Solids Handling Improvement Project

Update

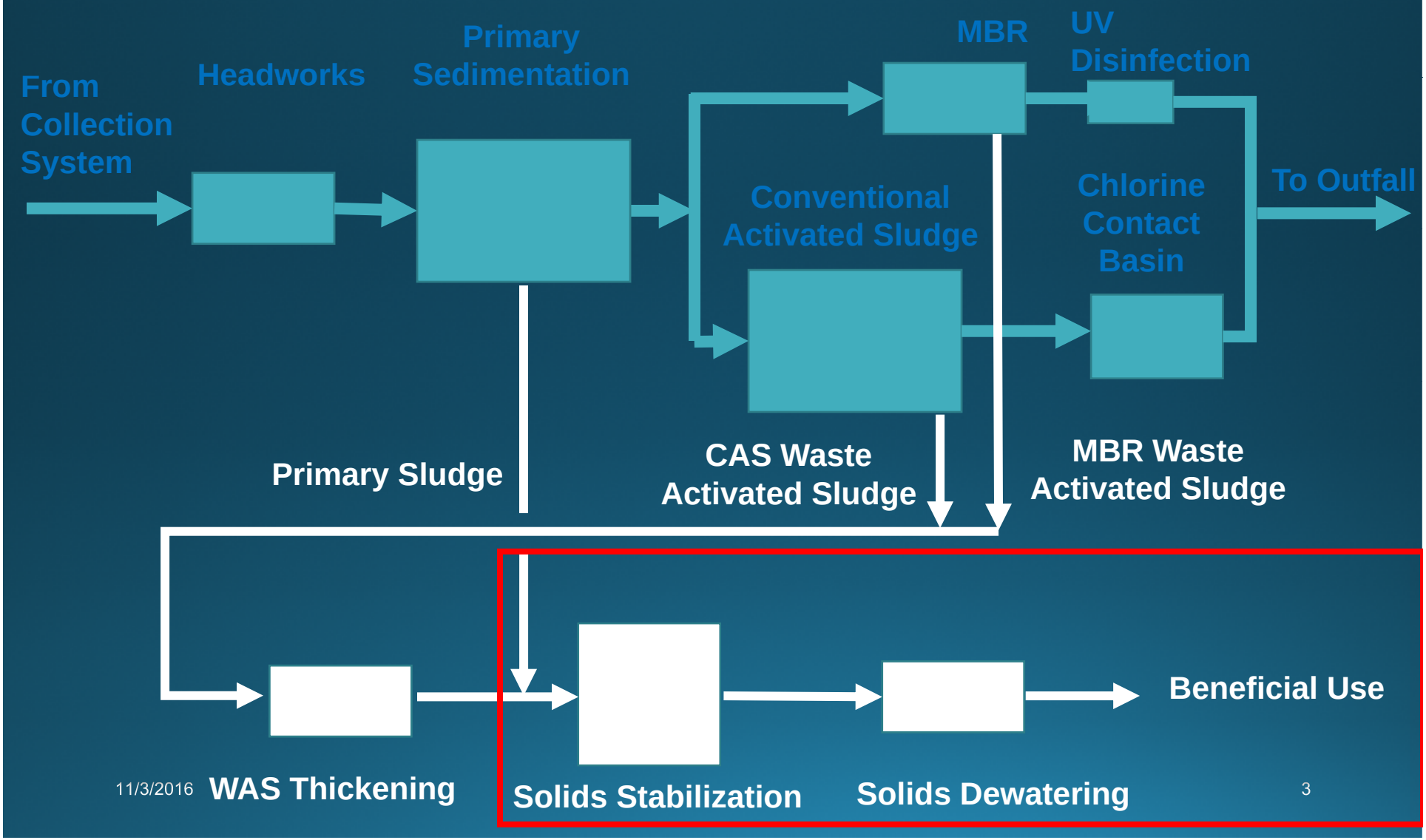
November 9, 2016

WATER ENVIRONMENT SERVICES

Solids Handling Project Objectives

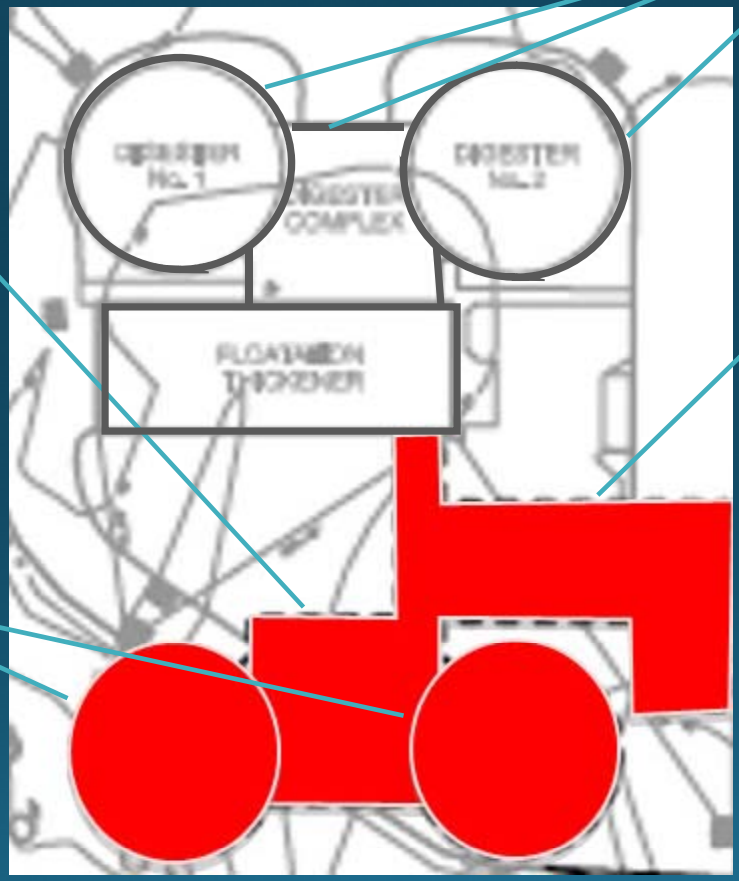
- Provide value for ratepayers
- Increase solids handling capability to meet 2040 sludge production
- Continue to produce Class B biosolids for beneficial land application
- Provide capability to upgrade from Class B biosolids to Class A biosolids with *no stranded investment*
- Potential options to produce/enhance revenue
    - Digester gas utilization
    - Septage receiving

