



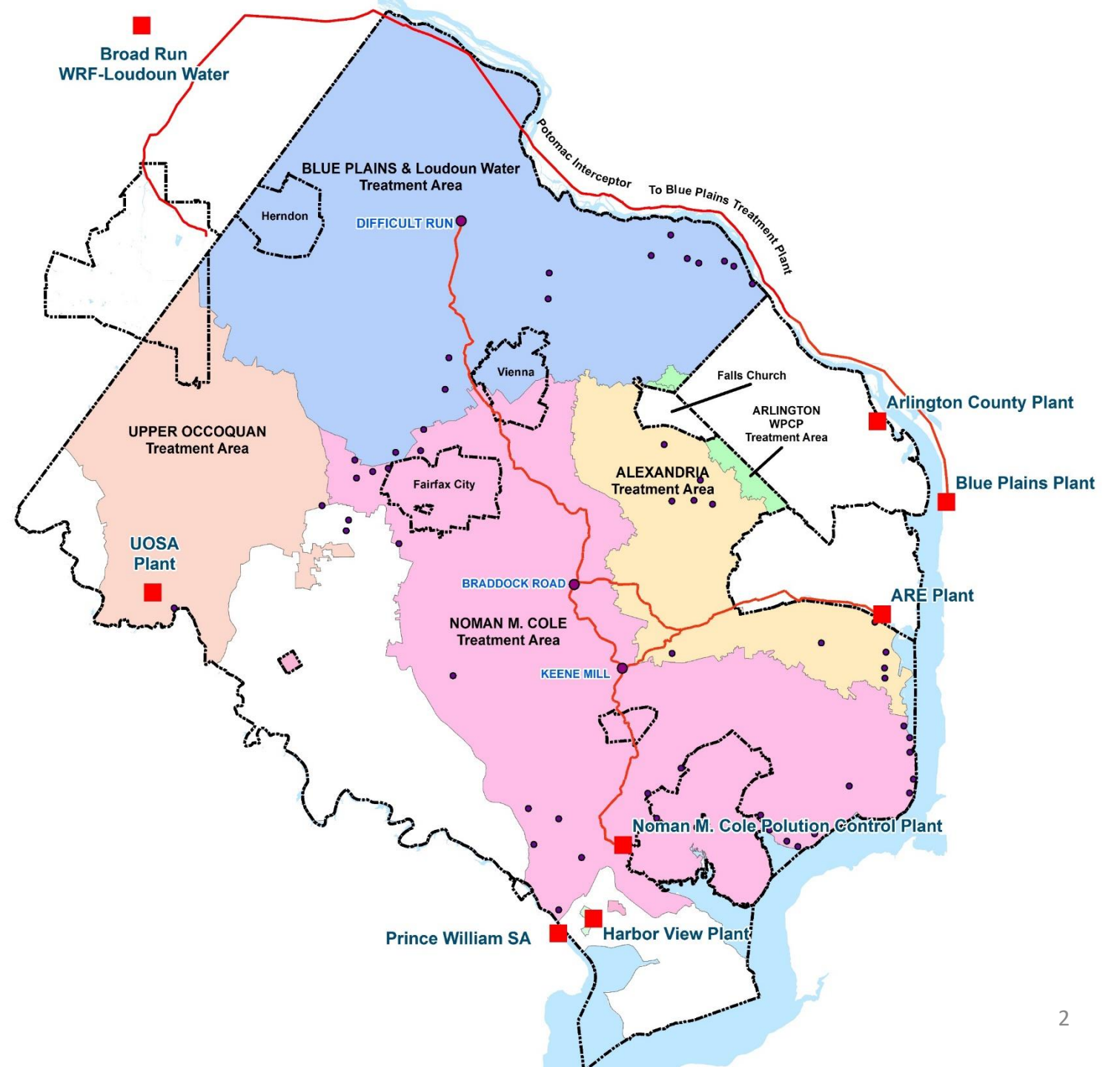
# Fairfax County Wastewater Capacity Projections and Regional Agreements

