

Developing the WTD Capital Improvement Program

Presented to the Metropolitan Water Pollution Abatement Advisory Committee

April 28, 2021



King County

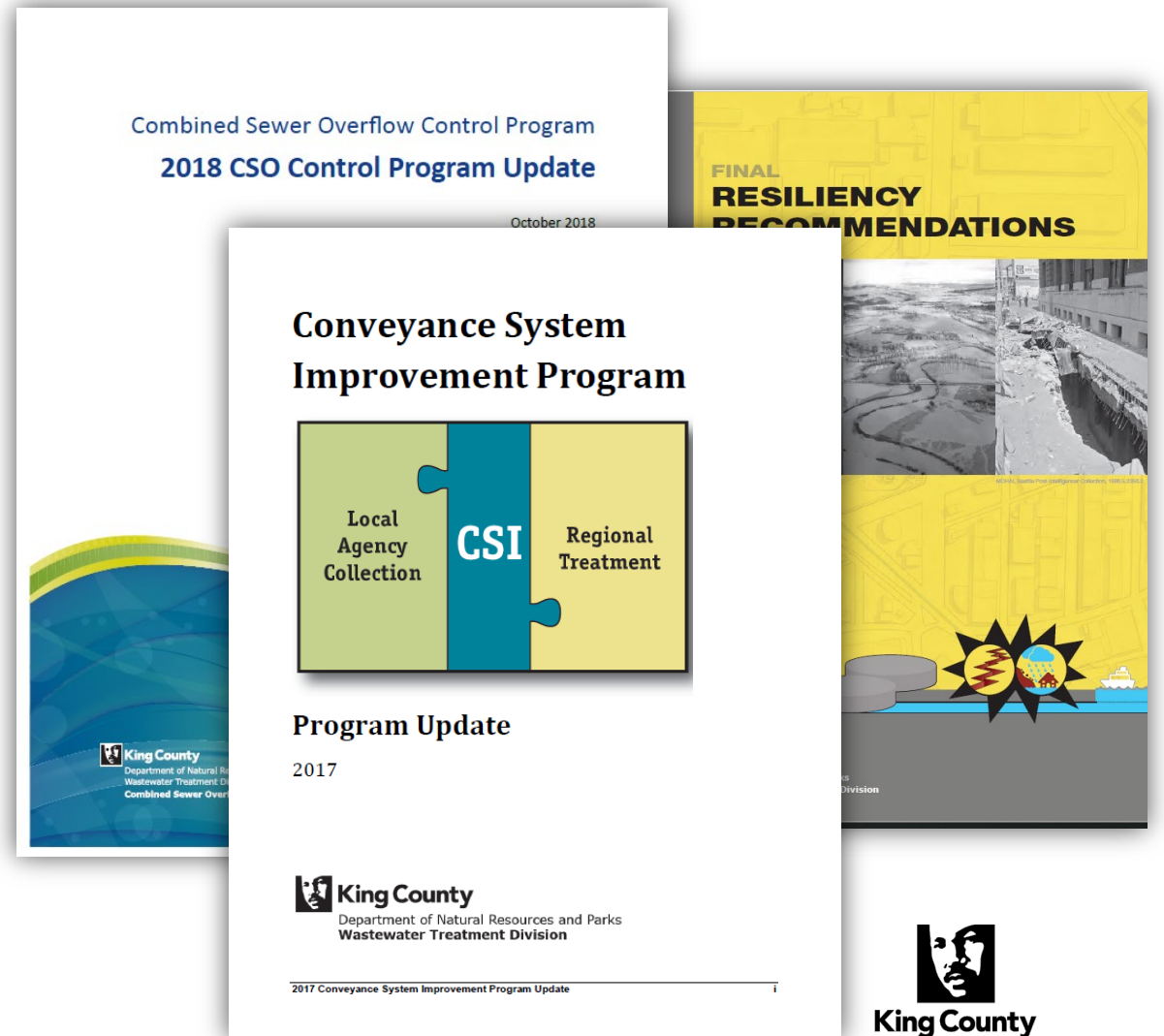
Today's Presentation

- Capital Project Sources
- Capital vs Maintenance
- Capital Improvement Program
 - Prioritization
 - Forecasting
- Funding Decision
- Appropriation Request
- CIP by the Numbers