Process Flow Diagram

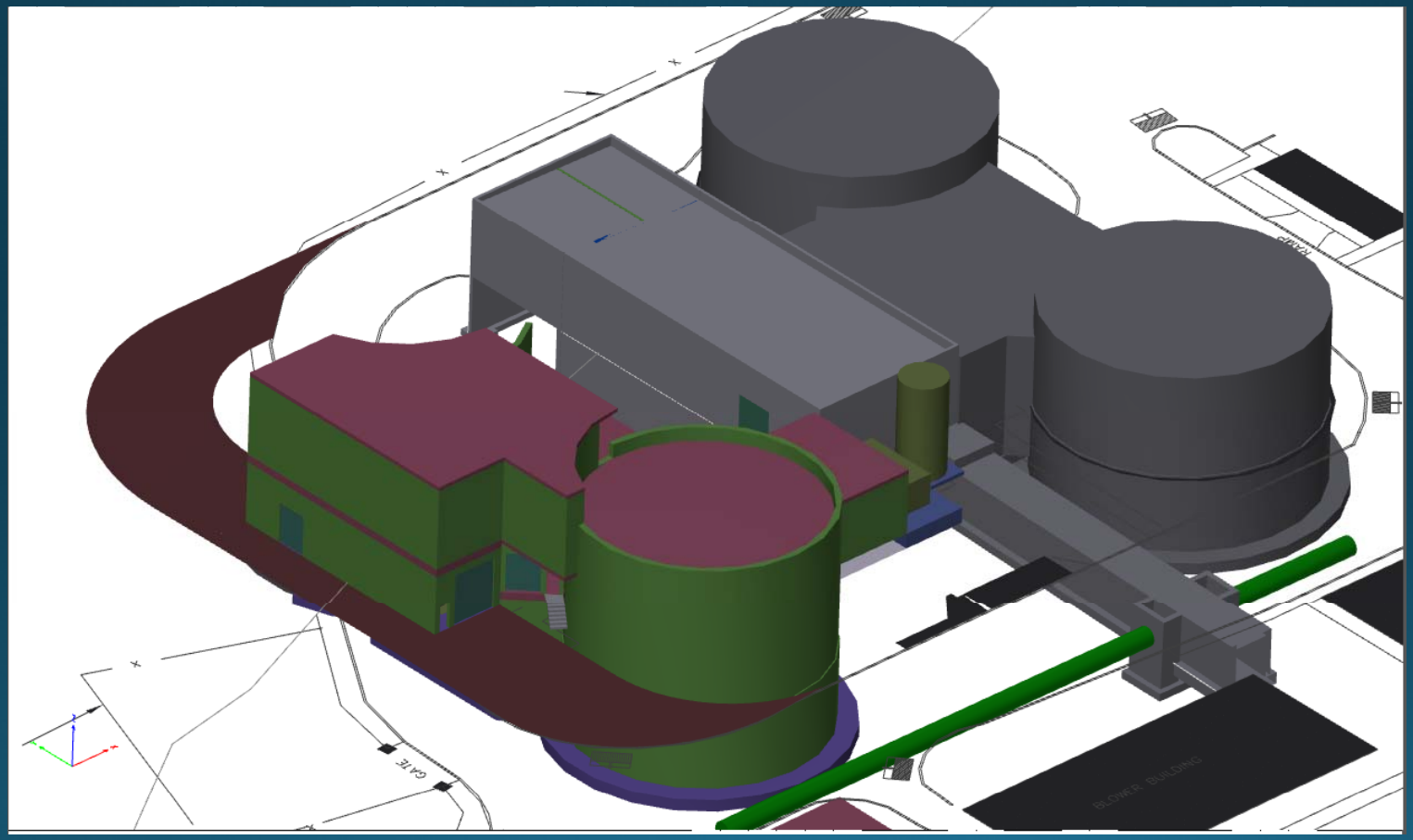


Facility	2007 Master Plan	New Approach (Phased)	Purpose
Digesters	2	Phase 1 – 1 by 2020 Phase 2 – 1 by 2030	Capacity
Digester Control Building	✓	✓	Capacity
Sludge Blending Tank	✓	✓	Operation
Solids Handling Facilities	✓	Phase 1 – Improve existing building, add to digester control building	Condition/Capacity
Truck Loadout and Cake Storage	✓	✓	Odor control/Operation
Centrifuges	✓	Phase 1 – Replace equipment to allow extended operation Phase 2 – Add equipment	Capacity
Centrate Equalization	✓	Phase 2, if required	Capacity
Emergency Power	✓	✓	Reliability
Relocate Electrical Gear	✓	✓	Reliability
Combined Heat/Power	✓	Separate project with funding opportunities	Power generation

