CWA 5-Year CIP

- Pipeline Condition Assessment
- NW Lateral D Reconfiguration
- Lake Houston Dam Rehabilitation
- GE VFD Synchdrive Replacements
- Bayport Water Line Replacement and ROW Acquisition
- Radial Gate Replacement
- SCADA System Upgrades
Large Diameter Pipeline Condition Assessments

- Manned & In Service Electromagnetic Technologies
- 25 pipeline segments remain
  - Segments will be selected for assessments based upon prioritization – age, size, previous events, & operating pressures
- As necessary complete identified damaged pipe segments
- Update CWA’s GIS System to track current conditions & repaired locations
Prioritization Schedule
Manned Entry Assessment

Visual Inspection

Visual inspection gives immediate feedback on:

- Pipe interior
- Sounding of interior concrete core
- Verify layout of pipe
- Cracks
- Joint grout
- Condition of valves and outlets

Major Obstacles:

- Require waterline shutdown and dewatering
- Confined Space Entry
- With PCCP, biggest failure factor is hidden (condition of wires)
Electromagnetic Testing

Locates broken wire wraps in PCCP

Manned EMT

Major Obstacles:
- Same as Manned Entry
- Relies on accuracy of pipe laying records
Electromagnetic Testing

Unmanned EMT

• Free-swimming tool
• Limited disruption to regular pipeline service
• Long inspection distances

Major Obstacles:
• Potential service interruptions
  • During insertion / Retrieval
  • Difficulty passing in-line valves
• Need to control (reduce) flow
Northwest Lateral D – Delivery Reconfiguration

- Evaluation of an alternate delivery methods to EPROD facility and downstream customers in Mont Belvieu
  - May include Pump Station, Force Main, Canal Modification, or Bypass
- Project Scope:
  - Alternative Evaluation
  - Preliminary Engineering
  - Design and Cost Estimate
  - Construction
Raising the height of two downstream weirs by 7-feet
- Ogee Weir
- Stilling Pool Weir
- Increased hearth water surface elevation
- Increase the sliding factor of safety

Redesigned Energy Dissipation Structure – to prevent an increase in downstream erosion.
CWA 5-Year CIP
Lake Houston Dam Rehabilitation

Dam Modifications

Raised Weir Height – 7ft
Ogee Weir  Stilling Pool Weir
Tainter Gates  Flashboard Gates
Lower Hearth Weir – Proposed Section Detail

Existing Stilling Pool
Existing Supplementary Stilling Pool
Axis of Existing Ogee
Proposed Ogee Structure Concrete Section

Check Slab Strength

Key-Hole Hole Fill W/ Concrete Grout and Waterstop

Existing CJ

Check Structure on Foundation (Stiffness)

Check Slab Strength

T.O. Conc EL (1) 0.4

Depending on the shape, a key may be provided

Scale: 1" = 50'-3"
VFD Replacements

- Eleven GE VFD Syncdrive Replacements – LPS
- Upgrade to Pulse-Width-Modulated VFDs
- PER – Design – Construction Contracts
CWA 5-Year CIP

Bayport Waterline Repairs and ROW Acquisition

Radial Gate Replacement

SCADA System Replacement