Capital Project Sources

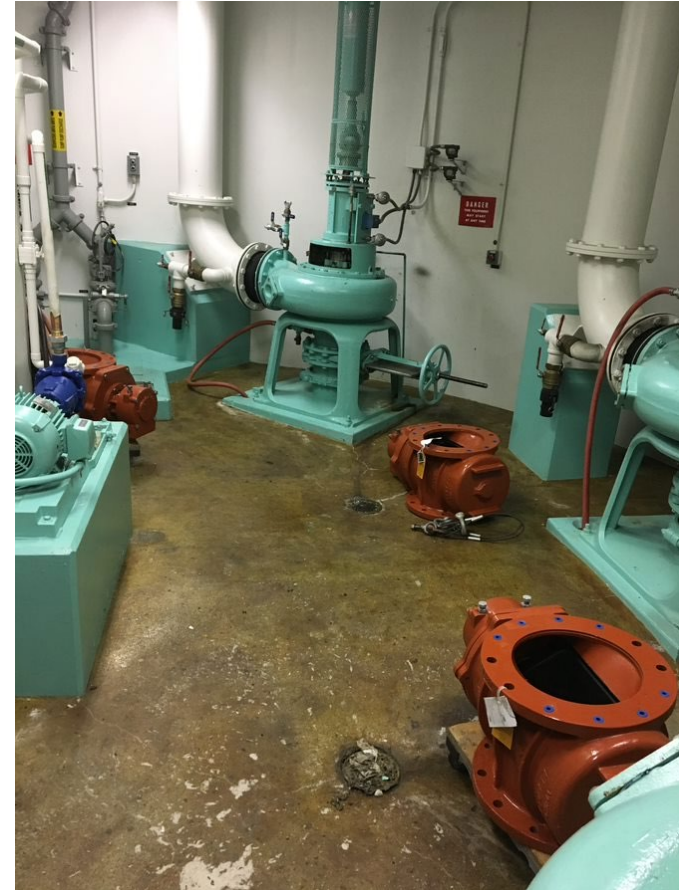
- Projects are created to either solve a problem or capitalize on an opportunity
- Project/Opportunity is studied. Examples include:
 - Conveyance System Improvements Updates
 - CSO Long Term Control Plan Updates
 - Biosolids
 - Standalone studies – ex. 2018 Resiliency and Recovery study
- Projects are generally requested when funding is required in the near to medium term



Capital vs. Maintenance

Capital Project

- Creates new asset or meaningfully extends life of existing asset
- Above \$ threshold (\$5K for equipment, \$100K for other assets, \$500K for IT)
- Expenditures are forecast in the Capital Budget aka Capital Improvement Program (CIP)



Capital vs. Maintenance



Maintenance Project

- Maintains original asset life
 - Preventive, planned, or reactive maintenance over expected asset life
 - Repair
- Below \$ threshold
- Expenditures are forecasted in the Operating Budget



Capital Improvement Program

- The Capital Improvement Program is:
 - A plan that includes all capital projects forecasted for the upcoming 6 years.
 - Defined by code – KCC 4A.100.030 A
 - Expected to change as needed

