and renewal construction
Other	-$301,750				1/2% of $130m state funding = $650,000
Insert Row Here					
ARTWORK TOTAL	**$650,000**		**NA**	**$650,000**	

Green cells must be filled in by user

Cost Estimate Details

Project Management					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Agency Project Management					
Agency Project Management	$5,292,223				
Additional Services	-$1,441,112				reduce to match PM fees in UW C-100
Preactive Project Management	$29,900				
Construction Management Allowance	$2,335,164				
Insert Row Here					
Subtotal of Other	*$2,365,064*				
PROJECT MANAGEMENT TOTAL	**$6,216,175**		**1.0898**	**$6,774,388**	

Green cells must be filled in by user

Cost Estimate Details

Other Costs				
Item	**Base Amount**	**Escalation Factor**	**Escalated Cost**	**Notes**
Mitigation Costs				
Hazardous Material Remediation/Removal				
Historic and Archeological Mitigation	$0			
Document Reproduction Taxable	$2,374			
Advertising	$1,424			
Utility Connection Fees	$199,411			
EH&S Support	$33,235			
Security and Traffic Control	$593,486			
Other Permits	$403,570			
Connectivity / UW-IT	$332,352			
In-Plant Services (UW Campus Engineering)	$267,781			
In-Plant Services (UW Facilities)	$189,915			
Utilities / Temporary Facilities	$474,789			
Building Permit	$1,167,586			
Builder's Risk	$459,662			
Other Cost	$6,980			
Insert Row Here	$0			
OTHER COSTS TOTAL	**$4,132,567**	**1.0531**	**$4,352,006**	

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Availability of Space/Campus Utilization Template

Project name:	Chemical Sciences Building	CBS/OFM Project #:	40000146
Institution:	University of Washington	Category:	Replacement - Major
Campus/Location:	Seattle Campus		

Enrollment

2023 fall on-campus student FTE:	50,097	Expected 2024 fall on-campus student FTE:	50,600
		% increase budgeted:	1.00%

Enter the average number of hours per week each for (a) classroom seat and (b) classroom lab is expected to be utilized in Fall 2024 for the campus where the project is located.

(a) General University Classroom Utilization	
Fall 2023 Weekly Contact Hours	591,757
Multiply by % FTE Increase Budgeted	1.00%
Expected Fall 2024 Contact Hours	597,699
Expected Fall 2024 Classroom Seats	
Expected Hours per Week Utilization	-
HECB utilization standard (hours/GUC seat)	22.0
Difference in utilization standard	-100.0%

(b) General University Lab Utilization	
Fall 2023 Weekly Contact Hours	3,815
Multiply by % FTE Increase Budgeted	1.00%
Expected Fall 2024 Contact Hours	3,853
Expected Fall 2024 Class Lab Seats	
Expected Hours per Week Utilization	-
HECB utilization standard (hour/GUL seat)	16.0
Difference in utilization standard	-100.0%

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

Reasonableness of Cost Template

Project name:	Chemical Sciences Building	CBS/OFM Project #:	40000146
Institution:	University of WA	Category:	Replacement - Major
Campus/Location:	Seattle Campus		

	Construction Begin	Construction End	Construction mid-point	Escalation Multiplier
Construction mid-point:	March-26	April-28	March-27	1.4635

MACC from C-100: $130,753,625

	Expected MACC/GSF in 2019	Expected MACC/GSF	GSF by type	Expected MACC
Classrooms	$405	$593	5,797	$3,435,937
Instructional labs	$397	$581		$0
Research labs	$545	$798	76,314	$60,867,797
Administration	$406	$594	27,889	$16,570,890
Libraries	$340	$498		$0
Athletic	$385	$563		$0
Assembly, exhibit and meeting rooms	$428	$626		$0
			110,000	$80,874,624

C-100 to expected MACC variance: 162%

Efficiency of space allocation. For each major function in the proposed facility (classroom, instructional labs, offices), identify whether space allocations will be consistent with the Facility

Chemical Sciences Building					
Space Type	Detailed Space Type	ASF/FTE	FEPG Standard	Meets Standard	Comment
Labs + Support	General Lab + Lab Support	171	n/a	Yes	Current wet labs in Bagley Hall are sized at 170 ASF/FTE
	High-Performance Lab + Lab Support	171	n/a	Yes	Current wet labs in Bagley Hall are sized at 170 ASF/FTE
Offices	Researcher Office	50	140	Yes	Under standard due to group rooms
	Faculty Office	120	140	Yes	University standard of 120/office
Collaboration	Meeting Rooms	10	n/a	Yes	ASF based on total building occupancy
	Break Rooms	28	n/a	Yes	ASF based on total building occupancy
	Multi-Purpose Room	4	n/a	Yes	ASF based on total building occupancy
Classroom	Active Learning Classroom	25	16-22	No	Includes storage area. Could possibly expand to include more students.

