





***FY21 Draft Final
Capital Improvement Program***

May 27, 2020



- Impact of COVID-19
- FY21 Draft Final CIP complies with the Cap requirements
- Focus on Asset Protection and Long-Term Redundancy
- Metropolitan Tunnel Redundancy
- CEB Impacts



MWRA and its construction activities have been challenged by the COVID-19 pandemic:

- Governor's Stay-At-Home Advisory
- MWRA non-essential employees teleworking and an A/B schedule in place for critical operations
- Impact on CIP projects and CEB Maintenance



FY21 Draft Final CIP - FY19-23 Base-Line Cap

FY19-23 Base-Line Cap		FY19	FY20	FY21	FY22	FY23	Total FY19-23
	Projected Expenditures	\$179.2	\$276.1	\$251.3	\$194.9	\$150.4	\$1,051.8
	I/I Program	(19.2)	(25.7)	(24.3)	(27.9)	(26.1)	(123.2)
	Water Loan Program	(8.3)	(8.4)	(7.2)	(5.6)	(2.8)	(32.4)
	MWRA Spending	151.7	241.9	219.7	161.4	121.4	\$896.2
	Contingency	9.9	15.9	14.5	11.0	8.2	59.4
	Inflation on Unawarded Construction	0.7	5.0	7.8	7.2	8.5	29.3
	Chicopee Valley Aqueduct Projects	(0.0)	0.0	0.0	0.0	0.0	(0.0)
FY19 Final FY19-23 Spending	\$162.3	\$262.8	\$242.0	\$179.6	\$138.1	\$984.8	

FY21 Draft Final		FY19	FY20	FY21	FY22	FY23	Total FY19-23
	Projected Expenditures	\$142.9	\$158.3	\$266.2	\$251.9	\$236.0	\$1,055.2
	I/I Program	(39.6)	(31.5)	(32.0)	(26.6)	(22.3)	(152.0)
	Water Loan Program	(13.8)	(5.8)	(33.2)	(9.7)	8.3	(54.2)
	MWRA Spending	\$89.4	\$121.0	\$201.0	\$215.7	\$222.0	\$849.1
	Contingency	0.0	0.0	12.1	14.2	15.1	41.5
	Inflation on Unawarded Construction	0.0	0.0	1.4	5.2	8.1	14.6
	Chicopee Valley Aqueduct Projects	(0.0)	0.0	0.0	0.0	0.0	(0.0)
FY21 Draft final FY19-23 Spending	\$89.4	\$121.0	\$214.5	\$235.0	\$245.2	\$905.1	

\$s in millions



FY21 Draft Final CIP – Top Spending Projects Excluding Community Loans in FY19-23 Cap Period

Project	Contract	Projected FY19-23 Expenditures \$s in millions
DI Treatment Plant Asset Protection	Clarifier Rehab Phase 2 - Construction	\$75.3
Corrosion & Odor Control	NI Odor Control HVAC Improvement Construction Phase 2	\$57.6
Facility Asset Protection	Chelsea Creek Upgrades - Construction	\$51.8
Facility Asset Protection	Prison Point Rehab - Construction	\$41.8
SEH Redundancy and Storage	Redundancy Pipeline Sect 111 - Construction 3	\$20.4
NIH Redundancy & Storage	Section 89 & 29 Redun Construction Phase 2	\$19.8
DI Treatment Plant Asset Protection	Gravity Thickener Rehab	\$19.5
NIH Redundancy & Storage	Section 89 & 29 Replacement - Construction	\$16.7
DI Treatment Plant Asset Protection	Fire Alarm System Replacement - Construction	\$15.8
Total Contracts > \$15.0 million		\$318.6
% of FY19-23 Spending		30.2%
Total Projected FY19-23 Spending		\$1,055.2



