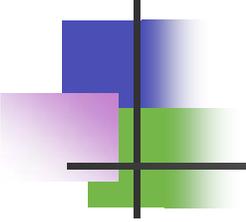


# Wastewater Management Capital Improvement Program

**Fairfax County Planning  
Commission CIP Workshop  
FY 15 – FY19**

**March 12, 2014**

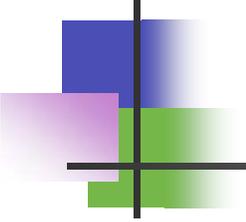




# CIP Project Drivers

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- Three contributing factors:
  - Regulatory Upgrades
  - Reinvestment Requirements
  - Redevelopment, specifically Tysons
- Three components of the Wastewater System:
  - Treatment by Contract (TbC)
  - Noman Cole Pollution Control Plant
  - Collection System; lines, force mains & pump stations

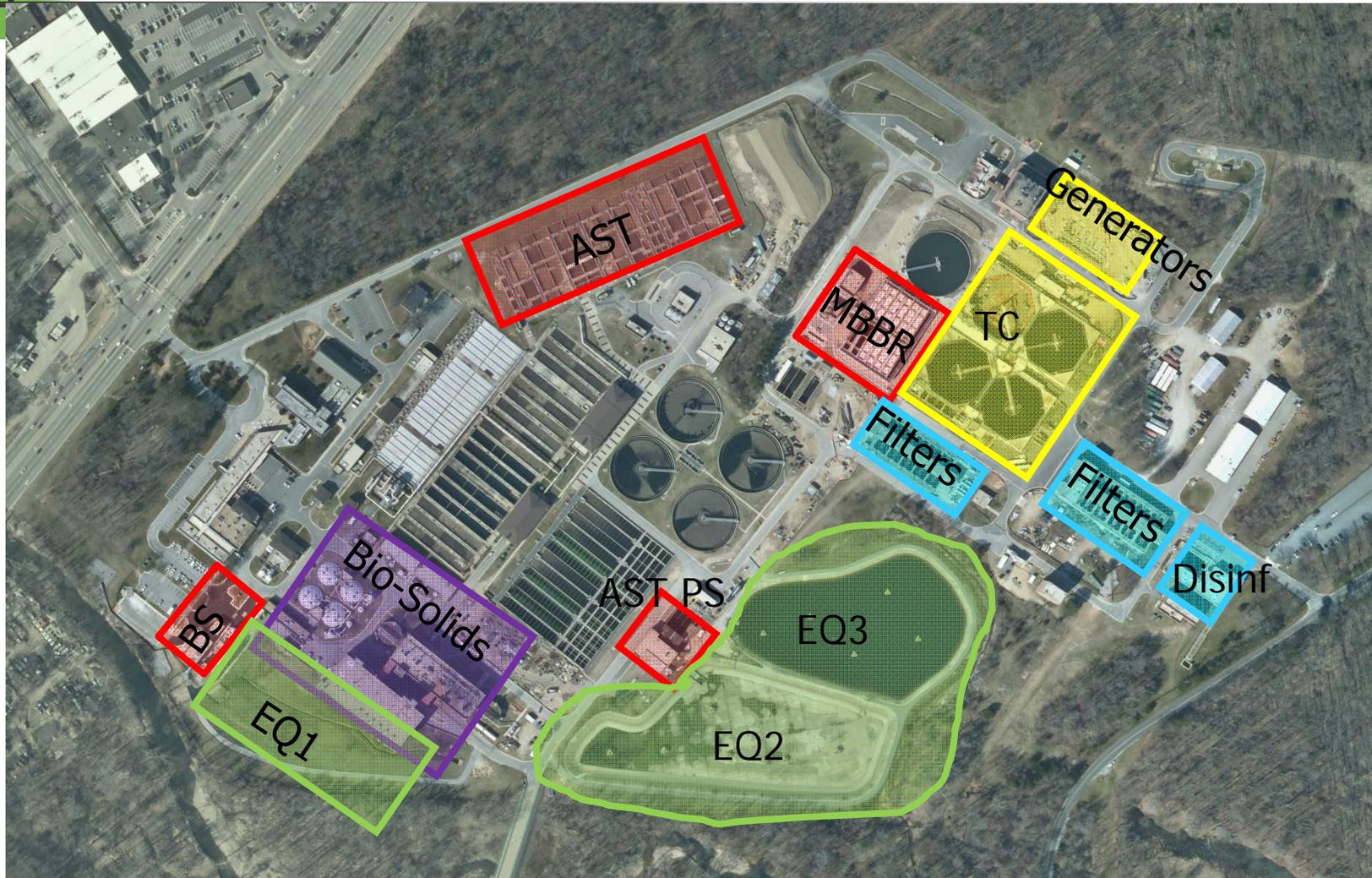


# Regulatory Upgrades Completed Projects

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- Limit of Technology (LOT) requirements to reduce nitrogen and phosphorus
  - Expansion of Activated Sludge Tanks (AST)
  - New Methanol Facility for AST
  - Rehabilitation of AST Pump Station
  - Replace and expand the Bar Screen Facilities
  - New Moving Bed Biofilm Reactors

# Noman Cole Pollution Control Plant



# Activated Sludge Tanks



# Inside Activated Sludge Effluent Pump Station



# Expanded Bar Screen Building



# Bar Screens Equipment



# Moving Bed Biofilm Reactors MBBR



Blower facilities

MBBR Tanks

Methanol facilities

# MBBR Influent



# MBBR Median “Bug Condos”



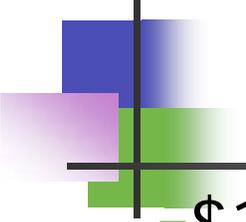
# Methanol Supply System



# MBBR Blowers



# 5-Year CIP Reinvestment (FY 2015 – FY 2019)



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- \$117.1 M at Existing Collection Facilities
  - Sewer improvements - \$72.6 M
  - Pumping stations - \$42.0 M
  - Building Renovations - \$2.1 M
- \$274.5 M for Reinvestment at NMCPCP
  - Plant Rehabilitation - \$224.1 M
  - Regulatory Upgrades - \$50.4 M
- \$109.0 M for Reinvestment at TbC facilities
- Gross Capital Assets \$2.149 Billion