Efficiency Ratio for the CSB		
Total ASF	Total GSF	Net Blgd Efficiency
67,779	109,373	62%

Example: efficiency of space allocation – FEPG standard

FEPG room classification number	FEPG room classification type	Project ASF per station	FEPG standard	Meets standard (Y/N)	Comments
110	Classroom	20	16-26	Y	
110	Classroom	30	16-26	N	Exceeds standards due to programmatic need for demonstration space
210	Class lab – physical science	70	40-90	Y	
215	Class lab – services			N/A	Sized appropriately to serve two labs
230	Computer lab	45	60	N	Falls below FEPG guideline, but meets programming needs
250	Research lab	80		N/A	Sized for research program needs
255	Research lab – service			N/A	Sized appropriately to serve research labs
311	Faculty office	140	140	Y	
311 & 312	Faculty chair office	175	175	Y	
311 & 312	Dean's office	200	200	Y	
313	Student assistants	140 per 4	140 per 2 min.	Y	4 student assistants = 2 FTEs
314	Clerical office	140	140	Y	2 FTEs
315	Office service, clerical station	100	100	Y	2 FTEs
316 & 317	Staff & other office	120	120	Y	
350	Conference room	300	310	N	Total SF shown; FEPG = total office area/12; project SF insignificant amount below standards, still meets FEPG guideline of 20 SF per station
610	Auditorium/ lecture hall	20	15-16	N	Additional SF needed to meet ADA requirements due to site conditions
FEPG room classification number	FEPG room classification type	Project ASF per station	FEPG standard	Meets standard (Y/N)	Comments
760	Hazardous material storage		As appropriate by code	N/A	Sized appropriately to serve labs
770	Hazardous waste storage		As appropriate by code	N/A	Sized appropriately to serve labs

Identify the (a) assignable square feet in the proposed facility; (b) the gross square feet; and (c) the net building efficiency ("a" divided by "b").

Instructions:
Provide the facility's condition score (1 superior – 5 marginal functionality) from the 2016 Comparable Framework study, and summarize the major structural and systems conditions that resulted in that score. Provide selected supporting documentation in appendix, and reference them in the body of the proposal.

Narrative Response:
This is a new facility that will be replacing the Chemistry Library built in 1957 that has a condition score of "3" that has numerous system issues and a substantial deferred maintenance backlog.

Instructions:
Identify the estimated number of additional FTE students the project is expected to enable the institution to serve when the space is fully occupied. Describe the method by which additional FTEs are calculated, including an analysis of probable student enrollment demand from project completion to full occupancy. Also provide an estimate of the number of additional FTE enrollments in high-demand fields and the fields in which such growth is expected to occur.

Per RCW 43.88D.010(1)(a), growth projects must also demonstrate that they can more cost- effectively provide enrollment access than alternatives such as university centers and distance learning.

Narrative Response:
The construction of a new Chemical Sciences Building and renovation of a portion of the vacated spaces in Bagley Hall, specifically a new Organic Chemistry Lab, will increase the student capacity per quarter by 300 students, representing a 20% overall increase. This was calculated based on the lab requirements for 24 teaching fume hoods, with the potential for 6 additional fume hoods/waste and dispensing hoods, enabling up to 10-12 new course sections, significantly reducing the current bottleneck in instructional lab teaching due to capacity constraints.

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OFM

360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/9/2024 10:06AM

Project Number: 40000100
Project Title: Intellectual House - Phase 2
Project Class: Program

Description

Starting Fiscal Year: 2024
Agency Priority: 2

Project Summary

The University of Washington requests $9 million of funding reappropriations from the State 057 Building Construction Account for design and construction of the Intellectual House - Phase 2. Total project cost is now estimated at $15.3 million with $6.3 million coming from philanthropy and local sources.

Project Description

Not required for reappropriation requests.

Location

City: Seattle **County:** King **Legislative District:** 043

Project Type

New Facilities/Additions (Major Projects)

Growth Management impacts

The Growth Strategies legislation of 1990 requires state agencies to comply with local land use regulations adopted pursuant to the Growth Management Act. The University of Washington acknowledges this through the development of the Campus Master Plan, in compliance with the City of Seattle Major Institutions District Municipal Code and Comprehensive Plan goals and policies.