2021-2022 Proposed Financial Plan
WTD Capital Fund 3611 & 3612

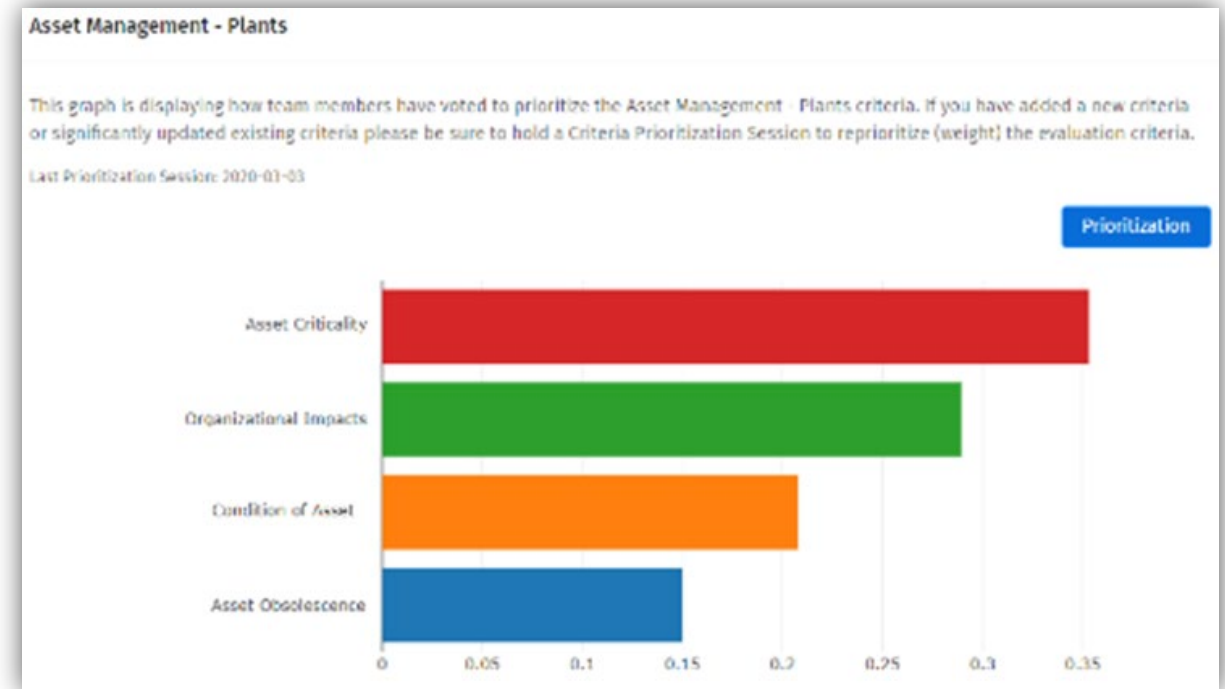
Capital Improvement Program (CIP) Budget

	2019-2020 Carryforward (YE ITD Balance)	2021-2022 Proposed	2021-2022 Total (Balance + Budget)	2023-2024 Projected	2025-2026 Projected
Capital Budget Revenue Sources:					
Revenue Backing from Fund Balance	199,209,375	-	199,209,375		
Bond Proceeds (net)		319,303,247	319,303,247	351,019,910	424,950,580
Future Undesignated Funding	781,617,845	233,879,240	1,015,497,085	67,729,008	236,864,922
Total Capital Revenue	\$ 980,827,220	\$ 553,182,487	\$ 1,534,009,707	\$ 418,748,918	\$ 661,815,502
Capital Appropriation:					
Resource Recovery	(45,870,357)	(11,787,701)	(57,658,058)	(7,161,636)	-
Asset Management - Conveyance	(79,092,088)	(56,230,032)	(135,322,120)	(50,123,305)	(136,945,735)
Asset Management - Plant	(123,173,904)	(104,050,776)	(227,224,680)	(154,170,202)	(276,420,835)
Capacity Improvement	(287,329,152)	(96,917,773)	(384,246,925)	(1,340,366)	(11,189,665)
Operational Enhancements	(7,277,406)	(39,158,321)	(46,435,727)	(10,847,404)	(11,496,452)
Planning/Administration	(28,702,206)	(43,790,781)	(72,492,987)	(15,113,375)	(14,437,705)
Resiliency	(58,362,327)	(91,677,568)	(150,039,895)	(80,831,225)	(33,832,582)
Regulatory	(253,837,564)	(109,569,535)	(363,407,099)	(99,161,405)	(177,512,528)
Historical (No Category)	(97,182,216)		(97,182,216)		
Total Capital Appropriation	\$ (980,827,220)	\$ (553,182,487)	\$ (1,534,009,707)	\$ (418,748,918)	\$ (661,815,502)



Prioritizing the Capital Improvement Program (CIP)

- WTD uses a formal portfolio management process to prioritize the CIP.
- WTD leadership sets strategy for 6 Year (and longer) CIP through the sewer rate setting process.
- The prioritization data helps to inform the forecast.



Forecasting the Capital Improvement Program

- The 6 Year CIP forecast is updated every biennium.
- Individual Projects and Programs are forecast based on the cost and duration estimates.
- Projects are programmed based on:
 - Achieving strategic goal
 - Relative priority
 - Known dependencies
 - Known constraints
- Projects are forecast within categories and categories are rolled up to form the entire CIP.
- CIP forecast update process starts about 1 year before the 6-year period begins.

