

Contractor / Consultant Workshop & Networking Event

September 3, 2020



Welcome & Opening Remarks

Mike Francolino

Colorado Springs Utilities - Supply Chain Management General Manager

Rich Norton, Jr.

Colorado Springs Utilities - Procurement Manager

Agenda

Contracting Workshop September 3, 2020

8:00 a.m. Welcome and Opening Remarks

Mike Francolino & Rich Norton

Supply Chain Management General Manager /Procurement Manager

8:05 a.m. Organizational Vision and Safety Moment

Aram Benyamin

Chief Executive Officer

8:10 a.m. 2020-2021 Budget and Upcoming Projects

Phil Tunnah

Systems Planning and Projects Officer

9:15 a.m. Q & A Session

Colorado Springs Utilities Staff

9:50 a.m. Closing Remarks

Melissa Noble

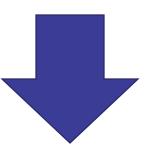
Customer and Corporate Services Chief Officer

10:00 am Break

10:30 a.m. Break-out Sessions

Procurement Initiatives

Introduction of Strategic Sourcing Methodology



Changes to Sourcing Events

Changes to Supplier Performance Reviews



Organizational Vision & Safety Moment

Aram Benyamin
Colorado Springs Utilities - Chief Executive Officer



2020-2021 Budget and Upcoming Projects

Phil Tunnah

Colorado Springs Utilities - System Planning and Projects Officer

Meeting Purpose

- Communicate the Upcoming Projects for late 2020/ early 2021
- Longer Range Strategy Discussion
- Meet Utility Project Teams (via break-out session opportunities)
- Receive Feedback





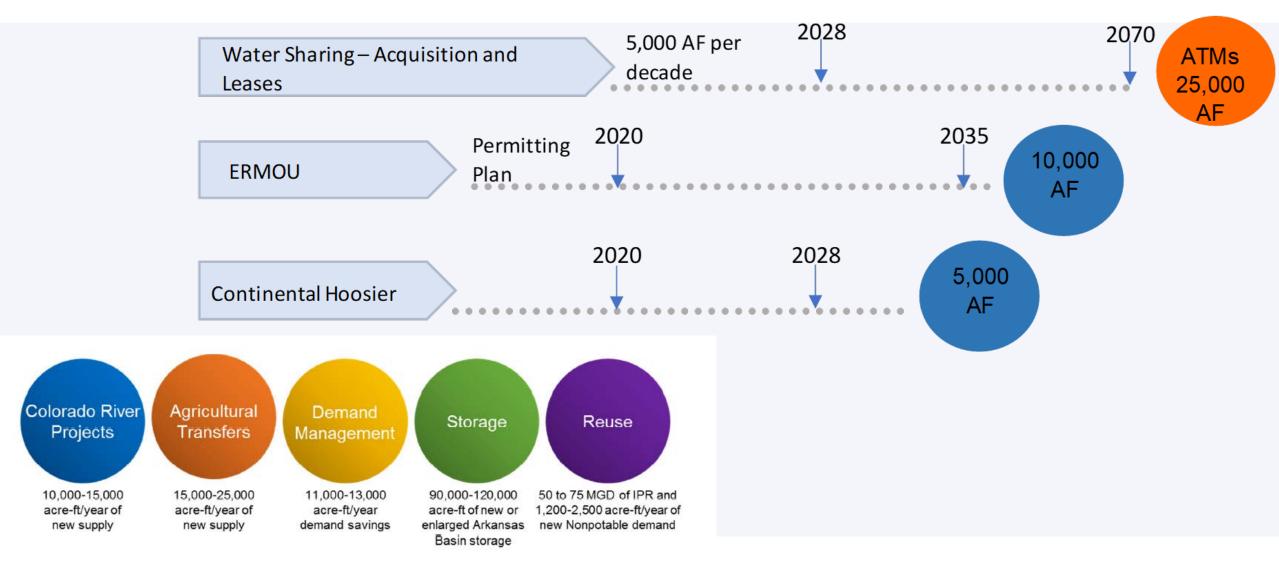


Water/Wastewater Service Update

Colorado Springs Utilities September 3, 2020

2017 IWRP Implementation

Supply Development Timing



Raw Water Systems

- 1. Blue River System Plan
 - Pipeline Condition Assessment
- 2. Homestake System
 - Suction Pipeline Replacement
 - Twin Rocks Pump Station
- 3. FVA
 - Tank Rehabilitation
- 4. Local Systems
 - Crystal Dam Rehabilitation
 - 33rd Street
 - Rosemont Piping Improvements