FY21 Draft Final CIP – Asset Protection and Redundancy

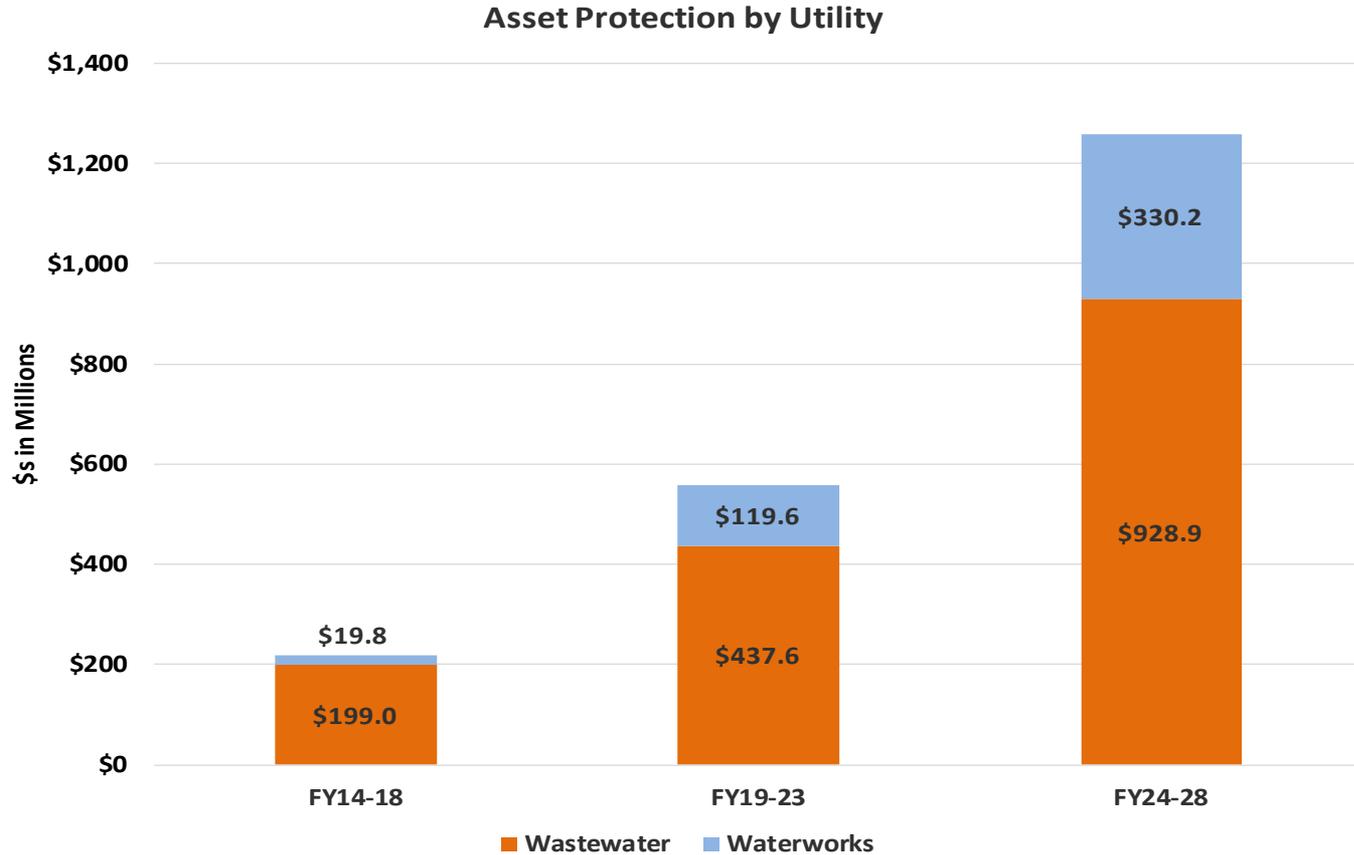
Project Category	FY14-18	FY19-23	FY24-28
Asset Protection	\$222.8	\$570.5	\$1,259.2
Water Redundancy	\$174.6	\$206.8	\$386.6
CSO	\$64.7	\$10.0	\$0.1
Other	\$123.5	\$267.9	\$213.3
Total	\$585.6	\$1,055.2	\$1,859.1
Asset Protection	38.0%	54.1%	67.7%
Water Redundancy	29.8%	19.6%	20.8%
CSO	11.0%	1.0%	0.0%
Other	21.1%	25.4%	11.5%
Total	100.0%	100.0%	100.0%

- Asset Protection and Redundancy are the principal drivers of future capital expenditures

\$s in millions



FY21 Draft Final CIP – Asset Protection by Utility

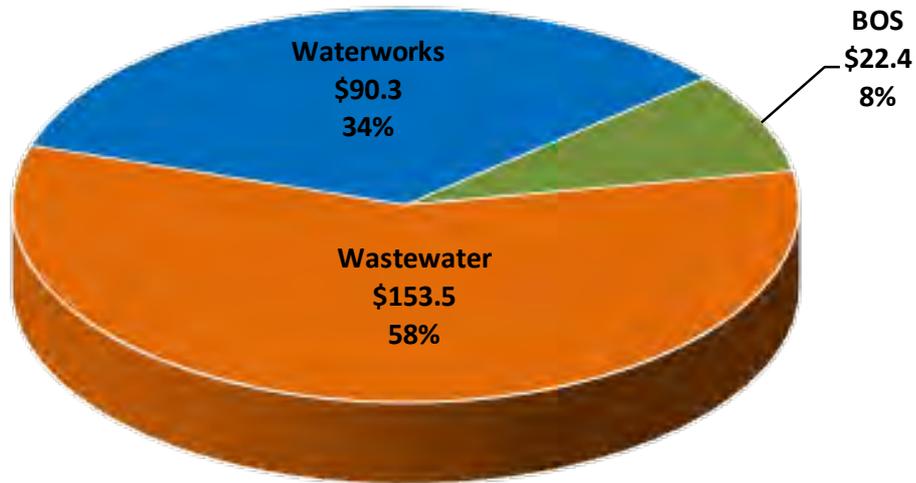


- Wastewater Asset Protection is driving future capital expenditures



Total Final FY21 Expenditures: \$266.2 million

FY21 Spending



\$s in millions



FY21 Draft Final CIP – Top Spending Projects Excluding Community Loans in FY21

Project	Contract	Projected FY21 Expenditures \$s in millions
Corrosion & Odor Control	NI Odor Control HVAC Improvement Construction Phase 2	\$20.0
Facility Asset Protection	Chelsea Creek Upgrades - Construction	\$17.7
Facility Asset Protection	Prison Point Rehab - Construction	\$15.7
DI Treatment Plant Asset Protection	Clarifier Rehab Phase 2 - Construction	\$14.5
SEH Redundancy & Storage	Redundancy Pipeline Section 111 - Construction 3	\$7.3
DI Treatment Plant Asset Protection	Gravity Thickener Rehab	\$6.6
	Total Contracts > \$5.0 million	\$81.7
	% of FY21 Spending	30.7%
	Total Projected FY21 Spending	\$266.2



