

Item No.: 8f\_Supp

Meeting Date: January 12, 2021

# World Trade Center West HVAC Replacement Construction Contract Award Authorization

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Senior Real Estate Manager  
Capital Project Manager



# Action Requested

Authority to award design and construction contract and to fund additional soft costs.

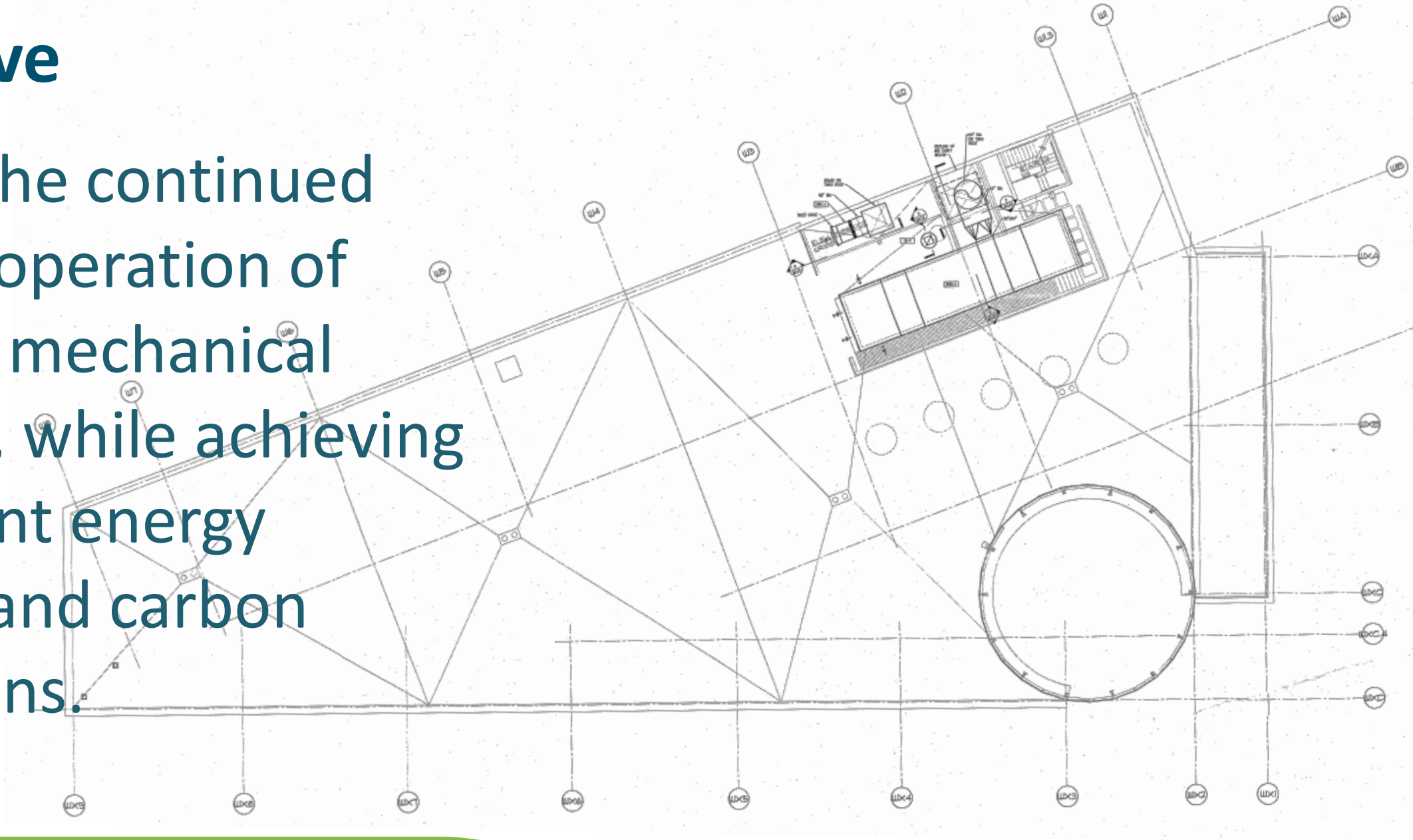
Total requested: \$555,000

Authorization will increase funding from \$3,526,000 to \$4,081,000.



# Objective

Ensure the continued reliable operation of building mechanical systems, while achieving significant energy savings and carbon reductions.



# Background

- 69,507 SF, 4 story, multi-tenant office building
- System in continuous operation since 1998  
*At the end of its useful life*
- Commission authorized RFP in July
- RFP issued in August; two proposals received
- Lowest responsive bid: \$2,798,000  
*\$531,000 above Port Engineering estimate.*



# Current CIP Framework

DESCRIPTION	PROJECT STATUS	FORECAST COMPLETION	ESTIMATED BUDGET
1. WTCW HVAC REPLACEMENT	PENDING DESIGN	Q4/2022	\$ 4.081 M
2. WTCW ROOF REPLACEMENT	BUSINESS PLAN	2023	\$ 774 K

# Project Goals

1. Achieve operational, energy savings and carbon reduction goals
2. Mitigate Impacts to Tenants
3. Ensure Port diversity & equity policies inform project actions
4. Employ Sustainable Means & Methods