Update

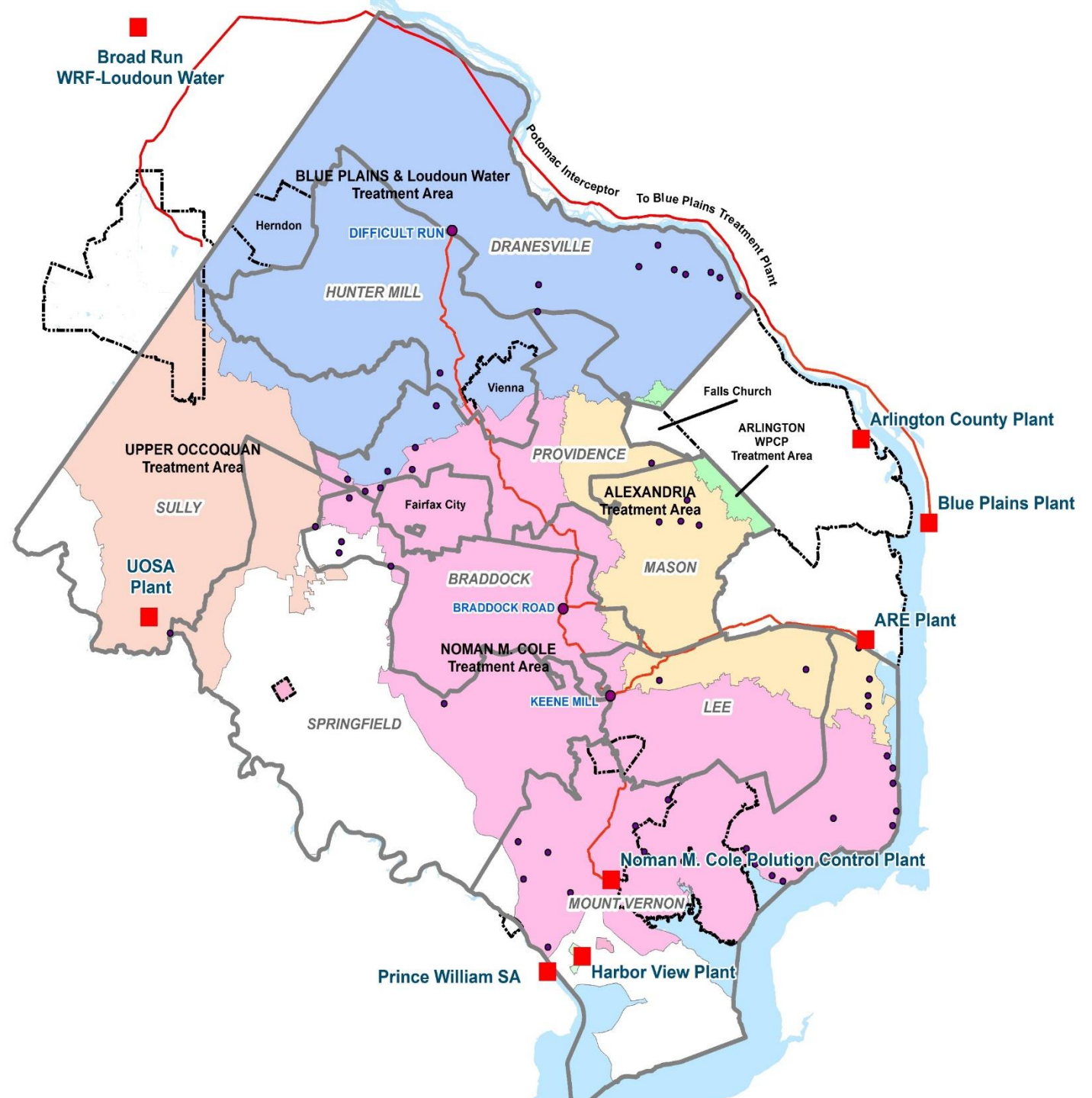
Shahram Mohsenin, Director  
Wastewater Planning and Monitoring Division, DPWES