Nut Island Odor Control & HVAC Improvements Construction

FY21 Budget : \$20.0M

Total Contract: \$57.6M

NTP: February 2020

SC: December 2022





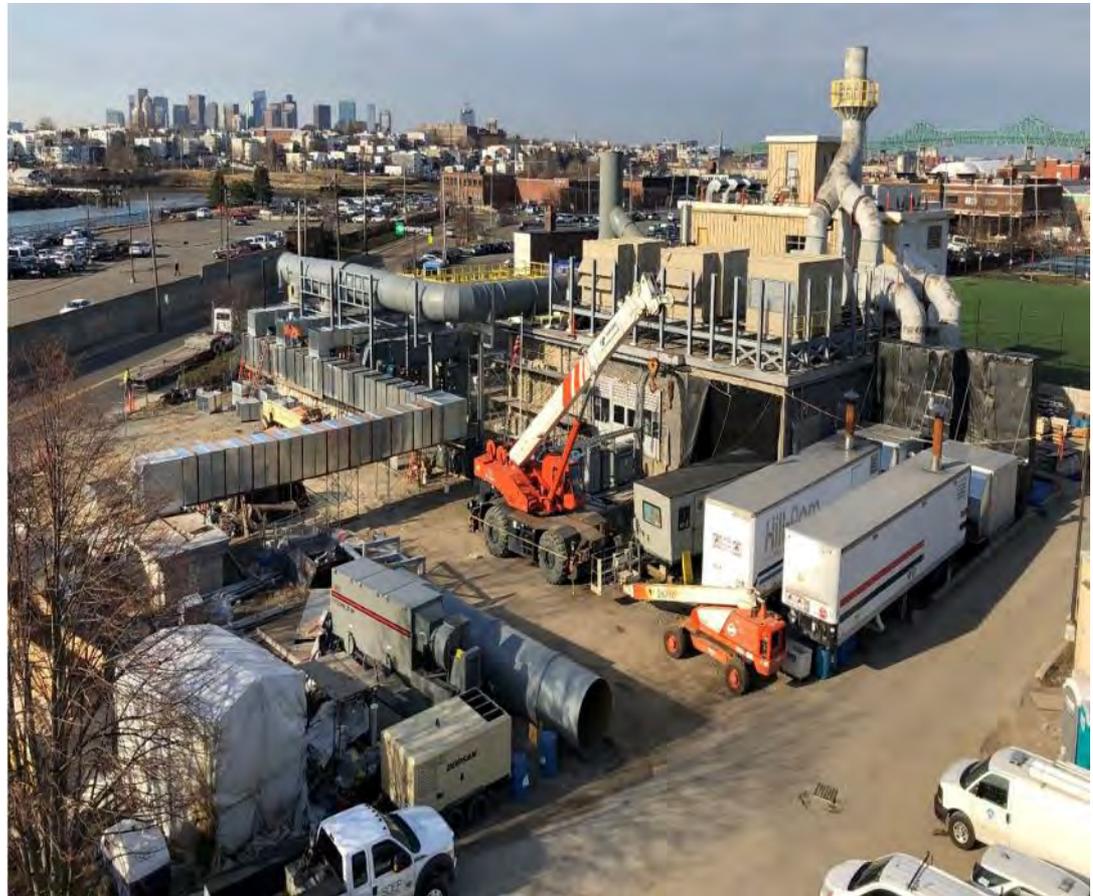
Chelsea Creek Headworks Upgrade Construction

FY21 Budget: \$17.7M

Total Contract: \$83.4M

NTP: November 2016

SC: November 2020





Prison Point Rehabilitation Construction



FY21 Budget: \$15.7M

Total Contract: \$41.8M

NTP: September 2020

SC: September 2022



Clarifier Rehabilitation Phase 2 Construction

FY21 Budget : \$14.5M

Total Contract: \$137.2M

NTP: September 2020

SC: January 2025





Southern Extra High Redundancy Section 111 Construction 3

FY21 Budget: \$7.3M

Total Contract: \$20.4M

NTP: August 2018

SC: November 2020





Gravity Thickener Rehabilitation

FY21 Budget: \$6.6M

Total Contract: \$19.9M

NTP: May 2018

SC: February 2021





12 new projects added to the CIP totaling \$55.0 million

Projects > \$1.0 million are as follows:

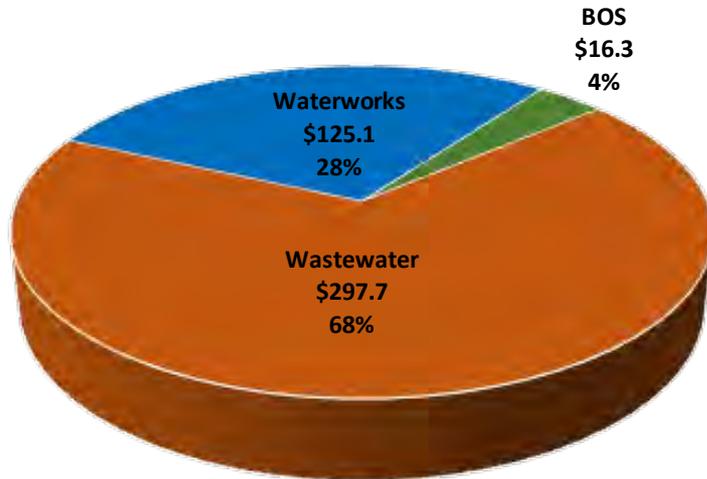
- Water Tank Painting Bellevue 1 & 2, Park Circle, Walnut Hill, Deer Island - \$27.9 million
- Cosgrove Tunnel Rehab. Design - \$10.0 million
- Beacon Street Line Rehabilitation - \$9.3 million
- Deer Island Roof Replacement: \$2.0 million
- Clinton Landfill Cell #1 Closure: \$1.0 million



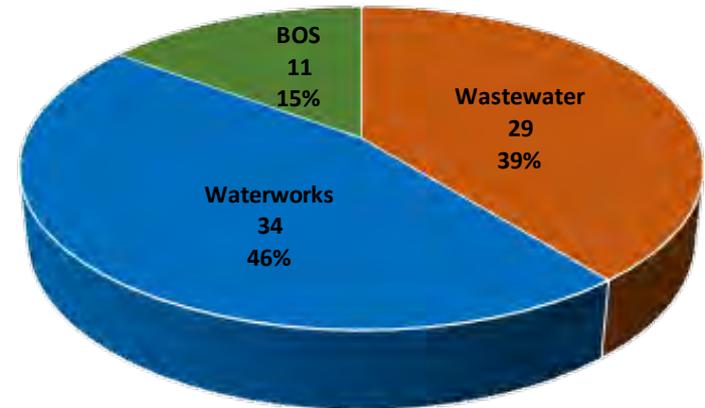
FY21 Draft Final CIP – FY21 Contract Awards

