American Council of Engineering Companies of Metropolitan Washington

Water & Wastewater Business Opportunities Networking Luncheon

Presented by Matthew Doyle, Branch Chief, Wastewater Design and Construction Division

Department of Public Works and Environmental Services
Working for You!
Introduction

- Matt Doyle, PE, CCM
  - Working as a Civil Engineer at Fairfax County, DPWES
  - BSCE West Virginia University
  - MSCE Johns Hopkins University
  - 25 years in the industry (Mid-Atlantic Only)
  - Adjunct Hydraulics Professor at GMU
  - Director GMU-EFID (Student Organization)
Presentation Objectives

- Overview of Fairfax County Wastewater Infrastructure
- Overview of Fairfax County Wastewater Organization (Staff)
- Snapshot of our Current Projects
- New Opportunities To work with DPWES
- Use of Technologies and Trends
- Helpful Hyperlinks
Overview of Fairfax County Wastewater Infrastructure

• Wastewater Collection System
  • 3,400 Miles of Sanitary Sewer (Average Age 60 years old)
  • 61 Pumping Stations (flow ranges are from 25 GPM to 25 MGD)
  • 90 Flow Meters (Mostly billing meters)
  • 135 Grinder pumps

• Wastewater Treatment Plant
  • 1 Wastewater Treatment Plant
  • Noman M. Cole Pollution Control Plant, Lorton
  • 67 MGD
  • Laboratory

• Reclaimed Water Reuse System
  • 6.6 MGD
  • 2 Pump Stations
  • 0.750 MG Storage Tank
  • Level 1 Compliance
  • Convanta, Golf Course and Ball Fields
Overview of Fairfax County Wastewater Organization

- Wastewater Management Program (Three Areas)
  - Planning & Monitoring:
    - Financial, long range planning, modeling, GIS, fund managers,
    - Fully Functional Laboratory to ensure regulatory compliance
    - 45 staff (+/-) at the Government Center and NMCPCP
  - Collection:
    - Gravity Sewer Branch
    - Pump Station Branch
    - Projects, Asset Management Branch
    - 150 Staff (+/-) at Fred’s Oak Road Facility
  - Treatment:
    - Operations Branch
    - Maintenance Branch
    - Project Support Branch
    - 175 Staff (+/-) located at NMCPCP
Overview of Fairfax County Wastewater Organization

- Capital Facilitates, Wastewater Design and Construction Division
  - **Wastewater Treatment Branch:**
    - The wastewater treatment branch manages the planning, design and construction of Fairfax County’s NMCPCP.
    - Approximately 13 staff members
    - Located at NMCPCP
    - Currently managing 16 projects
    - Managing $900 Million

- **Collection System Branch:**
  - The Collection system branch manages the planning, design and construction of Fairfax County’s wastewater collection system.
  - Approximately 14 staff members
  - Located at the Government Center
  - Currently managing 42 projects
  - Managing $530 Million
Current Activities
Current Activities

• **Existing Basic Ordering Agreements**
  - We currently have six BOAs for General Wastewater Engineering
    - Each one is going into the third year with two more to go.
    - $6.0M/year max
    - $2.0M/project max
    - 1 year with up to 4 renewal years.
    - DPWES Contact Person: Natasha Schmidt

• **We also have two Existing BOAs for Condition Assessment**
  - Professional Services BOA
  - Each one is on its last term
  - Will not be re-advertised
  - DPWES Contact Person: Natasha Schmidt
Current Activities

- Little Hunting Creek Forcemain
  - Construction to start in FY 2021
  - 2,000 LF of 42” in Diameter
  - Baker International as the Designer
  - Under Little Hunting Creek Potentially Using HDD
  - $10 Million Construction
Current Activities

• Filter Rehabilitation and New Filter Facility
  • $140 Million Total Project Estimate
  • Phase #1 Rehab Existing Units
  • Phase #2 Provide New Units
  • Arcadis is the Designer
  • Going Great!
Current Activities

- EQ Basin Rehabilitation
  - $17 Million Total Project Estimate
  - CDM-Smith Designer
  - Currently in Construction Phase.
  - Ulliman Schutte is the Contractor
  - Going Great!

