



***Backup Generators  
for Deer Island Treatment Plant  
during HEEC Cable Protection***

March 15, 2017



# Electrical Power Critical to DITP Performance

- Primary Source of Power – Cross-Harbor Cable
- Backup – Deer Island's Installed 2 Combustion Turbine Generators
- Backup Generators required by NPDES permit.
  
- HEEC Cable Protection Work
  - Cable to be de-energized for two 8 month periods (new info)
  - July 1 – Feb 15th
  
- CTGs only source of Power for Deer Island



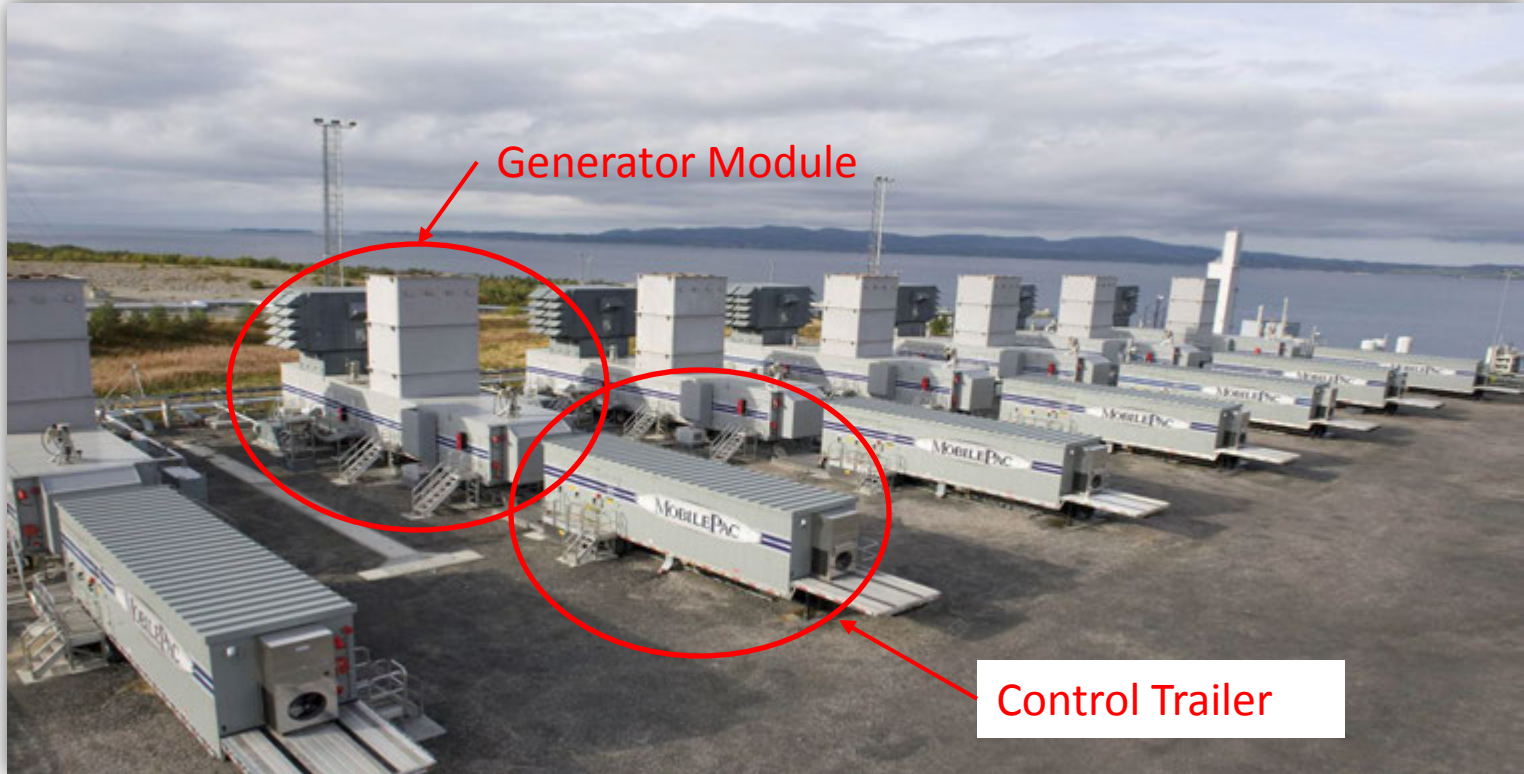
# Electrical Power Critical to DITP Performance

- Dry Weather – cable de-energized
  - 1 CTG can power plant up to approx. 800 mgd
  - 2<sup>nd</sup> CTG used as backup
- Wet Weather – cable de-energized
  - Both CTGs needed to power plant – no backup
  - Few days when flow over 800 mgd (average 4.2 days) - 2% of the time
  - Current trigger is 600 mgd (average 14.6 days) - 4% of the time
  - Would require backup generators or cable re-energized



# Backup Power Solution

- PW Power Systems has portable 25 MW units





# Total MWRA Cost Impact – HEEC Cable Protection

Eversource submitted schedule as follows:

July 1, 2017 to Feb. 15, 2018 cable de-energized  
Feb. 16, 2018 to June 30, 2018 cable energized (flounder restriction)  
July 1, 2018 to Feb 15, 2019 cable de-energized