Originally Proposed Project – 2007 Master Plan



Phase 1 to be Constructed by 2020



Costs are Refined as Design Progresses

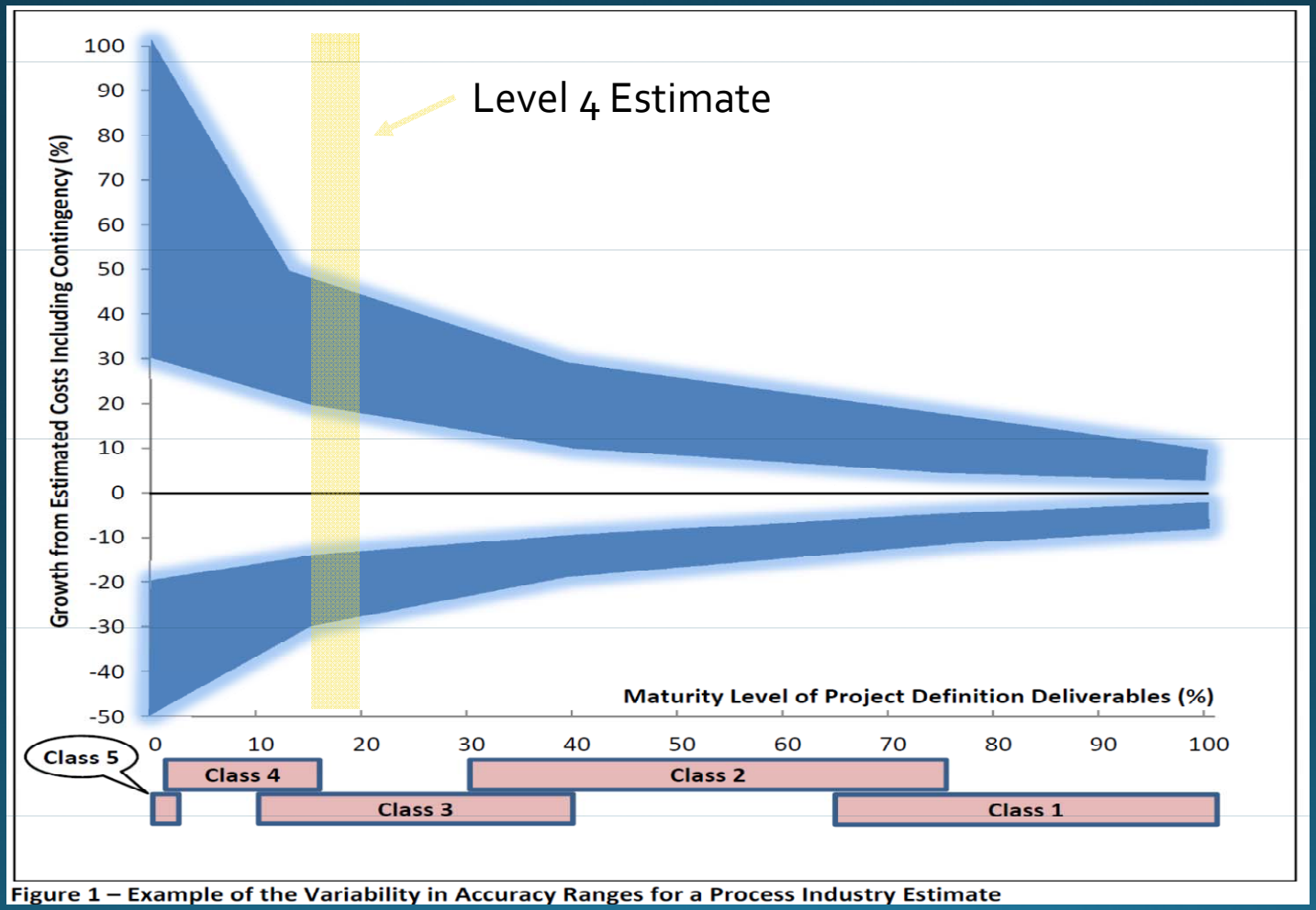


Figure 1 – Example of the Variability in Accuracy Ranges for a Process Industry Estimate