# Project Summary

1. New primary HVAC components  
+ secondary terminal units  
+ kitchen HVAC & hood exhaust
2. Efficiency/sustainability features:
  - Eliminate natural gas for heating
  - More energy efficient primary unit
  - Remotely accessible digital controls
3. Phased, off - hours construction
4. Temporary HVAC



# Project Approach

1. Facilitate small business opportunities
2. Manage project scope as a single, cohesive process
3. Mitigate construction phase business risk
4. Implement project risk management practices
5. Develop and maintain detailed project phasing plans



# Project Milestones

1. Complete Design

1<sup>st</sup> Quarter 2021

2. Construction Starts

3rd Quarter 2021

3. Construction Complete

4th Quarter 2021

**Thank You.**

# Appendix

# Project Benefits

1. Reduces lifetime CO<sub>2</sub> emissions by 376 Metric Tons
2. Eliminates natural gas energy source
3. Replaces obsolete building control system
4. Reduces maintenance costs
5. Improves tenant comfort
6. Limits construction related disruptions
7. Balances sustainability benefits and cost



# Alternatives to Requested Action

1. Cancel Project

2. Reduce Scope & Rebid

*Delays completion by up to a year*

*Eliminates most sustainability measures*

*No assurance that rebid would achieve lower cost*

3. This Request (Additional Funding)

# Procurement Method and Schedule

## Building Engineering Systems (BES) Contract

- Port furnishes performance specs; contractor designs and builds
- Leverages lessons learned from other BES projects
- Implements Women and Minority Business Enterprise goal of 6%
- Provides opportunities for improved efficiency, quality, and innovation

## Procurement Milestones

Q1/2021:	Award & Execute Contract
Q1/2021 - Q4/2021:	Design & Construction
Q1-Q3/2022:	Project Closeout

# WTCW CIP Detail

Division	CIP Budget Status	Sponsor	Category	Project Description	Prior Years	2020	2021	2022	2023	2024	2025	5Y Total	2026	2027	2028	2029	2030	2nd 5Y Total	10-Year Total	Total Project
EDD	Business Plan Approved	Portfolio Management	Mid-Cap	WTCW Roof Replacement	-	-	30	693	51	-	-	774	-	-	-	-	-	-	774	774
EDD	Design Authorized	Portfolio Management	Mid-Cap	WTC HVAC Replacement	81	231	2,100	1,114	-	-	-	3,214	-	-	-	-	-	-	3,214	3,526

# Project Alternatives Considered

(Spring/2020)

## Alternative 1

### In-kind System Replacement

*“1 for 1” component replacement throughout*

## Alternative 2

### New State-of-the-Art System

*High-efficiency dedicated outdoor air system, variable refrigerant flow heat pump system and kitchen dedicated outside air system*

## Alternative 3

### Hybrid approach

*“1 for 1” roof top unit replacement, controls retrofit, variable air volume box replacements and kitchen dedicated outside air system*



# Alternative Summary

	Cost Effectiveness		Greenhouse Gas Emission Reduction		Energy Efficiency		Impacts to Tenants		
	Capital / Construction Cost	Life Cycle Cost	Maritime/EDD Building Energy Emissions Reduction (% from 2018 Emissions)	Lifetime CO <sub>2</sub> avoided (Metric Tons)	Expected Energy Use Intensity (reduction compared to 2017 baseline)	Annual Energy Savings (kBTUs)	Level of Work in Tenant Spaces	Construction Time	Tenant Comfort/ Temperature Control
Alternative 1	\$1.8M/1.3M	\$3.3M	0.0%	10	68 (2%)	84,000	Low	Low	Low
Alternative 2	\$6.7M/5.6M	\$7.7M	1.2%	519	43 (38%)	1,832,000	High	High	High
Alternative 3 (Recommended)	\$3.5M/2.8M	\$4.9M	0.9%	376	60 (14%)	668,000	Medium	Medium	Medium

# Sustainability, Cost, Tenant Impact Comparison

	Cost Effectiveness					Greenhouse Gas Emission Reduction		Energy Efficiency		Impacts to Tenants		
	Capital / Construction Cost	Life Cycle Cost	20 Year Incremental Net Present Value	Capital Carbon Cost (\$/Mt CO <sub>2</sub> Avoided)	Lifecycle Carbon Cost (\$/Mt CO <sub>2</sub> Avoided)	Maritime/EDD Building Energy Emissions Reduction (% from 2018 Emissions)	Lifetime CO <sub>2</sub> avoided (Metric Tons)	Expected Energy Use Intensity (reduction compared to 2017 baseline)	Annual Energy Savings (kBTUs)	Level of Work in Tenant Spaces	Construction Time	Tenant Comfort / Temperature Control
Alternative 1	\$1.8M/1.3M	\$3.3M	\$0 (Baseline)	\$172,000	\$318,000	0.0%	10	68 (2%)	84,000	Low	Low	Low
Alternative 2	\$6.7M/5.6M	\$7.7M	-\$4.4M	\$13,000	\$15,000	1.2%	519	43 (38%)	1,832,000	High	High	High
Alternative 3	\$3.5M/2.8M	\$4.9M	-\$1.6M	\$9,500	\$13,000	0.9%	376	60 (14%)	668,000	Medium	Medium	Medium





PIER 69

PIER 66

PROJECT  
LOCATION

# World Trade Center West and Vicinity