- 74 Contract Awards planned for FY21
- Total Contract Value: \$439.1 million

Contract Value



Contract Awards



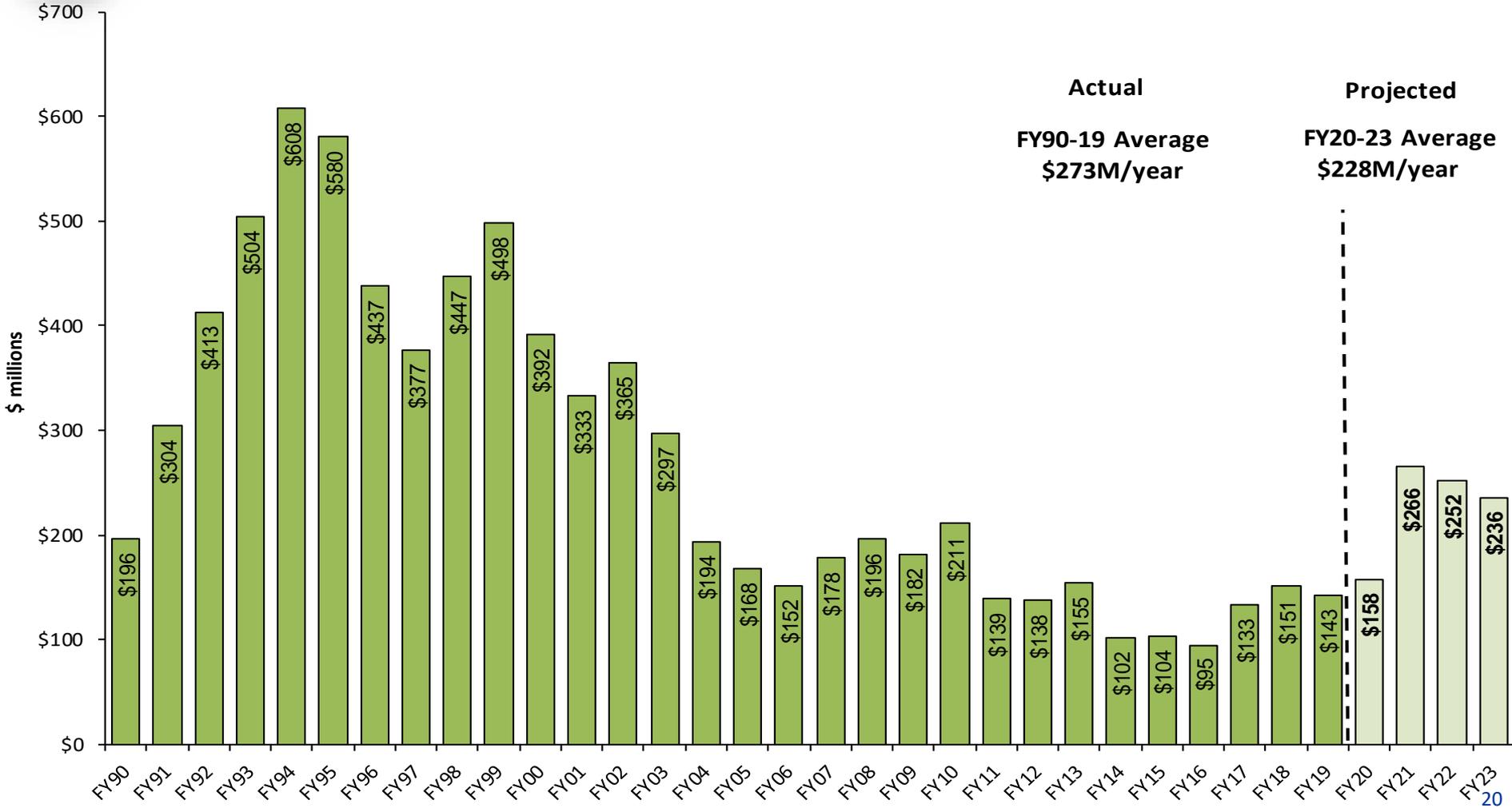


FY21 Draft Final CIP - Projected Contract Awards (\$'s in millions)

Project	Subphase	Notice to Proceed	Total Contract Amount \$s in Millions
DI Treatment Plant Asset Protection	Clarifier Rehabilitation Phase 2 - Construction	Sep-20	\$137.2
Facility Asset Protection	Prison Point Rehab - Construction	Sep-20	\$41.8
DI Treatment Plant Asset Protection	Fire Alarm System Replacement - Construction	Jan-21	\$28.8
Facility Asset Protection	Ward St & Columbus Park Headworks Des/CA	Jul-20	\$22.0
NIH Redundancy & Storage	Section 89 & 29 Repl - Construction	Jul-20	\$21.3
New Connecting Mains-Shaft 7	CP3-Section 23,24,47, Rehabilitation	Sep-20	\$14.7
Metro Redundancy Interim Improvements	WASM 3 CP-1	Jul-20	\$13.0
Central Monitoring System	CWTP SCADA Upgrade Construction	Dec-20	\$13.0
DI Treatment Plant Asset Protection	MCC & Switchgear Replace Construction	Sep-20	\$11.2
Cathodic Protection Of Distribution Mains	Cathodic Protection Metropolitan System Des/CA	Jan-21	\$9.2
Top 10 Contracts			\$312.1
% of Total Planned Awards			71.1%
74 Contract Awards Planned			\$439.1