## One Year - 8 months

\$ 8 million - 8 month backup generator rental

\$ 5 million - mobilization

**\$13 million Subtotal Backup Generator Cost**

\$ 9 million - MWRA Costs to Run CTGs

\$22 million - Total Cost for 8 months

## Two Year - 20 months

\$20 million - 20 month backup generator rental

\$ 5 million - mobilization

**\$25 million Subtotal Total Backup Generator Cost**

\$18 million - MWRA Costs to Run CTGs

\$43 million – Total Cost for 20 months





***Dorchester Interceptor Sewer Rehabilitation  
Design, Construction Administration and  
Resident Engineering/Inspection Services***

***Contract 7512***

March 15, 2017

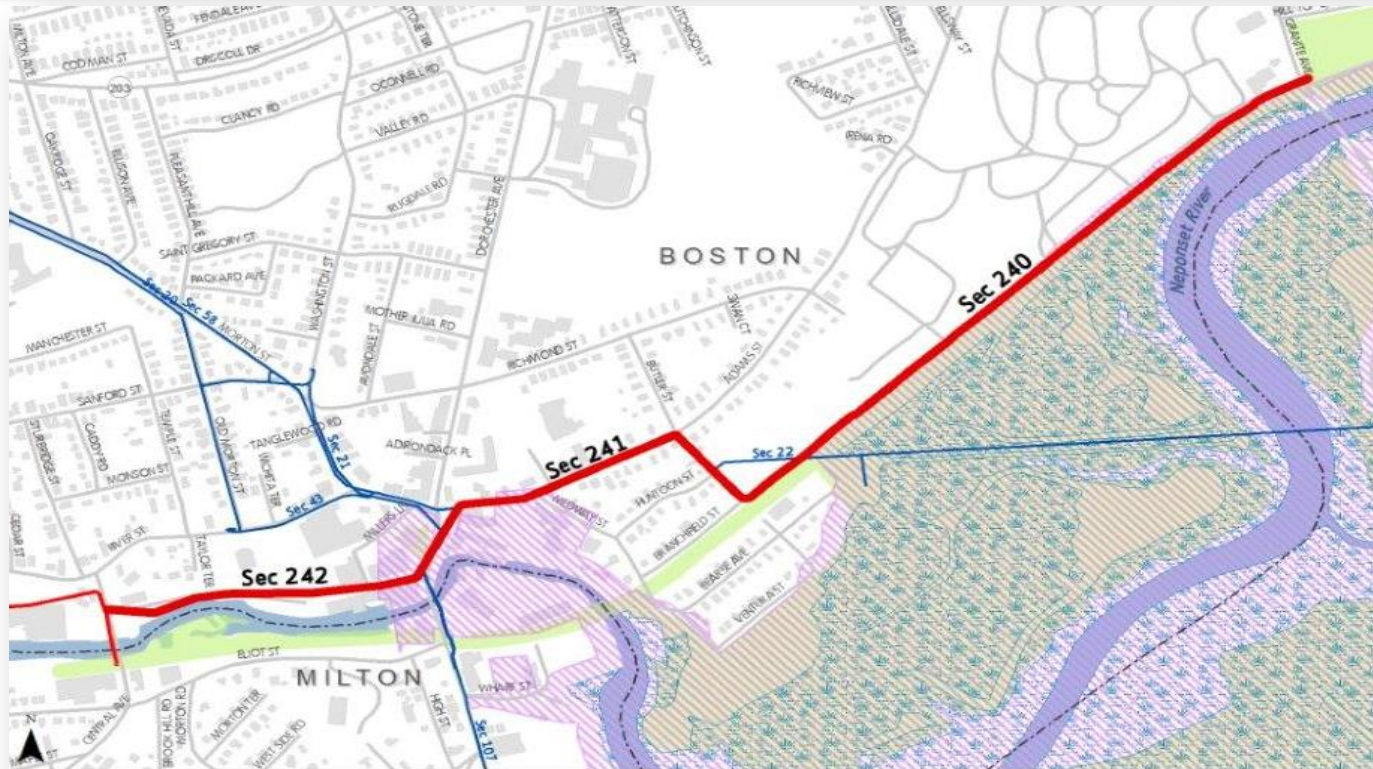


## Project Purpose

- Rehabilitation of the 120 year old Dorchester Interceptor Sewer and manhole structures
- The Dorchester Interceptor conveys sewage flow from Dorchester and connections from Milton to the BWSC system
- Total length of pipe to be rehabilitated: ~ 6,500 feet
  - Section 240: 48"x36" elliptical-brick including 1,000+ ft of replaced PIP concrete pipe
  - Section 241: 48"x36" elliptical-brick with a brick lined tunnel section
  - Section 242: 42"x28" egg-shaped brick



# Sections 240/241/242



### Limits of Work

Sections 240, 241, 242

Other Sewer Sections

Water Distribution Pipes

Wetlands

ACECs

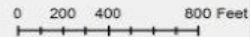
DCR - Division of State Parks and Recreation

Town Boundary

Roads

Building Footprints

Ponds and Reservoirs







# Representative Dorchester Interceptor Sewer Section





# Procurement Process and Project Cost

Proposer	Cost	Hours
Kleinfelder	\$1,195,835.00	9,947
Bryant Associates	\$1,248,328.07	11,713
Engineer's Estimate	\$1,248,900.00	9,990
Stantec	\$1,492,374.32	12,908
CDM Smith	\$1,496,354.00	11,312

- One step RFQ/P
- Selection Committee recommends CDM Smith
- Cost: \$1,496,354



# Project Schedule

Item	Start Date	Duration	End Date
Award Professional Services Contract	March 2017	54 months (including warranty)	September 2021
Design	March 2017	24 Months	March 2019
Construction	March 2019	18 Months	September 2020
Warranty	September 2020	12 Months	September 2021