April 2, 2019

# Wastewater Service Areas



# Wastewater Service Areas with BOS District Boundaries



# Treatment Plants Serving the County

Plant	Capacity Allocation (MGD)	Current 12-Month Average Flow (MGD)	Remaining Capacity (MGD)	2045 Flow Projection (MGD)
Noman M. Cole, Jr.	67	40	27	60 (7 excess)
Alexandria Renew	32.4	20.6	11.8	23 (9 excess)
DC Water – Blue Plains	31	30	1	<b>45</b> (14 deficit to Pump over )
Upper Occoquan SA	22.5	12.6	9.9	18 (4.5 excess)
Arlington County	3	2.3	0.7	3
Loudoun Water (Blue Plains)	1	0	1	1
Prince William SA	0.1	0.01	0.09	0.1
Harbor View (Utilities, Inc.)	0.08	0.03	0.77	0.03
<b>TOTAL</b>	<b>157.08</b>	<b>105.54</b>	<b>51.54 (515,000 ppl)</b>	<b>150.13</b>

# County Serving other Jurisdictions

- Arlington – 1.8 MGD to Blue Plains
- Herndon – 3 MGD to Blue Plains (needs more capacity)
- City of Fairfax – 4.2 MGD to Noman Cole
- Vienna – 1.25 MGD to Noman Cole
- Falls Church – 1 MGD to Alexandria Renew (needs more capacity)
- Loudoun Water – 1 MGD to UOSA
- Fort Belvoir – 3 MGD to Noman Cole

# Sale of UOSA Capacity to Manassas

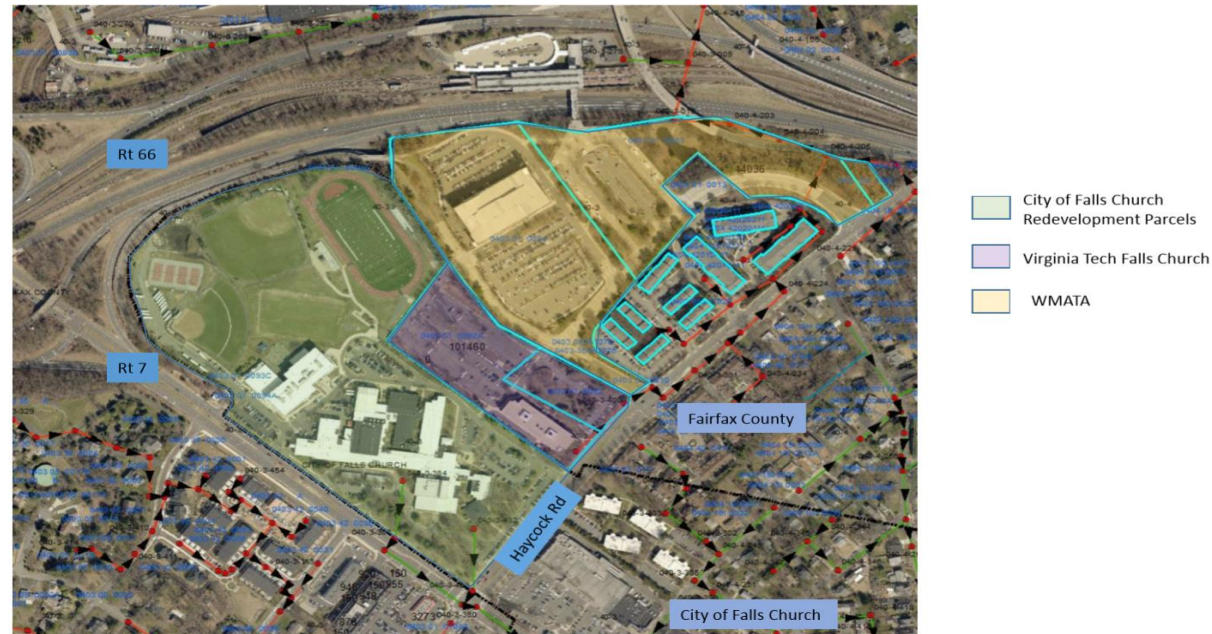
- \$3B Micron expansion
- Manassas asked for 0.5 MGD  
with option for 1 MGD more
- NIP to BOS for 0.5 MGD sale only
- Price \$13.1 for 0.5 MGD
- Manassas pays \$8.2M and remaining  
debt service 2020 - 2043
- Sale agreement for BOS approval
- UOSA's consultant has started master  
plan for future capacity needs