Water Treatment

- Mesa WTP Upgrades
- Facility Planning Through GES

Pine Valley / McCullough

Facility Plan

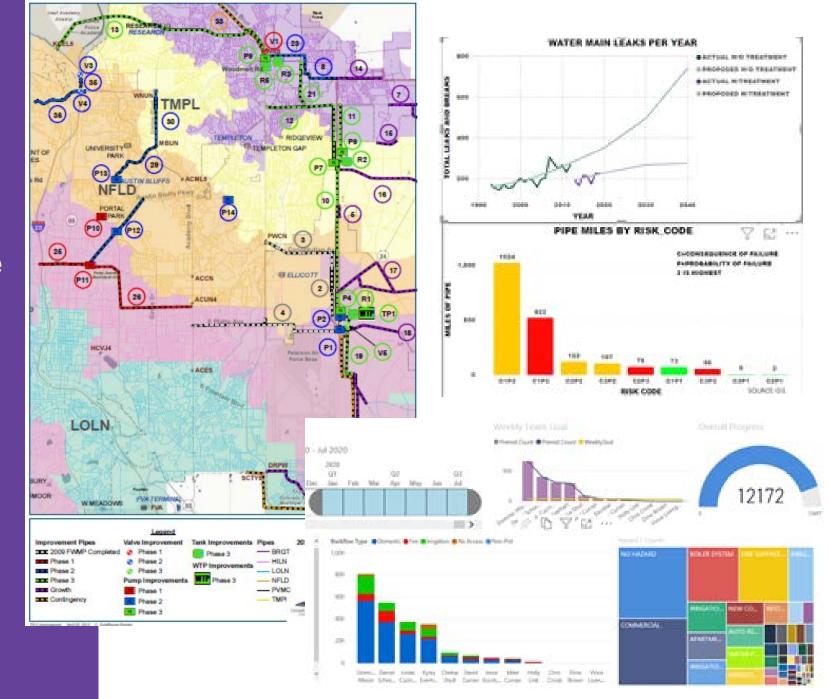
- Pine Valley/McCullough
- Ute Pass

Water Quality Monitoring



Finished Water Distribution System

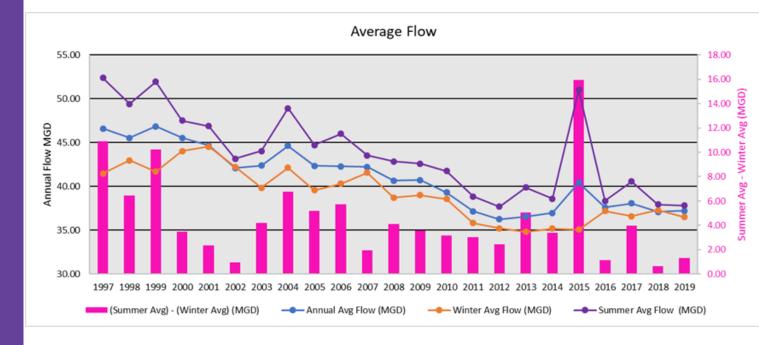
- 1. System Plan 2021 Update
- 2. Linear Asset Program link with 2C and 2C2
- 3. Programs for Pump Stations, Tanks, Specialty Valves
- 4. Backflow Prevention Program



Wastewater Collection System

- 1. 2019 System Plan Implementation
- 2. Ongoing lining and creek crossing programs
- 3. Long term I&I Analysis
- 4. Northern Monument Creek Interceptor

Inflow and Infiltration Reduction over Time



Resource Recovery Facilities

- 1. RRF Facility Planning
 - CSRRRF
 - LVSWRRF
 - Lift Stations
- CSRRRF
 Control System Replacement/
 Upgrade
- 3. LVSWRRF Aeration System SAA
- 4. Biogas PPP



Facility Plan Report for the Las Vegas Street Water Resource Recovery Facility

.3 Projected Identification and Prioritization (20-year Window)

1.3	Projected Identification and Prioritization (20-year Window)							
Grading Criteria	Asset Condition Soore Range	Legend for Charts	Asset Description	Remaining % of Service Life	Process Mechanical Equipment	instrumentation and Control Equipment		
1	1.0 to 1.49		Indicates asset is in like-new condition. Continuation of the current O&M procedures is indicated. Indicates asset is in good condition. Some minor additional maintenance may be required in addition to the current O&M procedures.		2%	O%		
2	1.50 to 2.49				35	36%		
3	2.50 to 3.49	recurrence of the identified issues. Indicates asset is in poor condition. Planning for a major overnaul or replacement should. 51.5		39%	48%			
4	3.50 to 4.49			31%	14%			
5	4.50 to 5.0	•	indicates the asset is in very poor condition and will likely require replacement. If a critical asset, a preventative maintenance program should be evaluated to prevent the asset from reaching this condition in the future.		Total number of assets assessed: 173	Total number of assets assessed: 21		
					Electrical Equipment	Building Mechanical Equipment		
5.00 4.00 4.00 9. 3.50 80 2.20 80 2.20 9. 20 9. 20 9		Chasifers Side Gains Sing Screens	Primary Clariffers PEP AB SC RAS & DAFT BSPS UV Oder FI	august of state of st	Total number of essets assessed: 6.3	Total number or assets assessed. 35		



Electric/Gas Service Update

Colorado Springs Utilities September 3, 2020

Energy Vision

Provide resilient, reliable and cost-effective energy that is environmentally sustainable, reduces our carbon footprint and uses proven state-of-the-art technologies to enhance our quality of life for generations to come.