New Facility: Yes

How does this fit in master plan

This project is aligned with the University of Washington 2019 Campus Master Plan (CMP) which was shaped by the strategic goals and the academic, research, and service missions of the University, all of which guide the physical development of the campus. The University's growth allowance in the CMP is 6.0 million net new gross square feet accommodated on 86 potential development sites. This was based on the projected enrollment growth of 11% over the 2018 to 2028 period. The proposed location for the Intellectual House - Phase 2 is site C4 within Central Campus. The development site was identified specifically for the expansion of the Intellectual House program.

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Expenditures Current Biennium	2025-27 Fiscal Period Reapprops	2025-27 Fiscal Period New Approps
057-1	State Bldg Constr-State	9,000,000			9,000,000	
148-6	HE - Dedicated Locl-Non-Appropria	6,300,000				6,300,000
	Total	**15,300,000**	**0**	**0**	**9,000,000**	**6,300,000**

Acct Code	Account Title	Future Fiscal Periods 2027-29	2029-31	2031-33	2033-35
057-1	State Bldg Constr-State				
148-6	HE - Dedicated Locl-Non-Appropria				
	Total	**0**	**0**	**0**	**0**

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360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/9/2024 10:06AM

Project Number: 40000100
Project Title: Intellectual House - Phase 2
Project Class: Program

Funding

Operating Impacts

No Operating Impact

Narrative

If any additional M&O is required for this project it will be submitted as part of a future Operating Budget Request.

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Capital Project Request

2025-27 Biennium

*

Parameter	Entered As	Interpreted As
Biennium	2025-27	2025-27
Agency	360	360
Version	02-A	02-A
Project Classification	*	All Project Classifications
Capital Project Number	40000100	40000100
Sort Order	Project Class	Project Class
Include Page Numbers	N	No
For Word or Excel	N	N
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

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360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 10:23AM

Project Number: 40000101
Project Title: UW Tacoma - Land Acquisition
Project Class: Program

Description

Starting Fiscal Year: 2024
Agency Priority: 0

Project Summary

The University of Washington requests $7.7 million dollars of funding reappropriations from the State 057 Building Construction Account to acquire seven (7) properties within the existing established boundaries of the University of Washington - Tacoma Campus.

Project Description

Not required for reappropriation requests.

Location

City: Tacoma **County:** Pierce **Legislative District:** 027

Project Type

Acquisition - Land

Growth Management impacts

Not applicable

New Facility: No

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Expenditures Current Biennium	2025-27 Fiscal Period Reapprops	2025-27 Fiscal Period New Approps
057-1	State Bldg Constr-State	7,700,000			7,700,000	
	Total	**7,700,000**	**0**	**0**	**7,700,000**	**0**

Acct Code	Account Title	Future Fiscal Periods 2027-29	2029-31	2031-33	2033-35
057-1	State Bldg Constr-State				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

No Operating Impact

Capital Project Request

2025-27 Biennium

*

Parameter	Entered As	Interpreted As
Biennium	2025-27	2025-27
Agency	360	360
Version	02-A	02-A
Project Classification	*	All Project Classifications
Capital Project Number	40000101	40000101
Sort Order	Project Class	Project Class
Include Page Numbers	N	No
For Word or Excel	N	N
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

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360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/6/2024 8:22AM

Project Number: 91000027
Project Title: UWMC NW - Campus Behavioral Health Renovation
Project Class: Program

Description

Starting Fiscal Year: 2022
Agency Priority: 4

Project Summary

The University of Washington requests $12.039 million of reappropriations from the State 057 Building Construction Account for the ongoing construction phase of the Behavioral Health Teaching Renovation.

Project Description

Not required for reappropriation requests.

Location

City: Seattle **County:** King **Legislative District:** 046

Project Type

Remodel/Renovate/Modernize (Major Projects)

Growth Management impacts

The Growth Strategies legislation of 1990 requires state agencies to comply with local land use regulations adopted pursuant to the Growth Management Act. The University of Washington Medical Center acknowledges this through the development of the Northwest Hospital Major Institution Master Plan, in compliance with the City of Seattle Major Institutions District Municipal Code and Comprehensive Plan goals and policies.

