

Lake Accotink Dredging

Public Presentation – Alternatives Analysis



Department of Public Works and Environmental Services
Working for You!



A Fairfax County, VA, publication
February 10, 2022

Tonight's Meeting Agenda & Purpose

Agenda:

- ***Greeting and Orientation***
- ***Comments from Supervisors Lusk and Walkinshaw***
- ***Presentations by County Staff and Arcadis Staff***
- ***Questions and Answers***

Purpose:

- ***Update the community & stakeholders***
- ***Summarize the alternatives for dredging operations***
- ***Get Feedback from the Community & Stakeholders***



Project Schedule

- ~~Public Meetings July 29 & August 5, 2021~~
- Public Meeting February 10, 2022
- Public Comment February 10 to March 11
- Decision on Spoils Processing Location – March 2022
- Concept Design and Value Engineering Study – June 2022
- Final Design and Permitting – May 2023
- Begin Dredging – Fall 2023
- Complete Dredging – 2026
- Post Construction Monitoring – 2026 to 2031



Lake Accotink dredging operations June 21, 2006 – Photo by Fairfax County DPWES





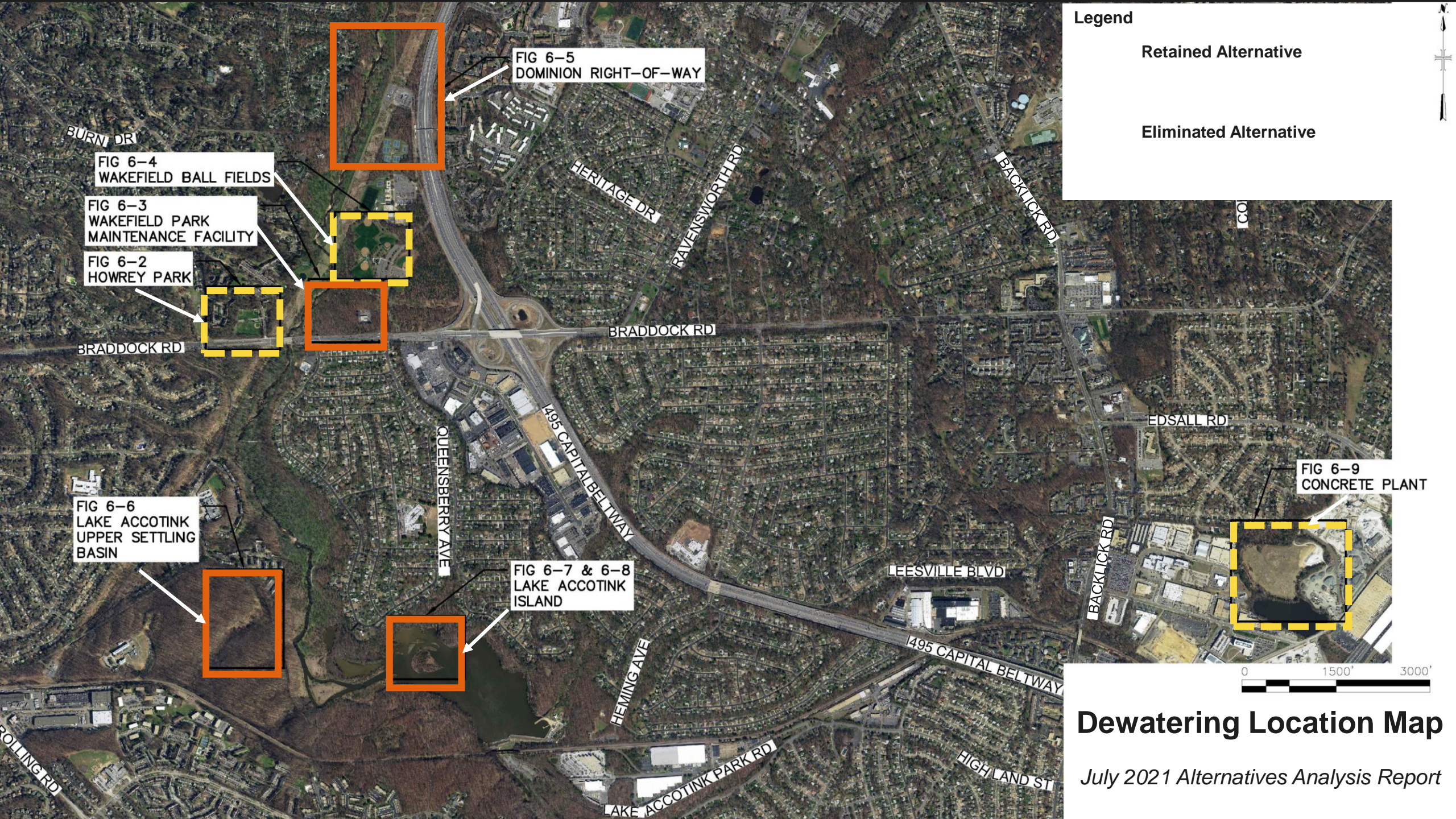
Lake Accotink Dredging

Project Update Meeting

February 10, 2022



Photo courtesy of Tom Kinder



Legend

Retained Alternative

Eliminated Alternative

FIG 6-5
DOMINION RIGHT-OF-WAY

FIG 6-4
WAKEFIELD BALL FIELDS

FIG 6-3
WAKEFIELD PARK
MAINTENANCE FACILITY

FIG 6-2
HOWREY PARK

FIG 6-6
LAKE ACCOTINK
UPPER SETTLING
BASIN

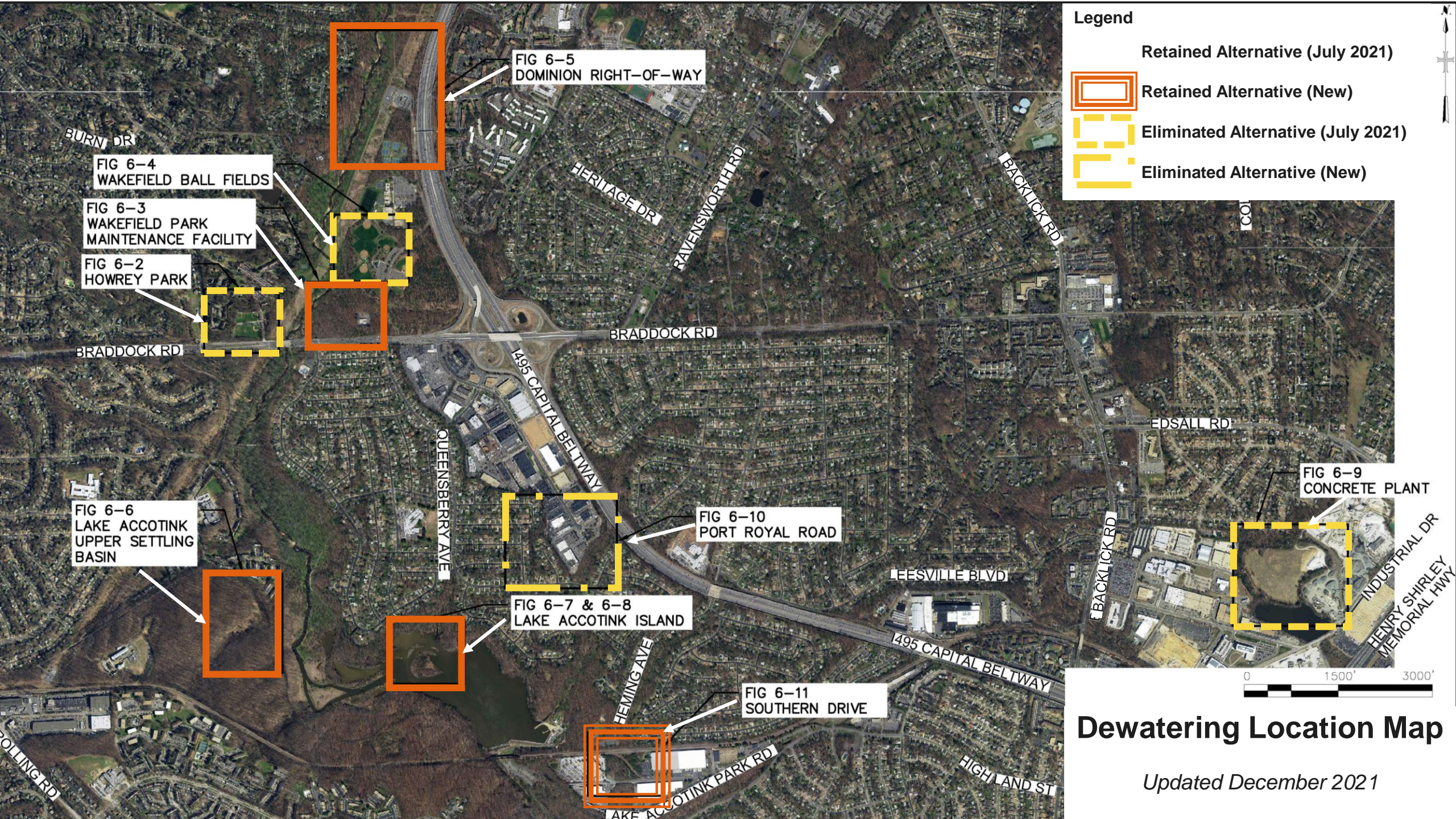
FIG 6-7 & 6-8
LAKE ACCOTINK
ISLAND

FIG 6-9
CONCRETE PLANT



Dewatering Location Map

July 2021 Alternatives Analysis Report



Legend

- Retained Alternative (July 2021)
- Retained Alternative (New)
- Eliminated Alternative (July 2021)
- Eliminated Alternative (New)