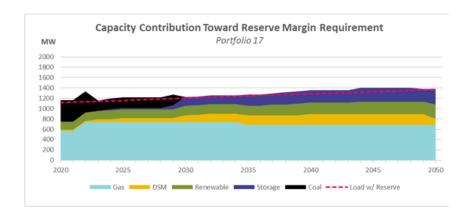
STRATEGIC PILLARS TO SUPPORT THE NEW ENERGY VISION RESILIENCY ENVIRONMENT INNOVATION **ECONOMIC** Sustainable solutions Reliably withstand and that complement our recover from disturbances Proactively and Cost-effective and natural resources in a dynamic environment responsibly evolve in a equitable initiatives that transforming landscape drive a strong economy **OUR FOUNDATION IS** THE COMMUNITY WE SERVE

EIRP PORTFOLIO 17

Overview

- Carbon reduction goals: 80% by 2030, 90% by 2050
- . Coal retirement: Drake Power Plant no later than 2023, Nixon Power Plant no later than 2030
- Other retirement: Birdsall Power Plant no later than 2035
- · Replacement: Small, mobile natural gas generators, non-carbon generation and storage plus energy efficiency initiatives

Pathway	Portfolio	Carbon targets	2022	2023	2025	2026	2030	2035	2040	2050
Pathway	5 47	2030 80%		Drake retire			Nixon 1 retire	Birdsall retire		
E	Portfolio 17	2050 90%		Small, mobile, natural gas generator			Non-carbon, storage & DSM	Non-carbon, storage & DSM		
Gas	G-E17		LDC IT with oil backup		Expand/new pipeline capacity with NNT					







Resource Change		Financial Met	Attribute So	
2021-2050 (30 Year Revenue	\$36.47B	Reliability
Drake (2023)	-208	Requirement	\$30.47B	Cost/
Nixon 1 (2030)	-207	Average Annual Revenue	\$1.22B	Implementation
Nixon 2-3	0	Requirement	Ψ1.22D	Environment/ Stewardship
Birdsall (2035)	-54	Average Adjusted Debt Service Coverage	Flexibility/ Diversity	
Front Range	0	Average Adjusted Days Cash on Hand	Innovation	
New Gas	156	30 Year Electric Revenue \$18.21B		Total score (normalized)
DSM	76	Sensitivities (\$ incre	emental)	Risks
DSM Storage	76 417	Sensitivities (\$ incre	so.97B	Tight on capacitation
			•	Tight on capac with early Dral decommission
Storage	417	Social Cost	\$0.97B	Tight on capace with early Dral decommission Electrification provide a chall
Storage Solar	417 150	Social Cost High Load	\$0.97B \$330M	Tight on capac with early Dral decommission Electrification
Storage Solar Wind	417 150 500	Social Cost High Load Low Load	\$0.97B \$330M (\$317)M	Tight on capac with early Dral decommission Electrification provide a chal in serving increload while red GHG emission
Storage Solar Wind Hydro	417 150 500 0	Social Cost High Load Low Load High Gas	\$0.97B \$330M (\$317)M \$458M	Tight on capac with early Dral decommission Electrification provide a chal in serving increased GHG emission Future regulat (ex. 100%
Storage Solar Wind Hydro Geothermal	417 150 500 0 10	Social Cost High Load Low Load High Gas Low Gas	\$0.97B \$330M (\$317)M \$458M (\$491)M	Tight on capac with early Dral decommission Electrification provide a chal in serving incr load while red GHG emission Future regulat

Drake 2022

(\$55)M

	Risks		
	Total score (normalized)	100	
	Innovation	70	
	Flexibility/ Diversity	88	
_	Environment/ Stewardship	69	
		69	

