Capital Improvement Program

Utility Infrastructure Investment

City Council Study Session
October 7, 2019
Purpose

• Update City Council on utility projects included in the adopted FY19/20 Capital Improvement Program

• Review specific short-term prioritized projects that are included in the Enterprise Fund forecast
Background

• On May 20, 2019 Council adopted the Five-Year Capital Improvement Program (CIP)

• Included in the 5-Year CIP were approximately $800M in forecasted utility projects
Background

• Staff identified definitive short-term needs (3 years) while staying on track for long-term infrastructure objectives

• Considerations included department assessments, financial constraints and ability to complete projects
Current Projects (FY19/20)

$164M for Utility Infrastructure Investment
• Greenfield Water Reclamation Plant Expansion
  • $62M
• Mesa Drive Phase II
• Electric Substation Improvements
• Scheduled Replacements: Valves, meters, hydrants, poles, switches, transformers, vaults
Historical Infrastructure Investment

• From FY 2016-2019, the City of Mesa has invested over $400M in utility system improvements.
  • Long-term bond financing
  • Enterprise revenue (cash)

• 2 major plant projects
  • Signal Butte Water Treatment Plant
  • Greenfield Water Reclamation Plant Expansion

• Transmission/Distribution/Collection infrastructure
• Substation improvements
Plants

FY 2016-2019
Water Treatment $139.1M
Wastewater Reclamation $101.8M
Transmission–Distribution – Collection

FY 2016-2019

Electric $11.5M
Natural Gas $25.1M
Water $111.6M
Wastewater $16.5M
Asset Management

- Distribution Integrity Management Program
- Video Line Inspection
- Physical Inspection
- Leak Survey & Detection
- Safety Evaluations
- Risk Assessments
Water Resources Asset Management

Policy Objectives:

• Evaluate and prioritize capital projects to optimize limited available funding

• Address relative importance of projects with multiple competing objectives

• Assure capital expenditure/project accomplishes intended goals and objectives
Water Resources Asset Management

• Each project is assigned a risk score
• Probability is the likelihood of an occurrence happening within a certain period of time
• Consequences assess the seriousness of a project based on the following criteria:
  • Safety & Health
  • Liability for Consequential Loss
  • Loss of Service
  • Public Confidence
  • Environmental
  • Economic
Water Asset Management

$5.8M Annually Spent Towards Water Asset Management
- Water Distribution Operation & Maintenance
- Water Line Inspection Program
- Meter Replacement Program
- Fire Hydrant and Water Valve Replacement
Wastewater Asset Management

$3.1M Annually Spent Towards Wastewater Asset Management

- Wastewater Collection System Maintenance
- Sewer Line Conditional Assessment Program
- Manhole Evaluation and Rehab Program
Natural Gas Asset Management
Distribution Integrity Management Program (DIMP)

• Evaluate system: design, characteristics, operating conditions, and maintenance/operating history
• Identify existing and potential threats
• Evaluate and rank risks
• Identify and implement measures to address risks
• Evaluate program performance, monitor results, and effectiveness
• Report performance results to Federal & State Pipeline Safety Regulators
• Assess and improve the Integrity Management program
Natural Gas Asset Management

$5.9M Annually Spent Towards Natural Gas Asset Management

- Prescriptive safety regulations drive system management
- Provide tools for compliance, reliability, and efficiency
- Identify safety risks
- Promote continuous assessment
- Ensure system capacity for current and forecasted customers
Electric Asset Management

$2.1M Annually Spent Towards Electric Asset Management
- Wood Distribution Poles
- Distribution Transformers/Switches
- Vaults and Lids
- Substation Transformers
- Substation Switchgear, Circuit Breakers
- Electric Meters
Balancing needs for the next 3 years

- Customer Demand
- System Reliability
- Contractual Obligations
System Reliability

Neighborhood Infrastructure

- Gilbert & Baseline
  - Water $5.0M
System Reliability

Neighborhood Infrastructure

- Alma School & Guadalupe
  - Water $5.2M
System Reliability

Transmission

• Broadway Road: Country Club to Stapley Drive
  • Water $10.6M
System Reliability

Transmission

- 6th Street: Gilbert Road to Lindsay Road
  - Water $4.6M
System Reliability

Country Club Drive & Southern Avenue
- Electric: $0.4M
- Gas: $1.9M
- Wastewater: $0.6M
- Water: $2.8M

*Utility estimates only*
Customer Demand

**Ellsworth Road: SR 24 to Pecos**
- Wastewater $1.7M
- Water $3.2M

**Signal Butte Road: Williams Field to Pecos**
- Water $5.2M

*Utility estimates only*
Customer Demand
Reclaimed Waterline

- Construct waterline from Northwest Plant to existing line that conveys reclaimed water to Greenfield Plant
- Additional reclaimed water delivered to GRIC in exchange for CAP water
- Exchange provides additional CAP water to support customer demand
- Project Estimate - $66M
3-Year Utility Infrastructure Investment

- Customer Demand: $94.1M
- System Reliability: $140.8M
- Contractual Obligations: $28.6M
- Total: $263.5M
Questions?