[Image of a facility with circles highlighting specific areas]
Snapshot of our Projects and Program

- **MCC/DC Rehabilitation**
  - $103 Million Total Project Estimate
  - Jacobs is the Designer
  - Currently in Construction Phase.
  - Clark Construction Group is the Contractor
  - Going Great!
Snapshot of our Projects and Program

- Disinfection Facility Replacement
  - $70 Million Total Project Estimate
  - Using CMAR as a delivery method (2 GMPs)
    - GMP #1 Issued in April 2017
    - GMP #2 expected Fall 2017
  - Trojan Sigma UV System
  - BIM
  - Hazen is the Designer
  - USC is the Construction Manager
  - Going Great!
Current Activities

- Primary and Secondary Processes Rehab/Replacement.
  - $254 Million Total Project Estimate
  - Hazen is the Designer
  - Currently Piloting Granular Activated Sludge
  - Going Great!
• Accotink New Forcemain and Pump Station
  • Professional Services Notice to Award (HDR)
  • $35 Million Construction (D/B/B)
  • 2 miles of 42” Diameter
  • Rehabilitation of a 42 MGD Pump Station
New Opportunities
To work with DPWES
Snapshot of our Future Projects and Programs

- **Two New Basic Ordering Agreements (Wastewater Planning)**
  - Basin Planning, Facility Planning, I/I Studies, Flow Analysis
  - Request for Proposal for Professional Services (September 2019)
  - Up to two firms may be selected
  - $6.0M/year max
  - $2.0M/project max
  - 1 year with up to 4 renewal years.
  - DPWES Contact Person: Randy Cyr
Advertisement for Bid (Condition Assessment)
- $2.5M/YR of CCTV and Manhole Inspection
- Request for **non**-professional Services (Fall 2019)
- $6.0M/year max
- $2.0M/project max
- 1 year with up to 4 renewal years.
- DPWES Contact Person: Randy Cyr
Snapshot of our Future Projects and Programs

- Countywide Wastewater Master Plan
  - Request for Proposal for Professional Services (September 2019)
  - DPWES Contact Person: Randy Cyr
  - Provide a complete masterplan for the entire wastewater collection system
  - May include flow monitoring
  - Main Areas of focus:
    - EMBARK Project
    - Route 7 Corridor
    - Tysons Area
    - Large Diameter (450 miles)
    - Pump Stations
Snapshot of our Future Projects and Programs

• Lorton Tunnel
  • Request for Proposal for Professional Services (Late Fall 2019)
  • 2,000 linear feet long tunnel 6-8 feet in Diameter
  • 500 linear feet of open cut 6-8 feet in Diameter
  • All types of Permitting Issues
  • DPWES Contact Person: Chris Mata
  • Construction Procurement: (TBD)
• EMBARK Project (Expansion of Richmond Highway)
  • Request for Proposal for Professional Services (FY2021)
  • 20+ miles of Gravity Sewer
  • Open Cut and Trenchless Technologies
  • DPWES Contact Person: (TBD)
  • Construction Procurement: (TBD)
  • $50 Million
Snapshot of our Future Projects and Programs

- Pump Station Rehabilitation Program
  - BOA Consultants or a Stand-Alone Procurement
    - $5.0M Difficult Run PS
    - $5.0M Springfield Estates PS
    - $10.0M Braddock Road PS
    - $5.0M Penderbrook and Wesley House PS
    - $8.0M Waynewood PS
    - $6.0M Langley School PS
    - $8.0M Rivertowers, Pike Branch PS
Snapshot of our Future Projects and Programs