Attribute Score

100

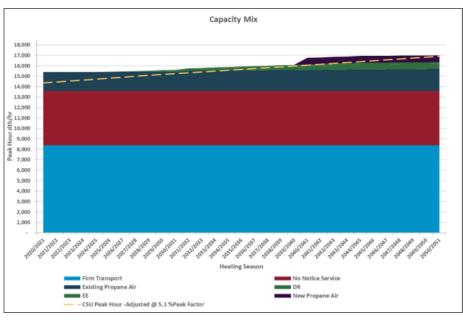
46

- Tight on capacity with early Drake decommissioning Electrification will provide a challenge in serving increased load while reducing GHG emissions · Future regulatory risk
- (ex. 100% renewables)
- Transmission import limitations for wind generation

GIRP PORTFOLIO 6

 $\frac{\textit{Overview}}{\textit{Addition:}} \textit{Demand response, energy efficiency, new propane air, existing}$ propane air expansion

	Portfolio	2022	2025	2030	2032	2034	2035	2040	2043	2050
Pathway C DSM + new peak shaving capacity	G-6		Demand response and energy efficiency		Propane air expansion			Propane air new		



11/2	
Attribute rank	ĺ

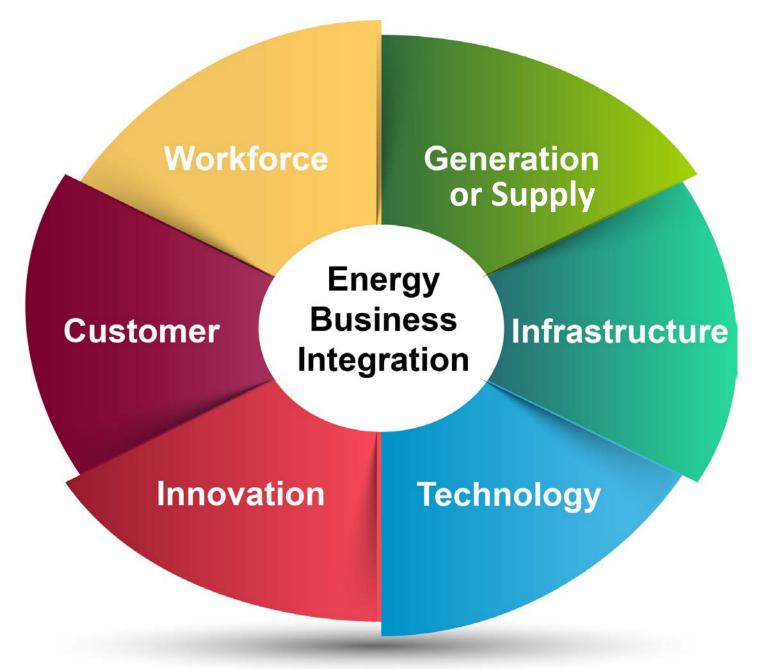
Resource Change 2021-2050 (Dth/hr)					
Existing PA	300				
New PA	650				
New Pipeline Capacity	0				
New LNG	0				
Demand Response	500				
Energy Efficiency	150				

Financial Metrics						
30 Year Revenue	\$35.71B					
Requirement Average Annual						
Revenue	\$1.190B					
Requirement						
30 Year Gas Revenue	\$5.73B					

83.5
0.00
0.00
86.8
72.7
0.00

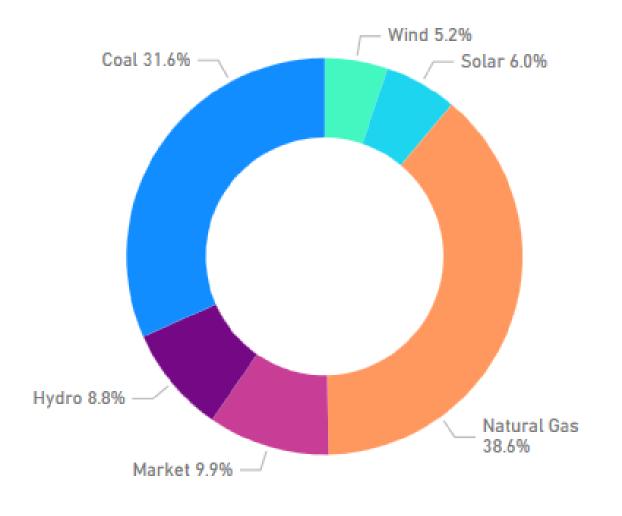
Sensitivities (\$ incremental)						
High Growth	\$7.79M					
Low Growth	(\$12.54M)					
Renewable Natural Gas (voluntary)	\$64.10M					
Non-firm Options	Included in EIRP Portfolios					
Peaking Capacity Options	Requires Study					
High DR	NA					
High EE	NA					
High DSM	(\$1.70M)					
Distributed Generation on LDC System	Increases EIRP New Fixed Gas Costs by 86%					

	Risks
•	High growth advances capital plan by 5 years, increases fixed gas costs
•	Potential public push back on new PA Plant
•	Electrification reduces load growth/revenue
•	Regulatory risk mandating RNG
•	Non-firm options require oil backup for DG
•	DSM needs proof of concept, program development