# Falls Church Needs 0.5 to 1 MGD Additional Capacity

- **Considering following options**
  - Sale of county capacity in Alexandria Renew
  - Exchange Falls Church capacity in Arlington with county capacity in Alexandria Renew

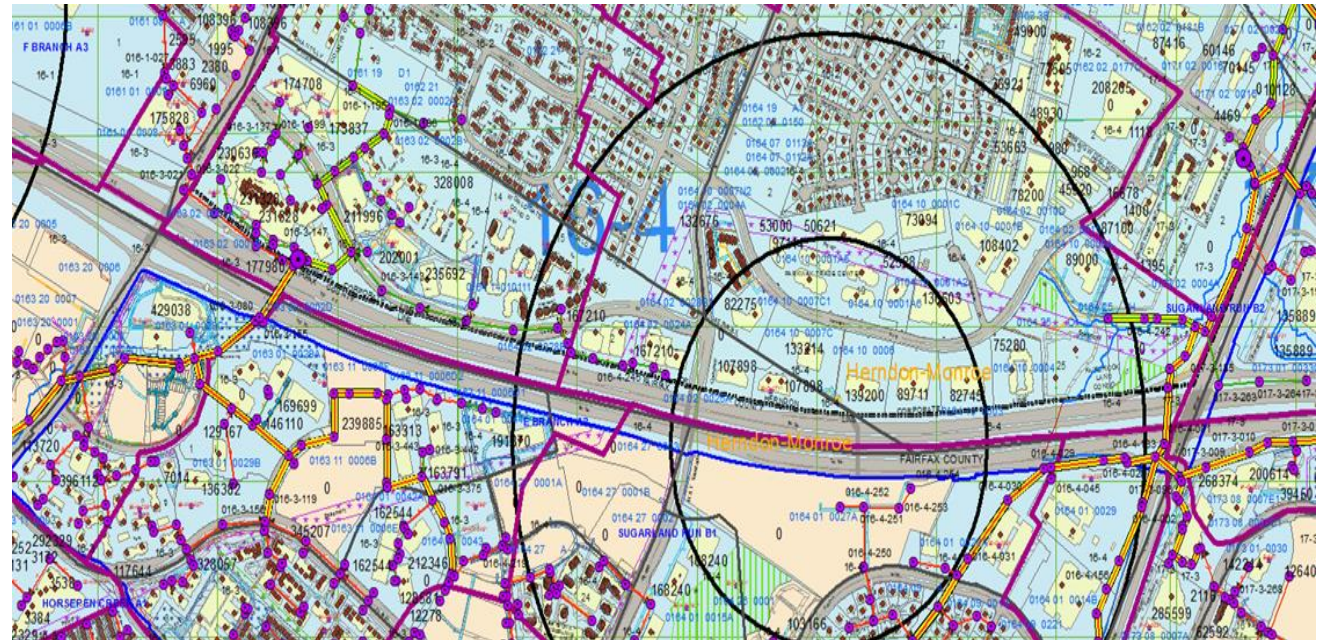
Parcels under Potential Redevelopment around VA Tech, Falls Church Campus



# Herndon Needs 2 MGD Additional Capacity

- **Considering following options**

- Blue Plains
- Noman Cole
- Alexandria Renew
- Loudoun Water
- A combination of above





# Challenges

- **Conveyance System**

- High density growth areas concentrate flow to certain pipes
- Pipe flow capacity increase needed
- Pipes are programmed in CIP for increased capacity

- **Decreased Per Capita Water Use**

- Stronger wastewater to treat
- Treatment process upgrades will be needed before hydraulic upgrade
- Sewer service rate is based on volume not strength
- Potential higher sewer service rate for decreased flow per capita and increased strength