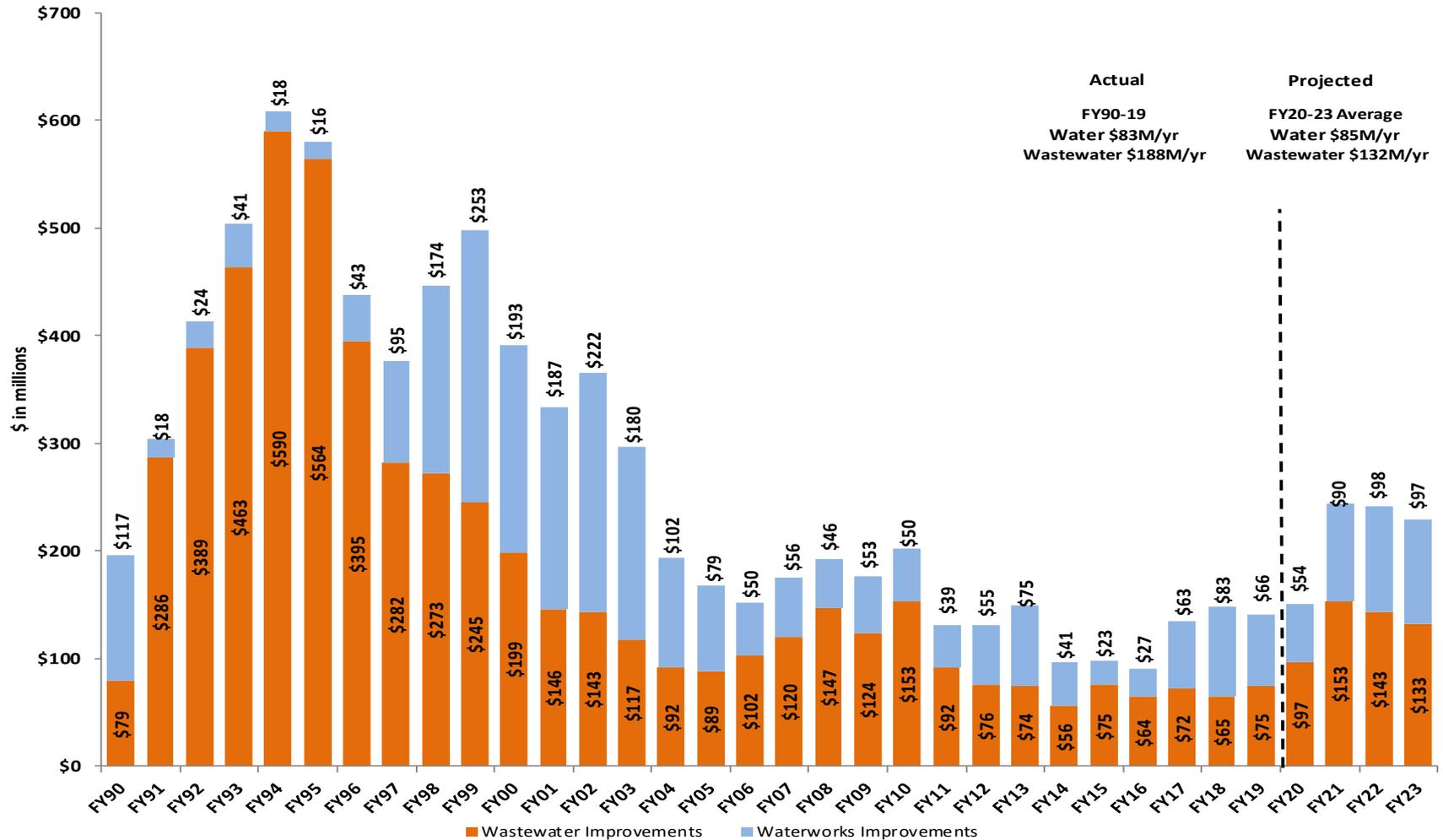


Historic and Projected Capital Improvement Spending





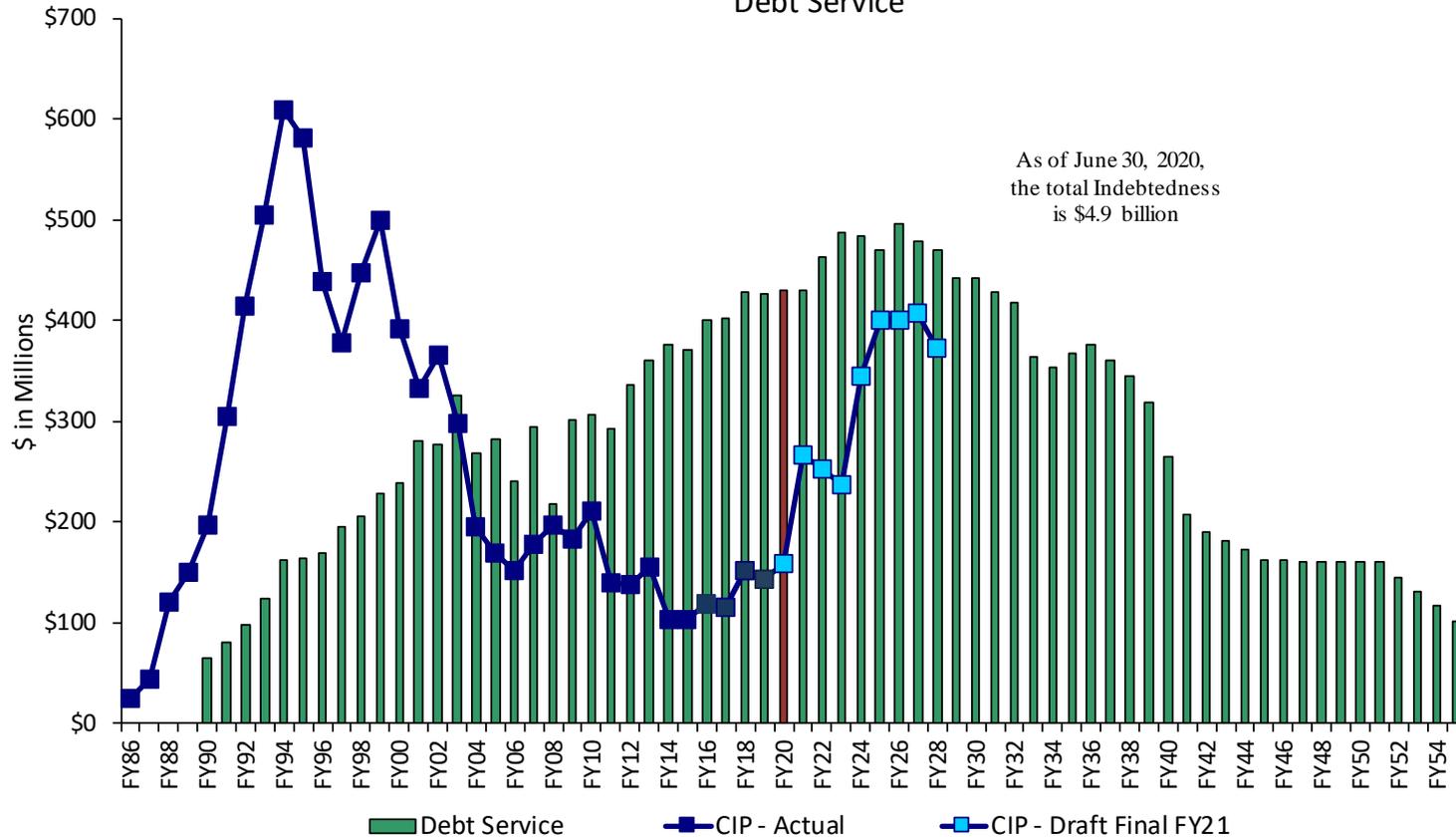
Historic and Projected Capital Improvement Spending by Utility