Generation

- Current generation capacity of 1151 MW
- 95 MW of solar added in 2019 & 2020 (Palmer and Grazing Yak)
- 60 MW of contracted wind added in 2020
- Coal usage will reduce with retirement of Martin Drake Power Plant by 2023, and Nixon by 2030
- Front Range investments
 - Combustion Turbine
 - Controls Systems



New Generation

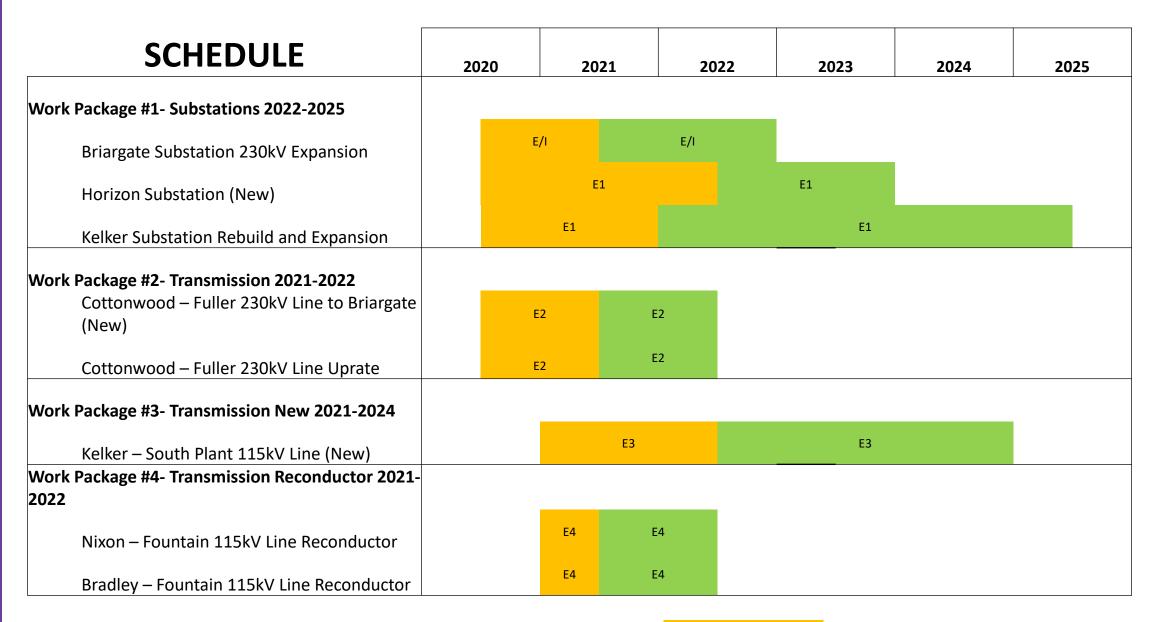
- Procuring 180 MW of new gas generation for Drake site
- New generation to be relocated for more operational flexibility
- Military Resiliency and Distributed Generation Siting in progress
- New Solar in negotiation
- Joint Dispatch Agreement in progress since March 2020



Electric Infrastructure

- Portfolio Manager supporting
 Utilities with IRP Implementation
 - Transmission Improvements
 - Substation Improvements
- Outage Information Planning





Design E= External resources

Construction I= Internal resources

Major Project Milestones

	North S	North System Central		System South		System	
Item	Briargate	CW-BG- FR	Kelker	KE-SP	Horizon	NX,BY-FN	
Design Solicitation Release	6/20	7/20	6/20	8/20	6/20	1/21	
Engineering Award	7/20	8/20	10/20	12/20	10/20	4/21	
Design Complete	12/21	8/21	6/22	12/22	6/22	8/21	
Construction Solicitation Release	4/21	11/21	12/20	Design Build	12/20	Design Build	
Construction Start	6/21	12/21	6/22	12/22	6/22	8/21	
Construction Complete	11/22	6/22	6/25	9/24	12/23	4/22	

Gas Infrastructure

- Ongoing Gas ImprovementsProgram
 - Distribution Integrity Management
 Program (DIMP)
 - 150P Over-pressure Protection