# Challenges Continued

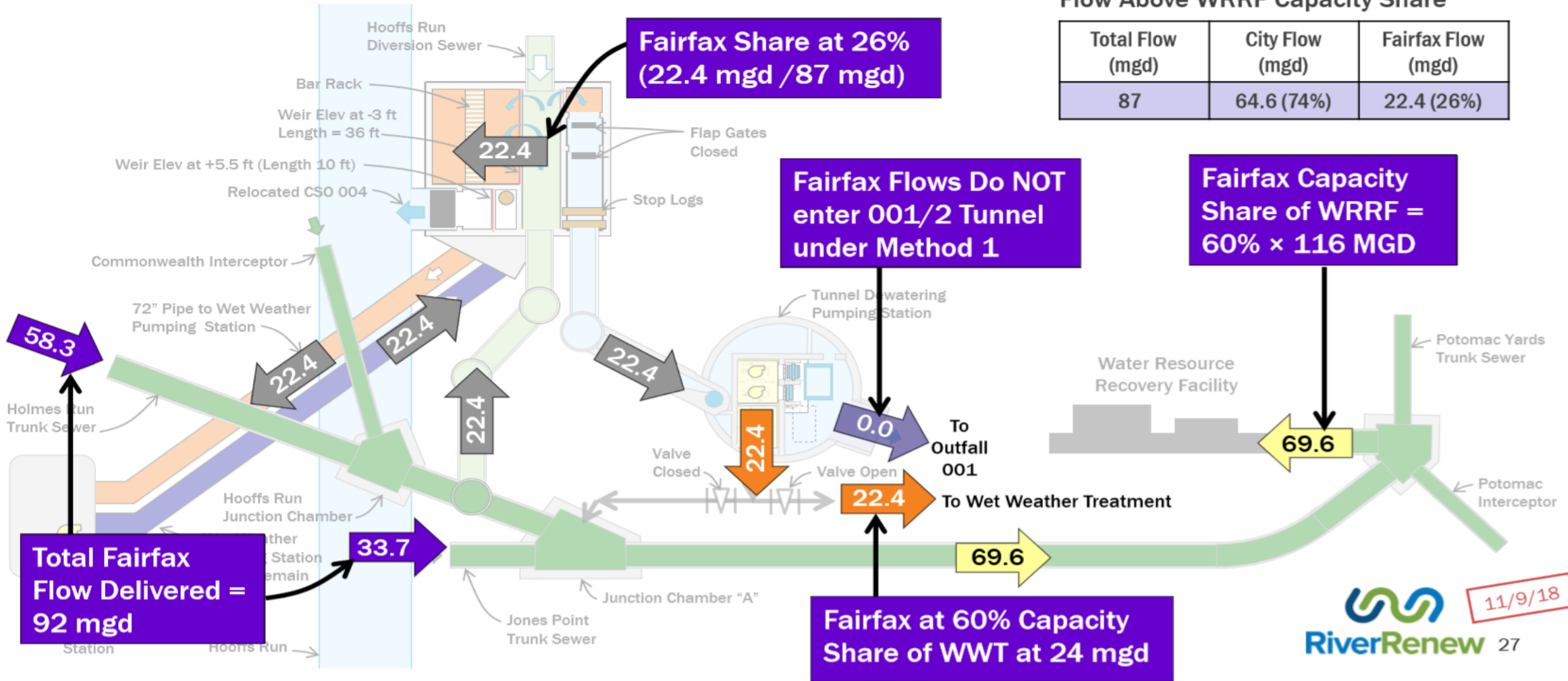
- **Blue Plains Service Area Growth and Wet Weather Flows**
  - The Potomac Interceptor (PI) capacity limited
  - Projected dry weather flow capacity at 31 MGD allocation is available
  - Future growth plus wet weather flows will exceed PI capacity
  - Difficult Run Pump Station pump over will mitigate some flows
  - Blue Plains Technical Committee has started a study to mitigate remaining flows

# Challenges Cont.

- **Alexandria Service Area Wet Weather Flows**
  - Older system with areaway drains and sump pumps tied to system
  - Leaky older sewer laterals (privately owned)
  - Long standing problem dating back to 1980s
  - Being resolved under DEQ permit and legislative mandate
  - County owns 60% of plant capacity
  - County share is estimated at \$41 M of \$370 M total project (~11%)
  - 10 years of negotiations has resulted in equitable cost sharing (see next slide)
  - A cost share agreement being negotiated for Board approval

# Where do County's flows go in October 2005 Storm?

Assumes 60% Capacity Share of Wet Weather Treatment Facility



Questions?