Example: Asset Management – Conveyance Category

	2021	2022	2023	2024	2025	2026
Ongoing Programs (funds)	\$ 320,000	\$ 110,000	\$ 120,000	\$ 120,000	\$ 120,000	\$ 130,000
smaller subprojects)	\$ 1,640,000	\$ 1,610,000	\$ 1,230,000	\$ -	\$ -	\$ -
	\$ 4,870,000	\$ 6,310,000	\$ 7,480,000	\$ 7,670,000	\$ 6,890,000	\$ 7,090,000
	\$ 2,330,000	\$ 2,430,000	\$ 2,430,000	\$ 2,520,000	\$ 2,620,000	\$ 2,720,000
Projects in construction/closeout	\$ 10,000	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ 360,000	\$ -	\$ -	\$ -	\$ -	\$ -
Projects in design	\$ 6,860,000	\$ 15,280,000	\$ 15,410,000	\$ 20,050,000	\$ 710,000	\$ -
	\$ 1,590,000	\$ 1,970,000	\$ 20,780,000	\$ 7,380,000	\$ -	\$ -
	\$ 100,000	\$ 1,020,000	\$ 5,260,000	\$ 16,850,000	\$ 12,430,000	\$ -
	\$ -	\$ -	\$ 750,000	\$ 870,000	\$ 1,420,000	\$ 4,190,000
	\$ -	\$ -	\$ 1,050,000	\$ 3,310,000	\$ 10,110,000	\$ 6,600,000
	\$ -	\$ -	\$ -	\$ 780,000	\$ 1,350,000	\$ 2,510,000
	\$ -	\$ -	\$ 1,470,000	\$ 5,150,000	\$ 13,560,000	\$ 33,480,000
	\$ -	\$ -	\$ -	\$ 530,000	\$ 1,600,000	\$ 3,690,000
	\$ -	\$ -	\$ -	\$ 1,030,000	\$ 3,190,000	\$ 7,820,000
New Projects	\$ -	\$ -	\$ -	\$ 240,000	\$ 710,000	\$ 2,030,000
	\$ -	\$ -	\$ -	\$ -	\$ 2,030,000	\$ 6,440,000
	\$ -	\$ -	\$ -	\$ -	\$ 720,000	\$ 2,160,000
	\$ -	\$ -	\$ -	\$ -	\$ 70,000	\$ 210,000
	\$ -	\$ -	\$ -	\$ -	\$ 380,000	\$ 1,130,000
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,630,000
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 600,000
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 590,000
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 230,000



King County

Department of Natural Resources and Parks
Wastewater Treatment Division

Funding Decision

- Appropriation focuses primarily on the immediate biennium
- Each category and entire CIP is balanced against the proposed rate plan and forecast resource availability.
- Decision to request appropriations on new projects/programs are made by WTD leadership based on data obtained from the portfolio prioritization and balancing process.