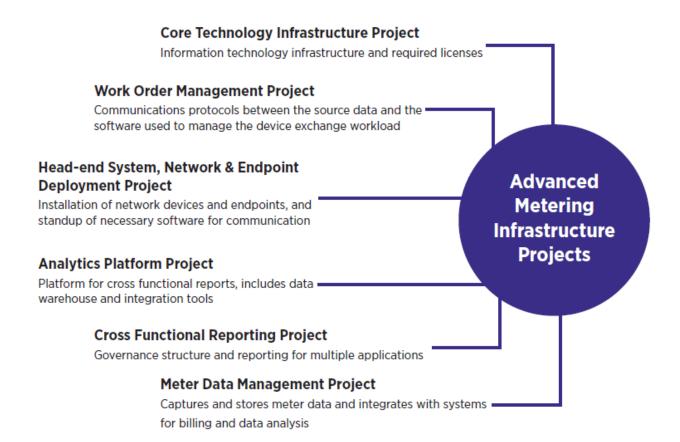


Common Service Projects

Colorado Springs Utilities September 3, 2020

AMI Deployment

- Replacement of AMR (2005) system
- Two-way communication for 600,000 meters
- Limited deployment 2020/2021
- Mass Deployment 2021-2023



Technology

Customer Care and Billing (CC&B)

Database Platform Upgrade





RESILIENCY

Reliably withstand and recover from disturbances in a dynamic environment



INNOVATION

Proactively and responsibly evolve in a transforming landscape

Upcoming Technology Projects

Service	Project Name		Engineering	Specialty Services	Civil	Structural	/ Masonry	Fabrication	Mechanical	/ Mechanical		Control	20	20	2021				
		Value	Engin	Specialt	Ö	Stru	Concrete	Materials	Process / I	_	Elec	Instr. &	Q3	Q4	Q1	Q2	Q3	Q4	
	Customer Care and Billing Reimplementation	SSSS																	
≥	Database Platform Upgrade	SS																	
Technology	Enterprise Reporting & Analytics Refresh (Hyperion)	S																	
r t	Data Center Risk Mitigation	*																	
Ted	Financial System Upgrades (Tentative)	SS+																	
ion	PPRCN Site Improvements	\$																	
Information	QBD Application Replacement	\$																	
orn	Fiber & Telecom Projects	\$\$+																	
Inf	Service Management	\$\$																	

Facility Improvements

Support of Facilities
Roof Replacements
Switchgear Upgrades
Security Camera Systems



Innovation

- Direct Potable Reuse
- Regionalization
- Utility Reliability Program
- Demand Side Management
- Electric Vehicle Charging
 Stations
- Batteries
- Microgrids





Water Capital Portfolio

	Proposed 2021
Finished Water	\$ 17.1 M
Facilities	\$ 1.4 M
Programs	\$ 9.3 M
Raw Water System	\$ 13.9 M
Public/Developer	\$ 4.0 M
Water Resources	\$ 1.8 M
Other	\$ 9.5 M
	\$57.0 M

Water & Wastewater Cathodic Protection

Service	Project Name		ering	slaity services	vil	tural	as.	Fabrication	Mechanical Mechanical	trical	Control	20	2020		2021			
Sen			Engineeri	Surve	Ci	Structur	ouc	Materials	Process / Proces	9	Instr. &	Q3	Q4	Q1	Q2	Q3	Q4	
io	JDPWRRF Cathodic Protection System Condition Assessment	*	*									RFP					}	
ecti	Blue River Cathodic Protection Construction Phase 3	\$			*							RFP						
Protection	2021 Finished Water Cathodic Protection	\$\$			*							RFP		RFP		RFP		
	LVWRRF Cathodic Protection System Construction	**			*							RFP						
Cathodic	JDPWRRF Cathodic Protection System Condition Assessment	**			*											RFP		
	Raw Water Cathodic Protection System Construction	**			*											RFP		

Procurement	Execution	\$: 100K-1.5M \$\$:1.5M-10M \$\$\$:10M-20M \$\$\$:>20M
		*: 0-100k **: 100-250k ***: 250-400k ****: >400K

Water Planning & SAA

Service	Project Name		Engineering	Specialty Services	Surveying	CIVII	Structural	Concrete / Iviasonry	Machanical	Mechanical	Electrical	& Control	20	20	2021			
Ser			Engin	Specialty	Surv	5	Struc	Materials I	n l 🗔	Building / I	Elect	Instr. &	Q3	Q4	Q1	Q2	Q3	Q4
						_												
	Highline Transmission Main and Pump Station Study	**	x		X									GES				
	Finish Water Modeling Support	**	x												GES			
	Northfield Transmission Main and Pump Station Study	**	x		X											GES		
ing	Urban Wild Land Interface Study	*	x													GES		
Planning AA	Ute Pass WTP Facility Plan													GES				
· Pla	Highline Tank Baffling Preliminary Design	*	x	×	x												GES	
Water	Rosemont System Improvements	*	x	x										GES		IFB		
×	Academy and Constitution SAA	*	x												GES			
	Raw Water Specialty Valve SAA	*	x												GES			
	FVA WTP Finished Water Tank SAA	*	x											GES				
	Rampart Dam Facility Plan	**	x	x												GES		