FIG 6-5 DOMINION RIGHT-OF-WAY

FIG 6-4 WAKEFIELD BALL FIELDS

FIG 6-3 WAKEFIELD PARK MAINTENANCE FACILITY

FIG 6-2 HOWREY PARK

FIG 6-6 LAKE ACCOTINK UPPER SETTLING BASIN

FIG 6-7 & 6-8 LAKE ACCOTINK ISLAND

FIG 6-10 PORT ROYAL ROAD

FIG 6-11 SOUTHERN DRIVE

FIG 6-9 CONCRETE PLANT

BURN DR

HERITAGE DR

RAVENSWORTH RD

BACKLICK RD

BRADDOCK RD

1495 CAPITAL BELTWAY

QUEENSBERRY AVE

EDSALL RD

LEESVILLE BLVD

INDUSTRIAL DR

HENRY SHIRLEY MEMORIAL HWY

HIGHLAND ST

POLLING RD

HEMINGWAY

LAKE ACCOTINK PARK RD

Dewatering Location Map

Updated December 2021



Port Royal Road

Areas

Type	Acres
Maximum Limits of Disturbance	12.4
Wetlands	0
Floodplain	0.3
Resource Protection Area	0.5

Method Compatibility*

Production (cy/day) Slurry Solids	950 7%	950 15%	1250 7%	1250 15%
Passive	Yes	Yes	Yes	Yes
Passive w/ Desanding	Yes	Yes	Maybe	Maybe
Mechanical	Yes	Yes	Maybe	Maybe
Drying Agent	No		No	