Capital Spending and Debt Service

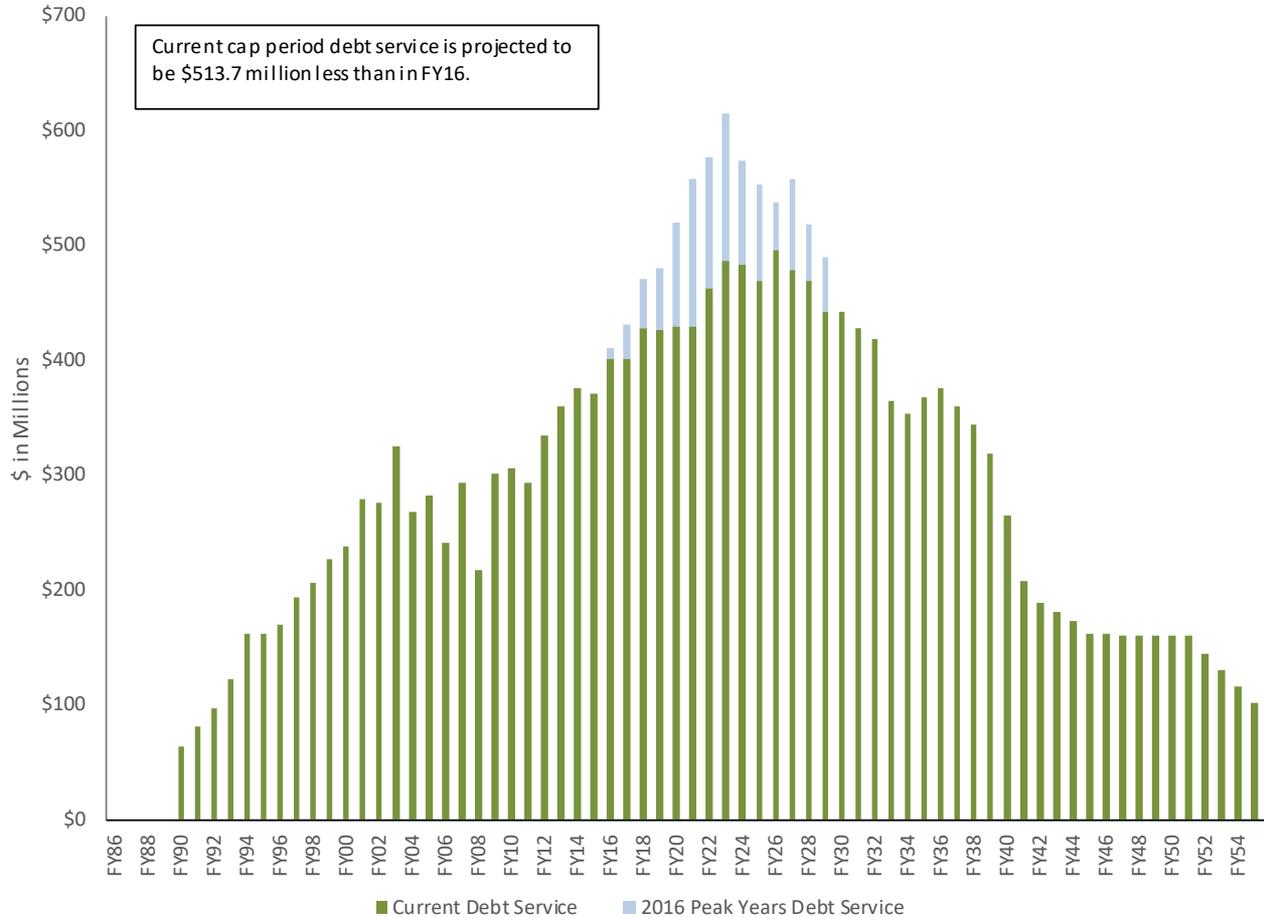
MWRA Capital Spending & Debt Service





Debt Service

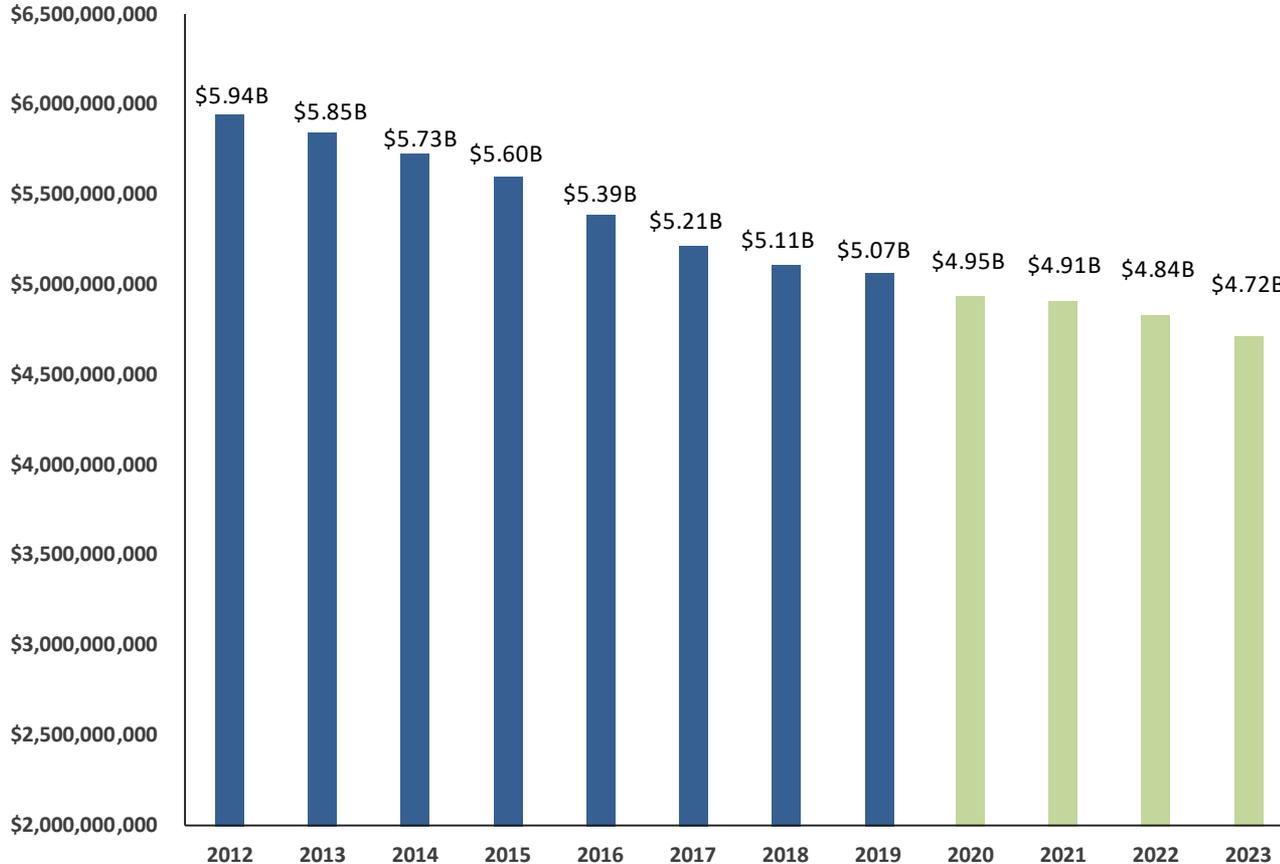
Current Debt Service vs. FY16 Debt Service





Level of MWRA Indebtedness

Outstanding Debt on June 30 by Fiscal Year
FY12-FY23





Looking Ahead

- Metropolitan Tunnel Redundancy
- Lessons learned from Chelsea Headworks Upgrades
- Continue Asset Protection
- Continued impacts of COVID-19
- Potential Federal Stimulus



Thank You!







Metropolitan Tunnel Redundancy

Preliminary Design, Geotechnical Investigation and Environmental Impact Report

Contract Award and Program Update

May 27, 2020



Preliminary Design Scope of Services

- Project Management, Regulatory Agency, and Stakeholder Coordination
- Environmental Notification Form - MEPA
- Evaluation of Alternatives
- Environmental Impact Report - MEPA
- Geotechnical Subsurface Investigation and Evaluation
- Base Mapping and Survey
- Preliminary Design



Procurement Process

- Two Step RFQ/RFP Process
- RFQ Publically Advertised
 - Qualifications/Key Personnel (45 points)
 - Experience/Past Performance (35 points)
 - Capacity (20 points)
- Received Six Qualifications Statements
- Selection Committee Shortlisted Three Firms to Submit Proposals
 - AECOM
 - CDM Smith
 - McMillen Jacobs Associates



RFP Evaluation Criteria

- Cost (20 points)