New Facility: No

Funding

Acct Code	Account Title	Expenditures: Estimated Total	Expenditures: Prior Biennium	Expenditures: Current Biennium	2025-27 Fiscal Period: Reapprops	2025-27 Fiscal Period: New Approps
057-1	State Bldg Constr-State	15,000,000	1,408,000	1,553,000	12,039,000	
	Total	**15,000,000**	**1,408,000**	**1,553,000**	**12,039,000**	**0**

Acct Code	Account Title	Future Fiscal Periods: 2027-29	2029-31	2031-33	2033-35
057-1	State Bldg Constr-State				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

No Operating Impact

OFM

Capital Project Request

2025-27 Biennium

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Parameter	Entered As	Interpreted As
Biennium	2025-27	2025-27
Agency	360	360
Version	02-A	02-A
Project Classification	*	All Project Classifications
Capital Project Number	91000027	91000027
Sort Order	Project Class	Project Class
Include Page Numbers	N	No
For Word or Excel	N	N
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

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360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 3:19PM

Project Number: 91000016
Project Title: Ctr for Advanced Materials and Clean Energy Research Test Beds
Project Class: Program

Description

Starting Fiscal Year: 2016
Agency Priority: 4

Project Summary

The University of Washington requests $11.693 million of funding reappropriations from the State 057 Building Construction Account for the CAMCET Test Beds (Site W27). No additional State funding is anticipated for this project as a Public Private Partnership (P3) will be used to develop the site.

Project Description

14. Reappropriation: if the project was originally funded prior to the 2021-23 biennium, describe the project and each subproject, including the original appropriation year, status of the project and an explanation why a reappropriation is needed.

This project was originally funded in the 15-17 biennium ($9M) and the 17-19 biennium ($20M). Reappropriations are required for this project due to issues related to previous developer selection litigation and current developer financing constraints which have delayed the project for several years. The UW is also working with Seattle City Light and the developer (Wexford) to determine electrical service vault locations as well as proposed tunnel/utility connections to service the site which is taking longer than anticipated.

Location

City: Seattle **County:** King **Legislative District:** 043

Project Type

New Facilities/Additions (Major Projects)
Special Programs

Growth Management impacts

The Growth Strategies legislation of 1990 requires state agencies to comply with local land use regulations adopted pursuant to the Growth Management Act. The University of Washington acknowledges this through the development of the Campus Master Plan, in compliance with the City of Seattle Major Institutions District Municipal Code and Comprehensive Plan goals and policies.

New Facility: Yes

How does this fit in master plan

The 2001 Seattle Campus Master Plan was approved by the Seattle City Council in December 2002 and by the UW Board of Regents in January 2003. The proposed project is consistent with the Seattle Campus Master Plan.

Funding

			Expenditures		2025-27 Fiscal Period	
Acct Code	Account Title	Estimated Total	Prior Biennium	Current Biennium	Reapprops	New Approps
057-1	State Bldg Constr-State	29,000,000	16,463,000	844,000	11,693,000	
148-6	HE - Dedicated Locl-Non-Appropria	263,100,000				263,100,000
	Total	**292,100,000**	**16,463,000**	**844,000**	**11,693,000**	**263,100,000**

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360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 3:19PM

Project Number: 91000016
Project Title: Ctr for Advanced Materials and Clean Energy Research Test Beds
Project Class: Program

Funding

		Future Fiscal Periods			
		2027-29	2029-31	2031-33	2033-35
057-1	State Bldg Constr-State				
148-6	HE - Dedicated Locl-Non-Appropria				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

No Operating Impact

OFM

Capital Project Request

2025-27 Biennium

*

Parameter	Entered As	Interpreted As
Biennium	2025-27	2025-27
Agency	360	360
Version	02-A	02-A
Project Classification	*	All Project Classifications
Capital Project Number	91000016	91000016
Sort Order	Project Class	Project Class
Include Page Numbers	N	No
For Word or Excel	N	N
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

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360 - University of Washington
Capital Project Request

2025-27 Biennium

*

Version: 02 25-27 Capital Budget FINAL

Report Number: CBS002
Date Run: 9/5/2024 9:50AM

Project Number: 40000098
Project Title: UW Clean Energy Testbeds
Project Class: Program

Description

Starting Fiscal Year: 2022
Agency Priority: 0

Project Summary

The University of Washington requests $5.936 million of funding reappropriations from the Climate Commitment Account 26-C for the UW Clean Energy Testbeds.

Project Description

Not required for reappropriation requests.