Upcoming Water Projects

Service	Project Name	Contract		Specialty Services	Surveying	Civil	Structural	/ Masonry	Materials Fabrication	Mechanical	Electrical	& Control	20	20		20	021		
Sen		Value	Engineering	Specialty	Surv	Ö	Struc	Concrete	Materials	Process / P	Elect	Instr. &	Q3	Q4	Q1	Q2	Q3	Q4	
	Homestake Dam Protective Dam Protective Liner	\$																RFP	
	Homestake Missouri Tunnel Repairs	\$																RFP	
	Whitney Dam Siting Study	\$\$											RFP						
	Eagle River MOU Permitting Program Manager	\$\$\$												RFP					
	Crystal Reservoir	\$\$	x	x	x	x								RFP					
	Point of the Pines/Wentwood Pump Station	\$	x		x	x	x	x	X :	x >	x	x		RFP					
	Pine Valley Tank Rehabilitation	\$		x	x									IFB					
	Wilson Tank Replacement	\$	x											RFP					
	Westmeadows Switchgear and MCC Replacement	\$									x	x			IFB				
	FLYR5 Valve Vault Replacement	\$	x		x	x	x	x	x		х	x					RFP		
	MuCullough Butterfly Valve	\$	x			x										IFB			
	FVA WTP Finished Water Tank Design	\$															RFP		
	Cedar Heights Tanks 1 & 2 Replacement	\$\$		X										RFP					

Upcoming Water Projects – Cont'

Service	Engineering Specialty Services Civil Structural Oncrete / Masonry				/ Mechanical	r. & Control	20)20	2021									
Ser	Project Name	Value		Specialty	Surv	Ci	Struc	Concrete	Materials	Process / I	Building /	Instr. &	Q3	Q4	Q1	Q2	Q3	Q4
	FVA WTP Finished Water Tank Rehabilitation	\$		x											IFB			
	FVA WTP Hannah Raw Water Regulating Tank Rehabilitation	\$		x											IFB			
	FVA WTP Forebay #2 Water Tank Rehabilitation	\$		x												IFB		
	FVA WTP Finished Water Terminal Tank Rehabilitation	\$		x												IFB		
	Austin Bluffs 5MG Tank Retainaing Wall	\$			x	x	x									IFB		
	Manitou Hydro Valves Replacement Design Build	\$\$	x	x	x	x	x	x									RFP	
	30th Street Cooridor Improvements (12" W)	\$\$												CITY				
	North Chelton (12" W)	\$												CITY				
	Centennial Blvd Extension (8" W)	\$														CITY		
	Academy Boulevard Reconstruction (North) 24"	\$\$															CITY	
	Water Main Replacement Design Services	\$\$	х											RFP				
	Water Main Replacement Construction Services	\$\$\$				x	x									RFP		
	Circle Drive Bridge Replacement (16" W)	\$\$															CITY	

Wastewater Capital Portfolio

Programs	\$ 9.2 M
Public/Developer	\$ 2.3 M
Facilities	\$ 4.6 M
NMCIS Project	\$ 0.9 M
Other	\$ 2.6 M
	\$ 19.6 M

Wastewater Planning & SAA

vice	Project Name	Contract	neering	/ Services	eying	IVI	tural / Masonry	Fabrication	Mechanical	Me :	Control	20	20	2021			
Ser	Project Name Value	Value	Engin	=	Surv	ָב נ	Concrete	Materials	41	Building /	Instr. &	Q3	Q4	Q1	Q2	Q3	Q4
Plan A	JDPWRRF Facility Plan				*	: *	*		*	* *	*				GES		
W P																	
S "																	

 Procurement
 * : 0-100k
 ** : 100-250k
 *** : 250-400k
 **** : >400K

Upcoming Wastewater Projects

Service	Project Name	Engineering Specialty Services Surveying Civil Structural Oncrete / Masonry aterials Fabrication occess / Mechanical iliding / Mechanical		Electrical	& Control	20	20	2021										
Ser	Project Name	Value	Engin	Specialty	Surv	5	Struc		s -	Building /		Instr. &	Q3	Q4	Q1	Q2	Q3	Q4
	Templeton Gap Upstream of Siferd Stabilization	\$												IFB				
	Northern Monument Creek Interceptor Final Design	\$\$	x												RFP			
	Dry Creek Stream Stabilization Phase II	\$												RFP				
	Sand Creek Downstream of the East Fork Confluence	\$													IFB			
	Sand Creek Stabilization Karr to West Fork Confluence	\$\$															RFP	
	North Rockrimmon Creek Stream Stabilization	\$															IFB	
*	Broadmoor Valley Park Stream Stabilization	\$															IFB	
	30th Street Cooridor Improvements (8" WW)	\$*												CITY				
	Centennial Blvd Extension (8" WW)	\$														CITY		
	Academy Boulevard Reconstruction (North) 42"	\$															CITY	
	CSRRRF- Electrical Upgrades Project	\$\$									x			RFP				
	JDPWRRF- Replace Gates to Secondary Clarifiers	\$\$					x >	ĸ	x						RFP			
	LVSWRRF- Rehab Influent Junction Box	\$)	ĸ								IFB		