Basis of Construction Cost Estimate – Mark Ups

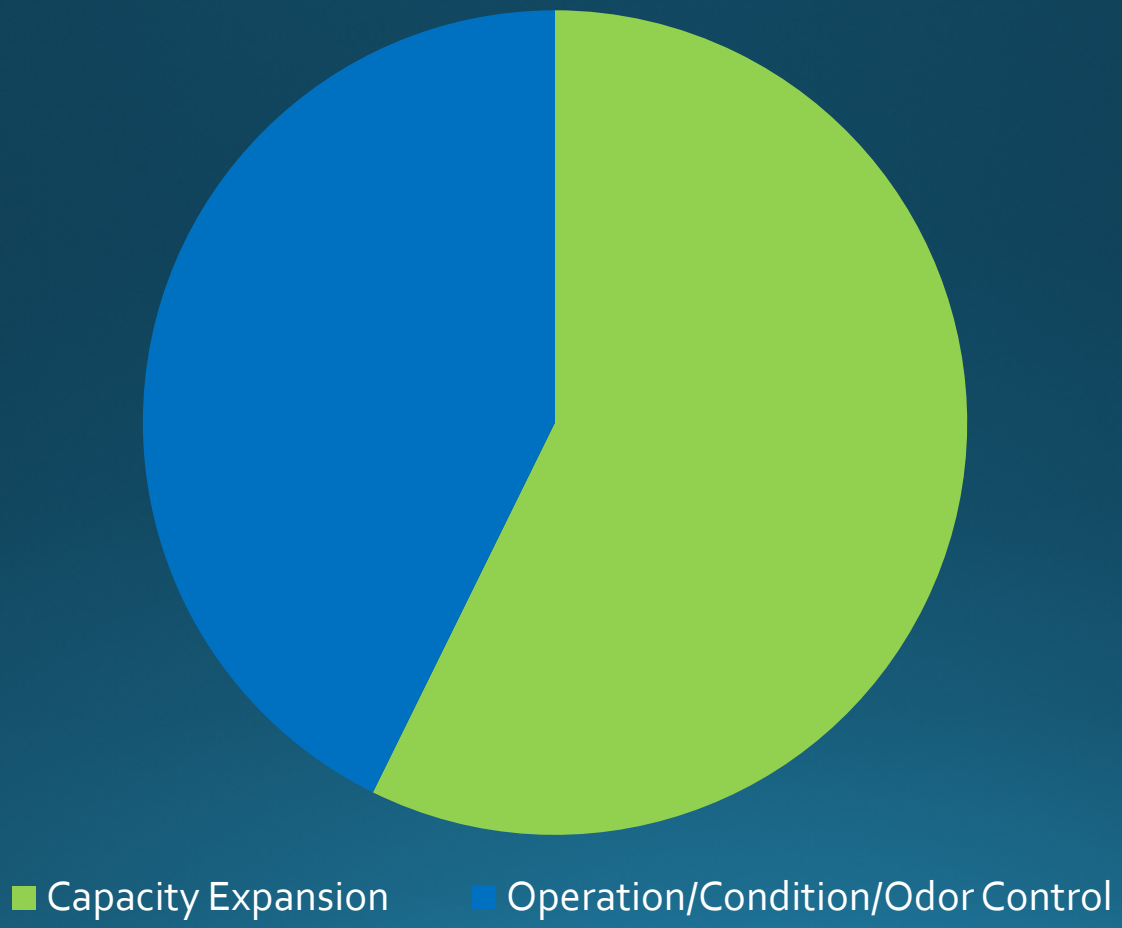
Item	Mark Up
General Conditions	6%
Overhead and Profit	15%
Contingency (Level 4)	25%

WES Internal Costs (Engineering, Legal, Admin) – 25%

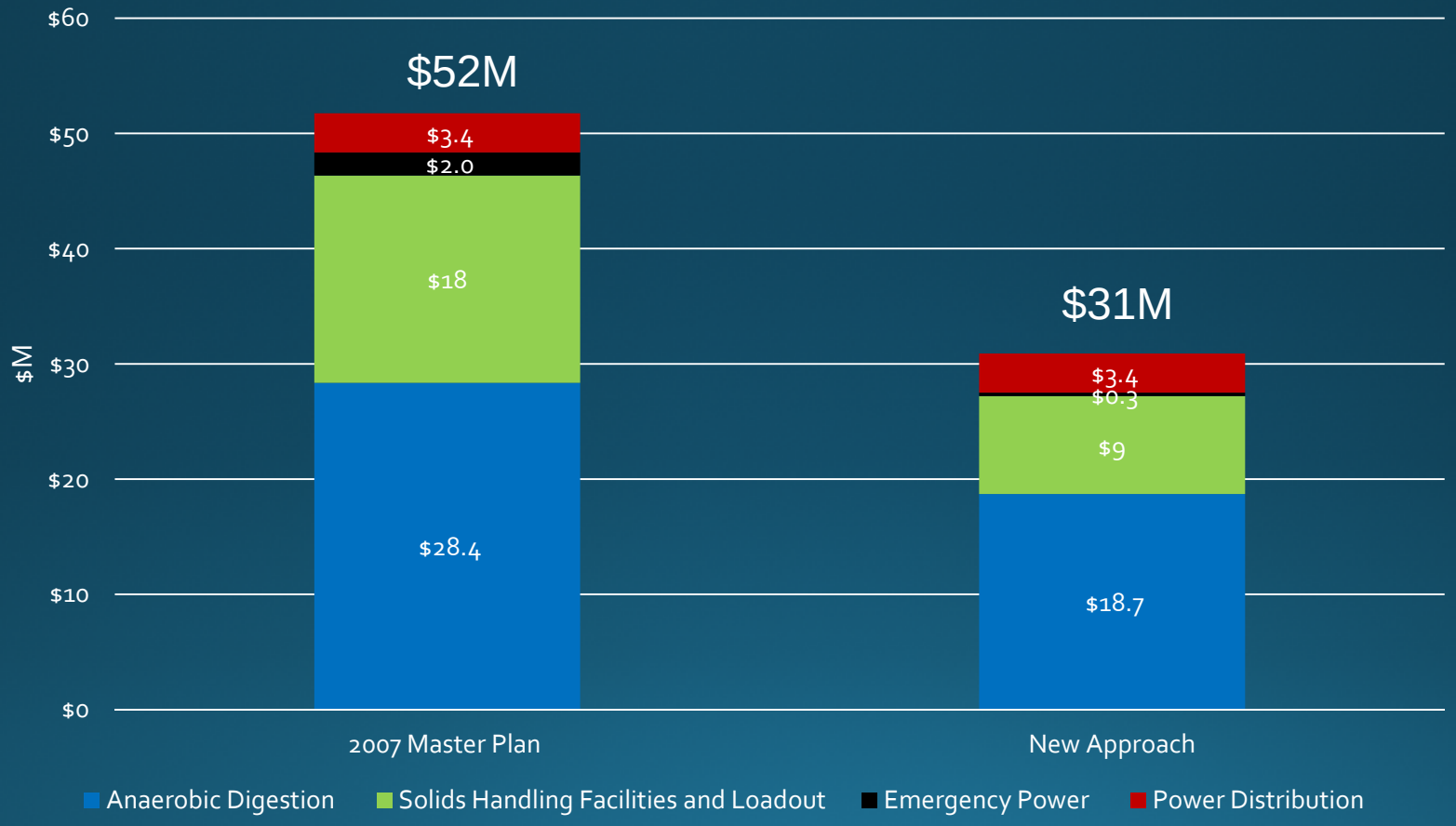
Phasing Reduces Initial (2020) Construction Cost