# Tertiary Clarifier Tank 2b Rehab final inspection



# Replacement Chemical Storage Tanks



# Replacement Generators



# Filter Facilities



# Filter Tank



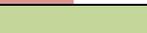
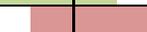
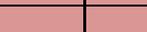
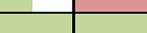
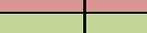
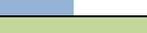
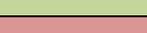
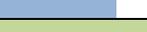
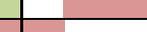
# Disinfection Facilities

## Sodium Hypochlorite Tanks



# Aggressive 5-Year Capital Improvement Plan

 study	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>
 design	<b>8</b>	<b>4</b>	<b>4</b>	<b>3</b>
 construction	<b>4</b>	<b>7</b>	<b>10</b>	<b>5</b>

<b>FY</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
<b>Tertiary Clarifiers</b>						
<b>Backup Generator</b>						
<b>Ash Handling System</b>						
<b>Grit Removal System</b>						
<b>Disinfection Facilities</b>						
<b>Gravity Filters</b>						
<b>New Filter</b>						
<b>Biosolids - Phase 1 (Incinerator)</b>						
<b>Biosolids - Phase 2 (Other solids processes)</b>						
<b>MCC/DC</b>						
<b>B &amp; B2 Pump Stations</b>						
<b>Equalization Pond Rehab</b>						
<b>Stream Stabilization</b>						
<b>Civil Site Improvements</b>						
<b>Communication System</b>						
<b>Primary Process</b>						
<b>Secondary Process</b>						

# Tunneling Machine for Dogue Creek Force Main Replacement



# 166 Sewer Line Crossing

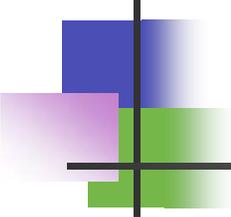


# Rte. 50/66 Pump Station Rehabilitation



# F St Pump Station Rehabilitation

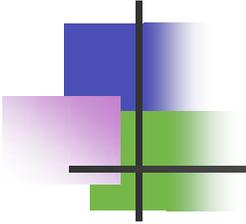




# Reinvestment

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- WWM Approach
  - Thoughtful, prioritized reinvestment
  - Cash fund reinvestment projects
  - Minimizes incidents, maintains control, avoids “reactionary” expenses
  - Sound financial planning



Questions?