- Qualifications/Key Personnel (20 points)
- Technical Approach (20 points)
- Organization and Management Approach (20 points)
- Experience/Past Performance (15 points)
- MBE/WBE Participation (5 points)



Cost Proposal Summary

Proposer	Cost	Hours
CDM Smith	\$15,692,527	58,301
McMillen Jacobs	\$16,993,155	67,995
AECOM	\$19,241,231	79,416
<i>Staff Estimate</i>	<i>\$15,956,347</i>	<i>62,266</i>



CDM Smith Proposed Team

- CDM Smith – Prime Consultant
- Jacobs Engineering Group
- VHB
- Green International Affiliates
- CDW
- New England Boring Contractors



- Extensive and relevant experience in
 - Evaluation of tunnel alignment alternatives
 - Hydraulics and design of the MWRA water system
 - Planning and design of deep rock tunnels
 - MEPA documentation and compliance



Contract Schedule

Task Name	2020	2021	2022	2023
ENF				
Evaluation Of Alternatives				
Geotechnical Program				
EIR				
Preliminary Design				



Update on Program Activities

- Completed Program-Wide Guidelines and Standards

- Program Quality Management Plan
- Program Risk Management Plan
- Geotechnical Field Manual
- Program Delineation Report
- Existing Geotechnical Data Report

- Ongoing Program-Wide Activities

- Expert Review Panel
- Program Guide Specifications
- Hydraulics
- Program Budget and Schedule Analysis
- Project Controls
- Geotechnical Data Management Plan
- Program Management Plan
- Contract Practices