Facility	Purpose	Estimated Const. Cost, $M
Digester and Control Building	Capacity Expansion	12.3
Sludge Blending Tank	Operational Improvement	2.0
Solids Handling Facilities	Capacity Expansion	4.3
Truck Loadout and Cake Storage	Odor Control and Operational Improvement	4.2
Refurbish Existing Solids Facilities	Condition/Reliability	4.4
Emergency Power	Reliability	0.3
Power Distribution	Capacity/Reliability/Condition	3.4
Total		30.9

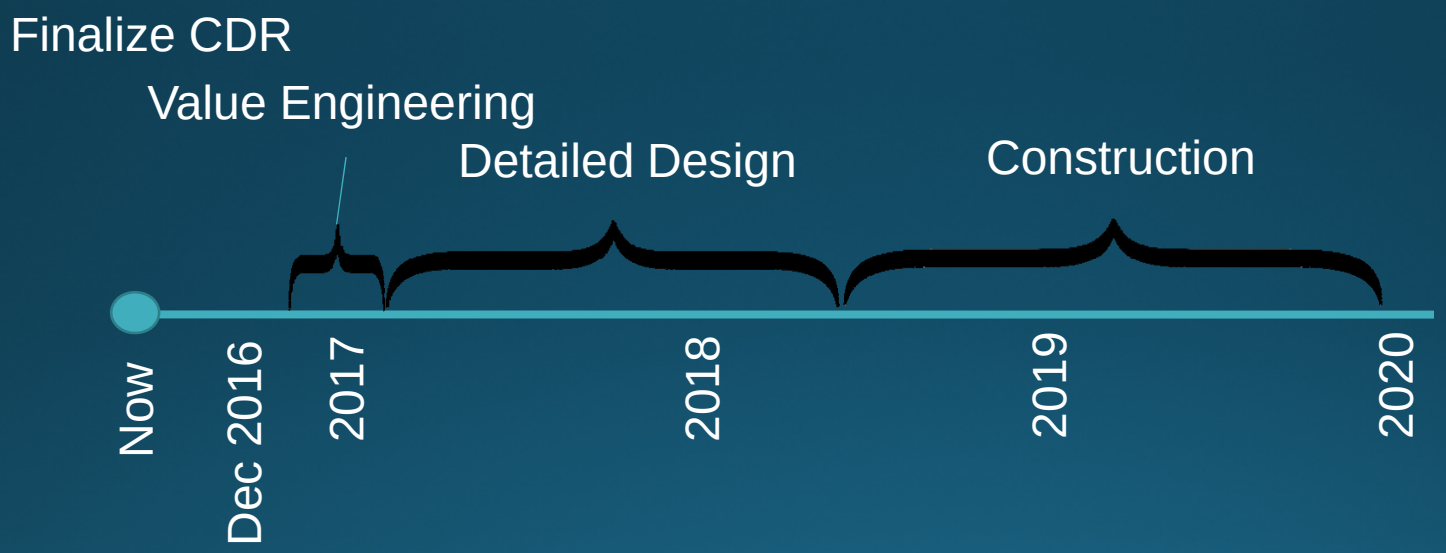
Estimated 2020 Construction Cost by Purpose