Appropriation requested for upcoming biennium

Subject to change based on new data

	2021		2022		2023		2024		2025		2026	
Ongoing Programs (funds)	320,000	\$ 110,000	120,000	\$ 120,000	120,000	\$ 120,000	120,000	\$ 120,000	120,000	\$ 120,000	130,000	\$ 130,000
smaller subprojects)	1,640,000	\$ 1,610,000	1,230,000	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -
	4,870,000	\$ 6,310,000	7,480,000	\$ 7,670,000	6,890,000	\$ 6,890,000	7,090,000	\$ 7,090,000	7,480,000	\$ 7,480,000	7,090,000	\$ 7,090,000
	2,330,000	\$ 2,430,000	2,430,000	\$ 2,520,000	2,620,000	\$ 2,620,000	2,720,000	\$ 2,720,000	2,430,000	\$ 2,430,000	2,720,000	\$ 2,720,000
Projects in construction/closeout	10,000	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -
	360,000	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -
Projects in design	6,860,000	\$ 15,280,000	5,410,000	\$ 20,050,000	710,000	\$ 710,000	-	\$ -	-	\$ -	-	\$ -
	1,590,000	\$ 1,970,000	0,780,000	\$ 7,380,000	-	\$ -	-	\$ -	-	\$ -	-	\$ -
	100,000	\$ 1,020,000	5,260,000	\$ 16,850,000	12,430,000	\$ 12,430,000	-	\$ -	-	\$ -	-	\$ -
	-	\$ -	750,000	\$ 870,000	1,420,000	\$ 1,420,000	4,190,000	\$ 4,190,000	-	\$ -	-	\$ -
	-	\$ -	1,050,000	\$ 3,310,000	10,110,000	\$ 10,110,000	6,600,000	\$ 6,600,000	-	\$ -	-	\$ -
	-	\$ -	-	\$ 780,000	1,350,000	\$ 1,350,000	2,510,000	\$ 2,510,000	-	\$ -	-	\$ -
	-	\$ -	1,470,000	\$ 5,150,000	13,560,000	\$ 13,560,000	33,480,000	\$ 33,480,000	-	\$ -	-	\$ -
	-	\$ -	-	\$ 530,000	1,600,000	\$ 1,600,000	3,690,000	\$ 3,690,000	-	\$ -	-	\$ -
	-	\$ -	-	\$ 1,030,000	3,190,000	\$ 3,190,000	7,820,000	\$ 7,820,000	-	\$ -	-	\$ -
	-	\$ -	-	\$ 240,000	710,000	\$ 710,000	2,030,000	\$ 2,030,000	-	\$ -	-	\$ -
	-	\$ -	-	\$ -	2,030,000	\$ 2,030,000	6,440,000	\$ 6,440,000	-	\$ -	-	\$ -
	-	\$ -	-	\$ -	720,000	\$ 720,000	2,160,000	\$ 2,160,000	-	\$ -	-	\$ -
	-	\$ -	-	\$ -	70,000	\$ 70,000	210,000	\$ 210,000	-	\$ -	-	\$ -
	-	\$ -	-	\$ -	380,000	\$ 380,000	1,130,000	\$ 1,130,000	-	\$ -	-	\$ -
	-	\$ -	-	\$ -	-	\$ -	1,630,000	\$ 1,630,000	-	\$ -	-	\$ -
	-	\$ -	-	\$ -	-	\$ -	600,000	\$ 600,000	-	\$ -	-	\$ -
	-	\$ -	-	\$ -	-	\$ -	590,000	\$ 590,000	-	\$ -	-	\$ -
	-	\$ -	-	\$ -	-	\$ -	230,000	\$ 230,000	-	\$ -	-	\$ -
New Projects	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -



Appropriation Request

CAP Summary by Fund

Budget: 2021-2022 Biennial, Scenario: Executive Proposed, Agency: Wastewater Treatment, Fund: 3611 WATER QUALITY CONST-UNRES, Cap Status: Approved, Is IT Proj? Both Yes and No

2021-2022 Biennial - Executive Proposed

3611 WATER QUALITY CONST-UNRES - Wastewater Treatment				
Project Number	Project Name Class Code	Tech Adj	FY21-22	Narratives
1113196	WTC MECHANICAL UPGRADE AND REP PROGRAMMATIC		\$12,009,288	<p>Current Scope: Mechanical Upgrade and Replacement - The Mechanical Upgrade and Replacement Program includes asset management project that replace or upgrade mechanical systems at wastewater facilities that have served their useful life such as pumping systems, hydraulic systems, and heating and ventilation systems; improve efficiency, provide safety for operators and upgrades to meet current codes. This "Roll-Up Project" funds a number of mechanical upgrade and replacement subprojects that vary in dollar value, but are typically less than \$2,500,000. The number of subprojects fluctuates as projects are completed and new subprojects are added through the New Project Request process. As a result, subprojects contained within this project number are in various phases from planning, design, and to construction. In addition, this Roll-Up project is used to initiate mechanical upgrade and replacement subprojects throughout the year that may later develop into stand alone projects with their own project number. Project schedule dates reflect activities of multiple subprojects.</p> <p>Budget Request Basis: This is an ongoing program that funds multiple subprojects in all phases of project delivery. The total request is based on a combination of current existing subprojects, pending expected subprojects, and an analysis of historical program spending. The requested budget will fund mechanical upgrades to replace systems that have reached the end of life and improve safety including HVAC replacements and system assessments.</p>
1113247	WTC PIPELINE REPLACEMENT PROGRAMMATIC		\$0	<p>Current Scope: Pipeline Replacement - The Pipeline Replacement Program projects are primarily treatment process support systems. This piping conveys fluids such as potable and non-potable water, sludge, gases, chemicals, and air. These are projects that enhance the treatment process, overhaul, rehabilitate, or replace failed piping systems and equipment that has reached the end of its useful life, improve safety, reliability, efficiency or increase redundancy of the piping systems and code required upgrades. This "Rollup Project" funds a number of pipeline replacement subprojects that vary in dollar value, but are typically less than \$2,500,000. The number of subprojects fluctuates as projects are completed and new subprojects are added through the project work request process. As a result, subprojects contained within this project number are in various states of design, from planning to construction. In addition, this project number is used to initiate pipeline replacement sub-projects throughout the year that develop into stand alone projects with their own unique project number. Project schedule dates reflect activities of multiple subprojects.</p> <p>Budget Request Basis: The appropriation request is based on analysis of project schedule, spending, contingency, budget carryover amount and the timing of property acquisition and implementation contracting.</p>