Location

City: Seattle **County:** King **Legislative District:** 043

Project Type

New Facilities/Additions (Major Projects)

Growth Management impacts

The Growth Strategies legislation of 1990 requires state agencies to comply with local land use regulations adopted pursuant to the Growth Management Act. The University of Washington acknowledges this through the development of the Campus Master Plan, in compliance with the City of Seattle Major Institutions District Municipal Code and Comprehensive Plan goals and policies.

New Facility: No

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Current Biennium	2025-27 Fiscal Period Reapprops	2025-27 Fiscal Period New Approps
001-2	General Fund-Federal					
26C-1	Climate Commit Accou-State	7,500,000		1,564,000	5,936,000	
	Total	**7,500,000**	**0**	**1,564,000**	**5,936,000**	**0**

Acct Code	Account Title	Future Fiscal Periods 2027-29	2029-31	2031-33	2033-35
001-2	General Fund-Federal				
26C-1	Climate Commit Accou-State				
	Total	**0**	**0**	**0**	**0**

Operating Impacts

No Operating Impact

OFM

Capital Project Request

2025-27 Biennium

*

Parameter	Entered As	Interpreted As
Biennium	2025-27	2025-27
Agency	360	360
Version	02-A	02-A
Project Classification	*	All Project Classifications
Capital Project Number	40000098	40000098
Sort Order	Project Class	Project Class
Include Page Numbers	N	No
For Word or Excel	N	N
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

TAB D
GRANT & LOAN PROGRAMS

NO REQUESTS IN THIS CATEGORY

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TAB E
CERTIFICATES OF PARTICIPATION FORMS

NO REQUESTS IN THIS CATEGORY

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TAB F
DIRECT PAY FORM

SEE ATTACHED DIRECT PAY FORM

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Direct Pay Form

Purpose: To collect a list of capital project request that may qualify for direct pay. Please refer to Section 1.7 of the OFM Capital Budget Instructions for more information. If you have questions about these instructions or capital project eligibility, contact your assigned OFM budget advisor.

Agency Name: University of Washington

Note: this list includes only new projects being requested in the 25-27 Capital Budget that are beyond the information previously submitted to OFM in this template.

Budget (Capital, Transportation, Operating)	Program/Subprogram Name	Item/Project #	Project Title	Eligible for Direct Pay (Yes/No)	If Column E = No -- stop here	Identify Portion Eligible	Amount of Eligible Portion	Tax Credit Category (select option)	Planned Completion Date	Notes
25-27 Capital	Clean Energy Transformation	40000149	District Energy Standards/Basis of Design	No					6/30/2027	
25-27 Capital	Clean Energy Transformation	40000150	Micro District - South of Pacific	Yes		To be determined	To be determined	Advanced Energy Project Credit (48C)	8/8/2028	Elgibility and tax credit type to be determined
25-27 Capital	Clean Energy Transformation	40000151	Chiller Installation	Yes		To be determined	To be determined	Advanced Energy Project Credit (48C)	6/1/2027	Elgibility and tax credit type to be determined
25-27 Capital	Clean Energy Transformation	40000152	Micro District - West Campus	Yes		To be determined	To be determined	Advanced Energy Project Credit (48C)	5/24/2029	Elgibility and tax credit type to be determined
25-27 Capital	Clean Energy Transformation	40000153	Sewer Heat Recovery Site Piping	Yes		To be determined	To be determined	Advanced Energy Project Credit (48C)	4/2/2028	Elgibility and tax credit type to be determined
25-27 Capital	Clean Energy Transformation	40000154	WCUP Heating System Improvements	Yes		To be determined	To be determined	Advanced Energy Project Credit (48C)	10/21/2027	Elgibility and tax credit type to be determined
25-27 Capital	Clean Energy Transformation	40000155	Chilled Water Thermal Energy Storage	Yes		To be determined	To be determined	Advanced Energy Project Credit (48C)	3/9/2028	Elgibility and tax credit type to be determined
25-27 Capital	Clean Energy Transformation	40000156	West Receiving Station Electrical Infrastructure	Yes		To be determined	To be determined	Advanced Energy Project Credit (48C)	1/17/2030	Elgibility and tax credit type to be determined
25-27 Capital	Clean Energy Transformation	40000157	Lake Interface Advancement	No					6/3/2027	
25-27 Capital	Clean Energy Transformation	40000158	Power Plant Boiler Removal	Yes		To be determined	To be determined	Advanced Energy Project Credit (48C)	9/25/2026	Elgibility and tax credit type to be determined