Rigorous Evaluation and Phasing Reduces Construction Cost



Next Steps and Schedule



Questions and Discussion

Regional Wastewater Treatment Capacity Advisory Committee

November 9, 2016

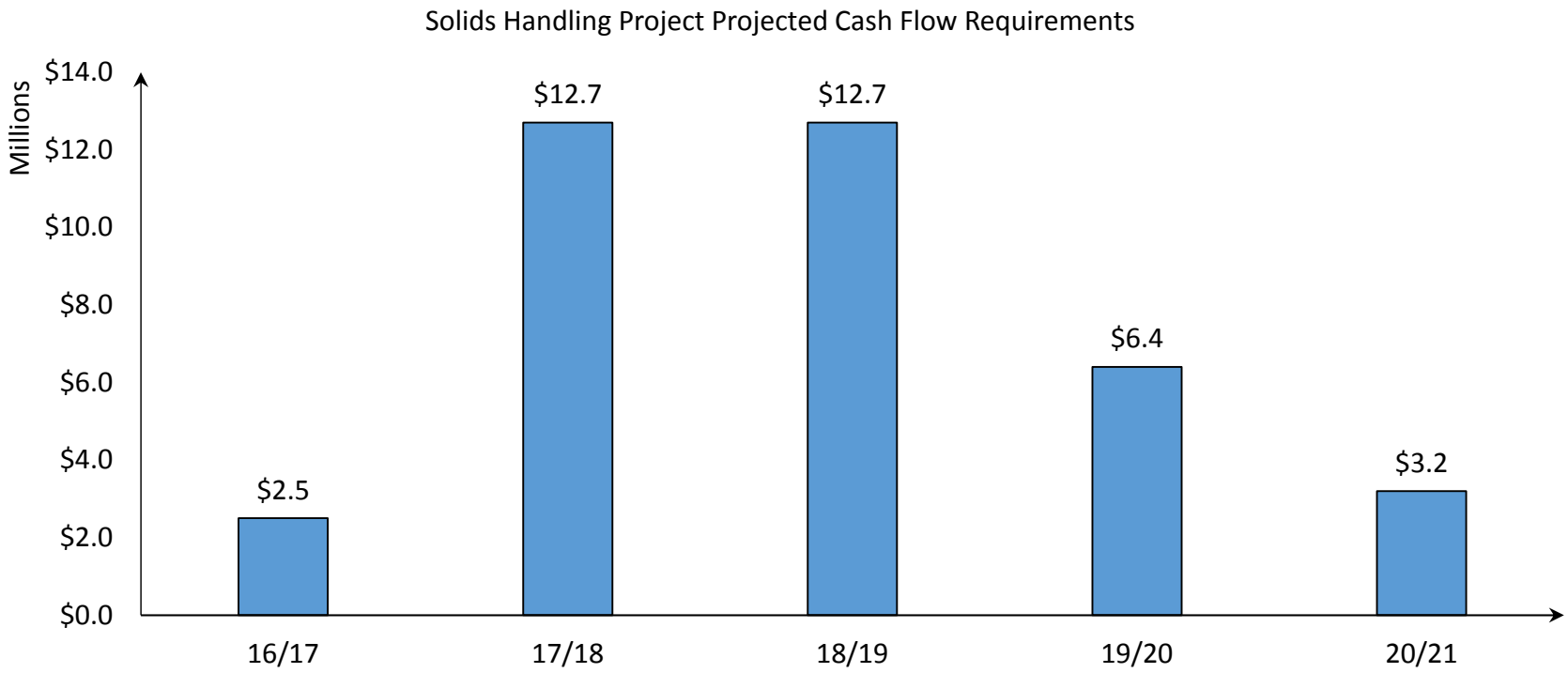
WATER ENVIRONMENT SERVICES

How are Capital Intensive Projects Financed?

- Equity contributions to the project from the service districts (via reserves and free cash flow)
- Long term debt – helps manage future rate increases (at current interest rates, a dollar of debt proceeds translates into 6 cents to annual revenue requirements from rates)

Updated Cost and Projected Cash Flow Requirements for the Solids Handling Project

- Costs through FY 15-16 $354,526
- Future costs FY 16-17 through FY 20-21 $37,500,000



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An Effective Funding Strategy for the Project
Clean Water State Revolving Loan Fund

Financing Assumptions:

Current future cost of the Solids Handling Project (uninflated)	$ 37,500,000
less: equity contributions from the service districts	18,750,000
Balance to be funded from DEQ CWSRF loan	$ 18,750,000

Financing assumptions:	
Funding source: DEQ Clean Water SRF	
Loan type: Design/Construction	
Start date for loan servicing	1-Jul-21
Repayment term (years)	20
Interest rates:	
Interest rate	1.79%
Administration fee	0.50%
Total	2.29%
Imputed total level debt service	$ 1,179,029

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Estimated Monthly Rate Impacts

		Monthly Rate Impacts			
		CCSD 1		TCSD	
CCSD 1	TCSD	by increment	delta from base case	by increment	delta from base case
50%	50%	$ 0.92	($0.26)	$ 1.45	$0.41
64%	36%	$ 1.18	$ -	$ 1.05	$ -
70%	30%	$ 1.29	$ 0.11	$ 0.87	($0.17)
75%	25%	$ 1.38	$ 0.20	$ 0.73	($0.32)
80%	20%	$ 1.47	$ 0.29	$ 0.58	($0.47)
85%	15%	$ 1.57	$ 0.39	$ 0.44	($0.61)
90%	10%	$ 1.66	$ 0.48	$ 0.29	($0.76)
95%	5%	$ 1.75	$ 0.57	$ 0.15	($0.90)
100%	0%	$ 1.84	$ 0.66	$ -	($1.05)