Capital Appropriation Proposal

Budget: 2021-2022 Biennial, Scenario: Executive Proposed, Agency: All, Fund: All, Project: All, Cap Status: Approved, Is IT Proj? Both Yes and No

WTC MECHANICAL UPGRADE AND REP		1113196
		Master Project
Department	NATURAL RESOURCES AND PARKS	
Council District(s)	1, 2, 3, 4, 5, 6, 7, 8, 9	
Fund	3611 WATER QUALITY CONST-UNRES	
Class Code	WTC MECHANICAL UPGRADE AND REP	
Substantial Completion		
Location	Projects are located throughout the Wastewater Treatment Division's facilities.	
Cap Status	Approved	



BUDGET (Appropriation)

Capital Phase	ITD Budget thru 06/2020	FY21-22	FY23-24	FY25-26	Total Budget
1 Planning 01/01/02 - 12/31/22	\$2,160,818	\$1,172,176	\$1,342,947	\$1,420,691	\$6,096,632
2 Preliminary Design 01/01/02 - 12/31/22	\$4,579,605	\$1,758,263	\$2,014,421	\$2,131,035	\$10,483,324
3 Final Design 01/01/02 - 12/31/22	\$10,860,546	\$3,516,526	\$4,028,841	\$4,262,071	\$22,667,984
4 Implementation 01/01/02 - 12/31/27	\$31,906,933	\$3,763,189	\$4,399,371	\$4,572,062	\$44,641,555
5 Closeout	\$3,472,958	\$1,799,134	\$2,014,421	\$2,214,140	\$9,500,653
6 Acquisition	\$24,606	\$0	\$0	\$0	\$24,606
Total Budget	\$53,005,467	\$12,009,288	\$13,800,001	\$14,599,999	\$93,414,755

ART	FY21-22	FY23-24	FY25-26	Total 6-Year Art Budget
Art	\$0	\$0	\$0	\$0

REVENUE

Account	FY21-22	FY23-24	FY25-26	Total 6-Year Revenue
39199 - DEBT PROCEEDS TRANSFER	\$12,009,287	\$13,800,000	\$14,600,000	\$40,409,287
Total Revenue	\$12,009,287	\$13,800,000	\$14,600,000	\$40,409,287

WTD 2021-2026 CIP by the Numbers

2021-2022 Adopted Budget:

- 6 Year (2021-2026) Total Forecast: \$2.28b
- 141 Standalone Projects and Programs
 - 170 total active subprojects as of April 2021
- Largest individual standalone projects:
 - 2021-2022 forecasted expenditure: Joint Ship Canal - \$76M over biennium (12% of biennium total forecast)
 - 6-Year forecasted expenditure: Coal Creek Trunk - \$120M over 6 years (5% of 6 Year total forecast)
- Average standalone project 6 Year forecasted expenditure: \$16M



Summary

- The WTD CIP includes all capital project forecasts for a defined 6-Year period.
- CIPs are expected to be updated biannually as new data becomes available.
- WTD uses portfolio management to prioritize projects for the CIP forecast, and the decision to request funding for new projects is informed by this process.



Questions?

Crystal Fleet

Capital Portfolio Planning and Analysis

King County Wastewater Treatment Division

Crystal.Fleet@kingcounty.gov