Gas Capital Portfolio

	Proposed 2021
DIMP	\$ 5.7 M
Public/Developer	\$ 7.9 M
Compliance	\$ 2.5 M
System Reliability	\$ 0.3 M
Other	\$ 14.3 M
	\$ 30.7 M

Droposed 2021

Upcoming Gas Projects

vice	Project Name	Contract	eering	/ Services	eying ivil	ctural	/ Masonry	Fabrication	Mechanical	trical	Control	20	20	2021			
Ser	i roject ivallie	Value	Engin	Specialty	Ans	Struc	Concrete	Materials	Process / I	Elec	Instr. &	Q3	Q4	Q1	Q2	Q3	Q4
Gas	Mesa to Manitou Pipeline Replacement	\$\$\$							>	Κ						RFP	
Ö	Electrical for McClintock City Gate Station Upgrade Project									X				RFP			

Electric Capital Portfolio

Proposed 2	2021
-------------------	------

Compliance	\$ 1.5 M
Customer Driven	\$ 19.1 M
Safety	\$ 1.9 M
System Operational Improvements	\$ 6.7 M
System Reliability	\$ 18.9 M
Innovation & Technology	\$ 5.8 M
Transmission & Substation Upgrades	\$ 19.5 M
Replacement Generation	\$ 94.4 M
Other	\$ 28.4 M
	\$ 196.2 M

Upcoming Electric Projects

Service	Project Name	Project Name Contract Specialty Services Surveying Civil		Structural	/ Masonry	-abrication	Process / Mechanical Building / Mechanical	Electrical	Control	20	20	2021					
Sen	Project Name	Value	Engin	Specialty	iO	Struc	Concrete,		Process / In Building / I	Elect	Instr. & (Q3	Q4	Q1	Q2	Q3	Q4
	Generation Integration Program	\$	X											RFP			
	Distributed Generation-Ft Carson: Feasibility Study	***	X											RFP			
	FRPP & Nixon Revenue Meters for EIM	\$			X	X	X			X	X		IFB				
	Nixon Zero Discharge Plant MV and LV Switchgear install	\$					X			X			IFB				
	Nixon Coal Handling CO Monitor Replacement	\$								X	X			IFB			
	Substation Construction	\$\$\$\$			X	X	X	X		X	X					RFP	
	115kV Transmission Design / Build	\$\$								X		RFP					
흔	115kV Transmission Reconductor Construction	\$								X					RFP		
Electric	115kV Transmission Construction	\$\$													RFP		
_ =	230V Transmission Reconductor Construction	\$													RFP		
	230kV Transmission Construction	\$\$\$													RFP		
	Renewable potential study	\$	X												RFP		
	Community Microgrid Plan	\$	X									RFP					
	Advanced Technologies Campus Design	\$	X											RFP			
	EV Charging Stations	\$\$	Х											RFP			
	Colorado Charge Ahead Grant Fast EV Charging	\$	X						X				RFP				
	Airport Solar Covered Parking	\$\$	X						X				RFP				

Common Capital Portfolio

Proposed 2

Facility Improvements	\$ 2.0 M
Vehicles/Tools/Equip	\$ 2.3 M
Technology	\$ 9.3 M
Other	\$ 0.9 M

\$ 13.5 M

2021 Budget Review Calendar

Review Activity	Date*
Utility Board Approval	September 16, 2020
City Council (1st reading)	October 27, 2020
City Council (2 nd reading/Approval)	November 10, 2020
*Subject to change	



Contact Information

Water and Waste Water Projects

Jeff Daniel jdaniel@csu.org

Kirk Olds <u>kolds@csu.org</u>

Energy Services Projects

Michael Avanzi mavanzi@csu.org

Sarah LaBarre slabarre@csu.org

Procurement

Construction: Kelly Valdez kvaldez@csu.org

Direct Services: Greg McClarin gmmcclarin@csu.org

Indirect Services: Debbie Snyder <u>dsnyder@csu.org</u>

IT: Sarah Stoner <u>sstoner@csu.org</u>

Fleet

Wayne Griffin wgriffin@csu.org

Information Technologies

Brenda Koskey <u>bkoskey@csu.org</u>

Larry Dunn lmdunn@csu.org



Closing Remarks

Melissa Noble

Colorado Springs Utilities – Customer and Corporate Services Officer