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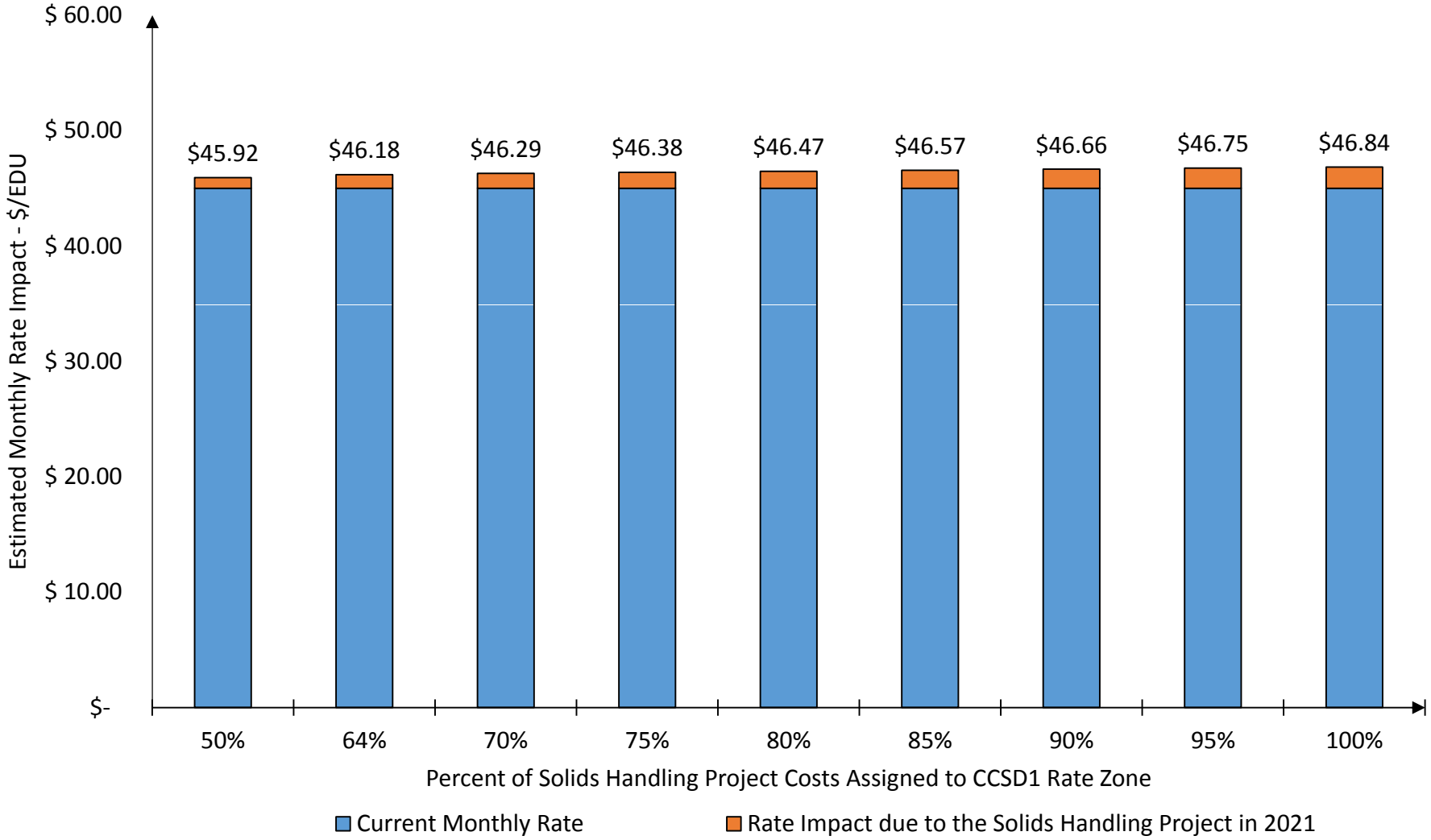
Estimated Monthly Rate Impact



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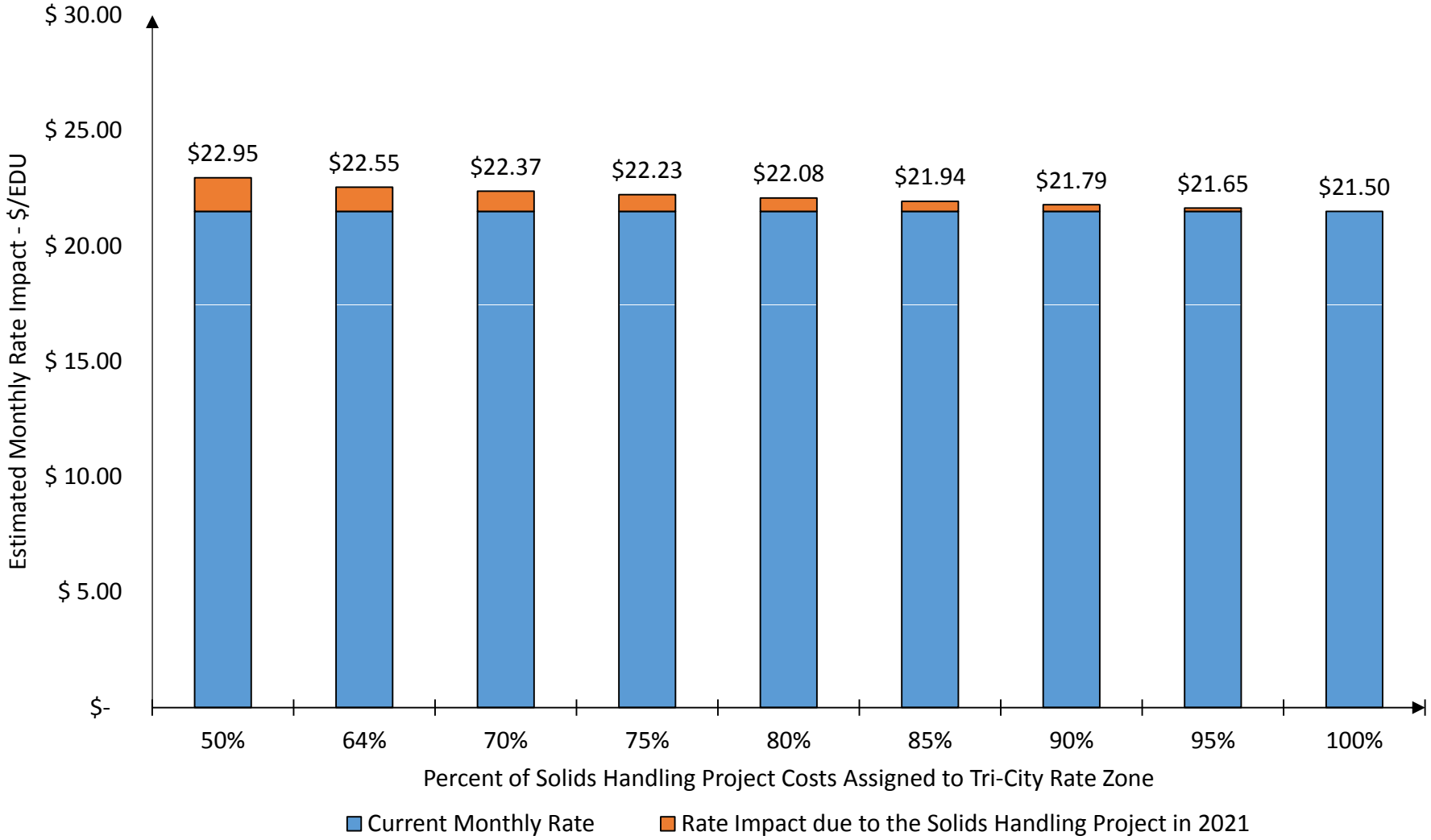
Estimated Monthly Rate Impact