- New Alexandria Project
  - Request for Proposal for Professional Services (FY2021)
  - 35 miles of Gravity Sewer in need of repair
  - Open Cut and Trenchless Technologies
  - $35 Million
  - DPWES Contact Person: (TBD)
  - Construction Procurement: (TBD)
• Tysons East and West Relief Interceptors
  • Request for Proposal for Professional Services (FY2021)
  • Several miles of 36 to 54” in Diameter
  • Open Cut and Various Methods of Trenchless Technologies
  • DPWES Contact Person: (TBD)
  • Construction Procurement: (TBD)
  • $90 Million
Tysons Wastewater Conveyance System
- New 8 MGD Pump Station and 2,200 liner foot 18” diameter forcemain
- DPWES Contact Person: (Doyle)
- $30 Million in Construction
- Request for Proposal for Professional Services (August 1, 2019)
  - Notice of Award for Professional Services (September 2019)
  - Notice to Proceed Early Fall 2019
- Request for Proposal for CMAR (August 2019)
  - Shortlist September 2019
  - Award Late Fall 2019
• Slip line and Folded and Formed Removal
  • 1,507 Pipe Segments
  • Small Diameter
  • FY 2020
  • Millions

• Large Diameter Sewer Rehabilitation
  • County Wide Project
  • 50 miles of Rehabilitation is needed
  • 36” to 72” Rehabilitation
  • Starting in FY 2021
  • Millions
Stream Crossings (Biggest Issue we have now.)

- 6,000 Pipe Sections that Cross Streams
- 83 Pipe Sections that cross under a lake
- Currently walking all stream crossings
- Currently three ongoing emergencies
- Big Issue for Fairfax County

The Issue:

- Urban Sprawl Creates Faster Run-off
- Faster Run-off Create faster Stream Velocities
- Fast Stream Velocities Creates Erosion
- Erosion exposes our sewers
- Next Big Rain Event Washes Out the Sewers
Snapshot of our Future Projects and Programs

- Long Branch Watershed Management Area
  - Stream and Stormwater Outfall Restoration and Ancillary Stormwater Improvements
  - Approximately Construction Value $30 Million
  - Professional Services Statement of Qualifications Due: August 2, 2019
  - Construction Manager at Risk Statement of Qualifications Due (TBD)
    - Two Step Procurement Process
  - DPWES Contact Person: Charles Smith
Snapshot of our Future Projects and Programs

• Dredging of Lake Accotink
  • 50 acres
  • Request for Proposal for Professional Services (Fall 2019)
  • Approximately $12 M
  • Design Bid Built
  • DPWES Contact Person: Charles Smith
Snapshot of our Future Projects and Programs

• Two Basic Ordering Agreements
  • Stream Restoration, Stormwater Upgrades and Improvements
  • Request for Proposal for Professional Services (Fall 2019)
  • Up to two firms may be selected
  • $6.0M/year max
  • $2.0M/project max
  • 1 year with up to 4 renewal years.
  • DPWES Contact Person: Charles Smith
Use of Technologies and Trends

- We are embracing new technology.
  - Construction Project Management Information System (CPMiS)
  - Building Information Modeling (Revit)
  - Biowin software (Treatment Plant Modeling)
  - Infoworks (Collection System Modeling)
  - Electronic Plan Review (Blue Beam)
  - WinCan VX
  - LIDAR Scanning
Outreach Programs

• New DPWES logo
• Project Websites
• Sewer Science Education Program for K-12
• Internship Opportunities for University Students
• WaterJam Attendance
• Facebook: [Fairfax County Environment](#)
Procurement

DPWES

- **E-mail notification subscription**
  Design: [http://www.fairfaxcounty.gov/dpwes/construction/subscribe_des.htm](http://www.fairfaxcounty.gov/dpwes/construction/subscribe_des.htm)
  Construction: [http://www.fairfaxcounty.gov/dpwes/construction/subscribe_cmdl.htm](http://www.fairfaxcounty.gov/dpwes/construction/subscribe_cmdl.htm)

- **Design and Construction Ads**

- eVA
Department of Public Works and Environmental Services really appreciates the work that you do for us.

We can’t do it without you.
You are important to us.
We need you more than you need us.
Questions?
Outreach Programs

• Shameless Plug...
  • We currently have four vacant wastewater engineering positions open,
  • Professional Engineer
  • Water, Stormwater or Wastewater Experience
  • Located at the Government Center
  • Visit our website