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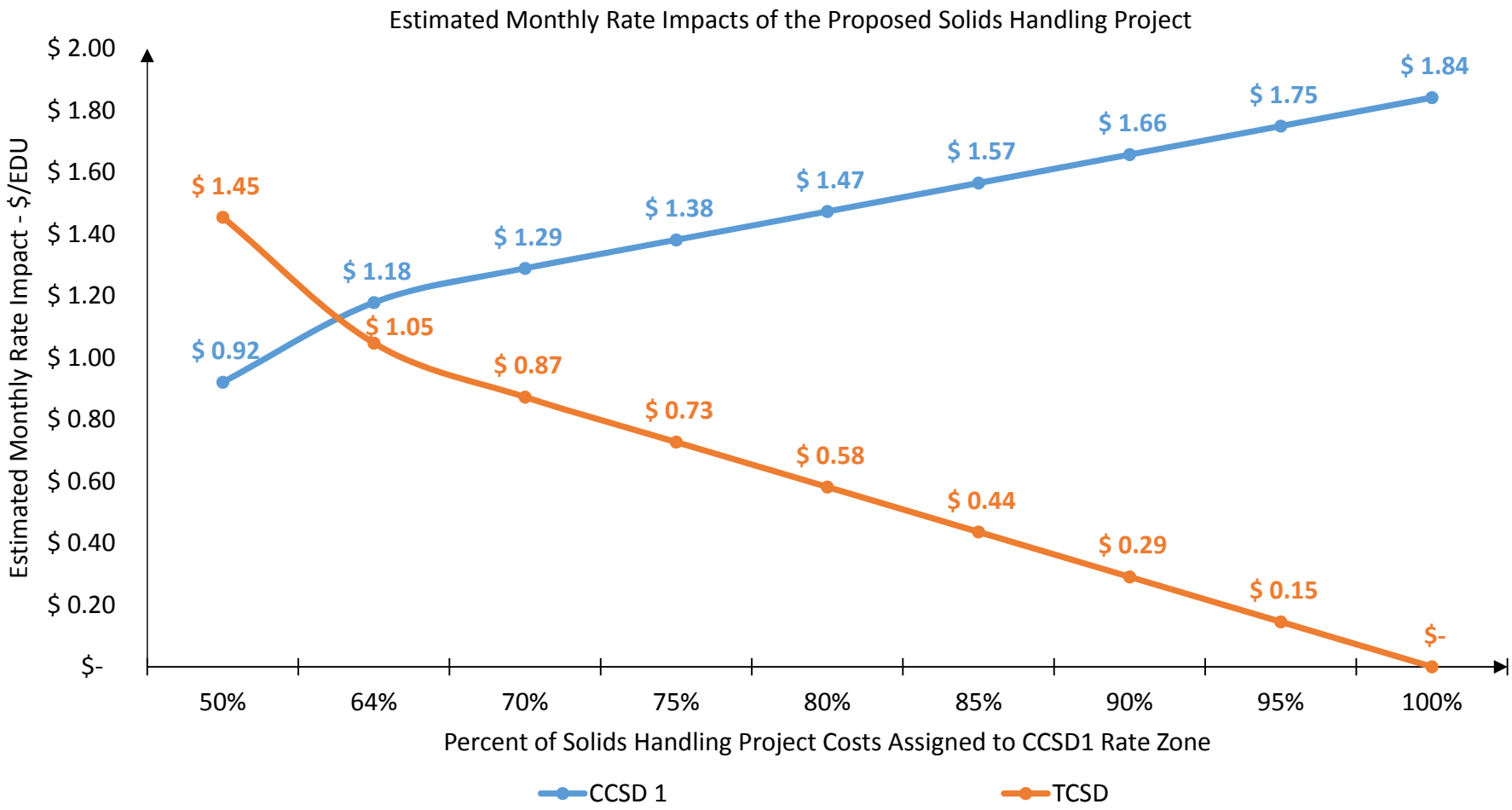
Estimated Monthly Rate Impacts - Continued



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Conclusions

- WES engineering team reduced the cost of the solids handling project ($56.4m down to $37.5m)
- WES is in a financial position to cash finance 50% of the cost of the project ($18.75m)
- Based on the base case cost allocation of 64% to CCSD1 and 36% to Tri-City Rate Zones, the rate impacts are:
  - $1.18 per EDU per month to CCSD1 rate zone
  - $1.05 per EDU per month to Tri-City rate zone

Water Environment Services

Questions and Discussion