*Based on current assumptions

Rating Summary

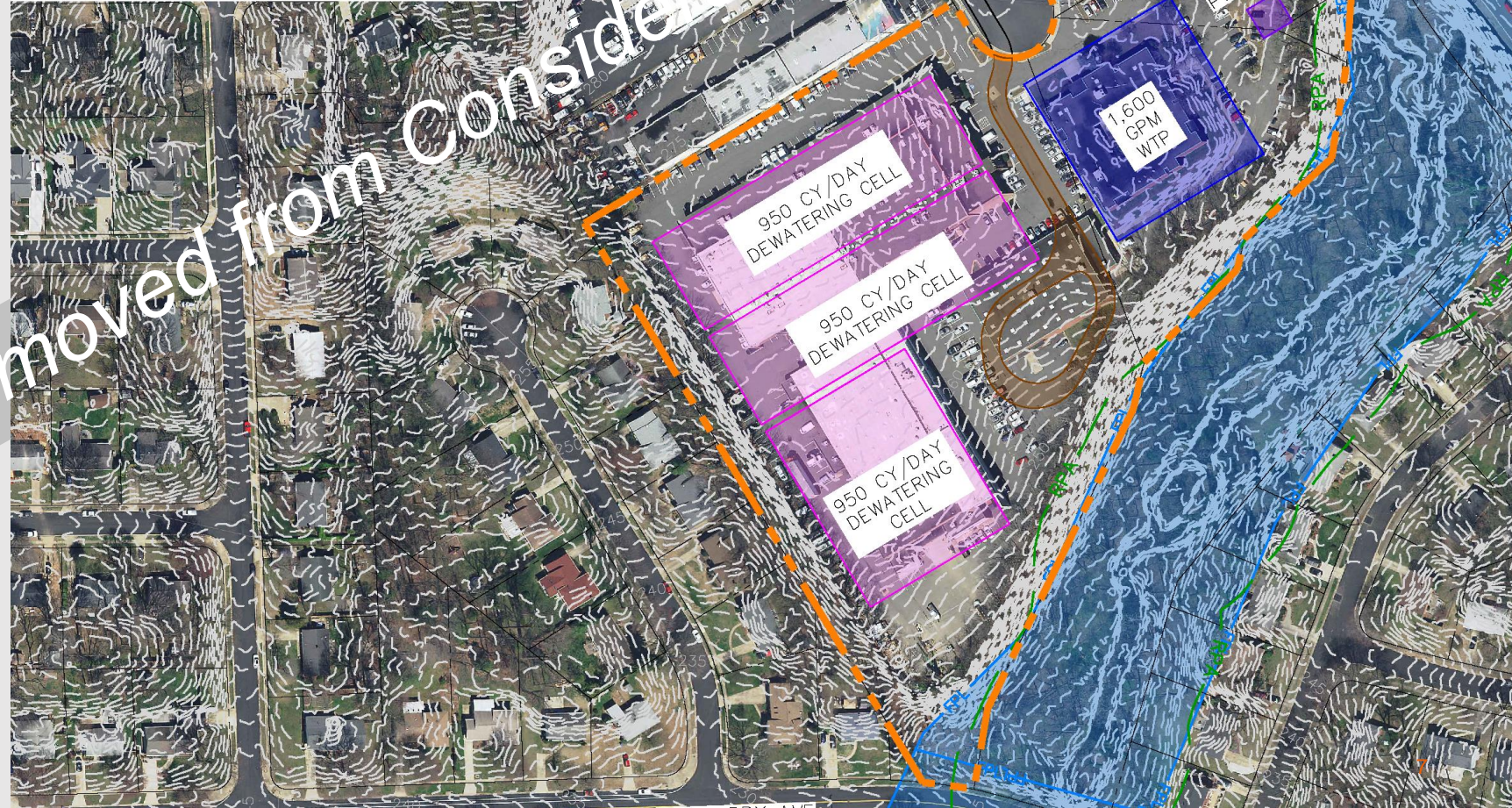
Ownership, Cost, Schedule
Avoids Park Impacts; Outside Floodplain, Wetlands & RPAs

Unknown

- Building conditions (e.g., basements, asbestos)
- Use & maintenance of site between dredging



ANTICIPATED TRUCK ROUTE
SCALE: NOT TO SCALE



Southern Drive

Areas

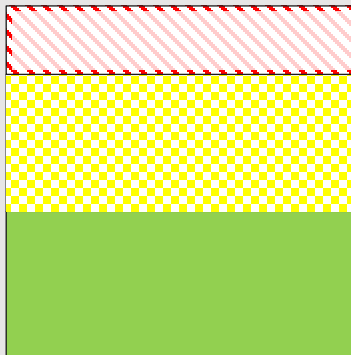
Wetlands	0
Floodplain	0
RPA	3.1

Method Compatibility*

Passive w/ Desanding	No	No	No	No
Mechanical	Maybe	Yes	No	Maybe
Drying Agent	No		No	

*Based on current assumptions

Rating Summary



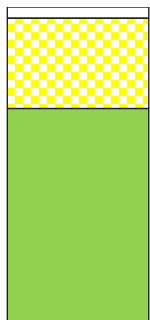
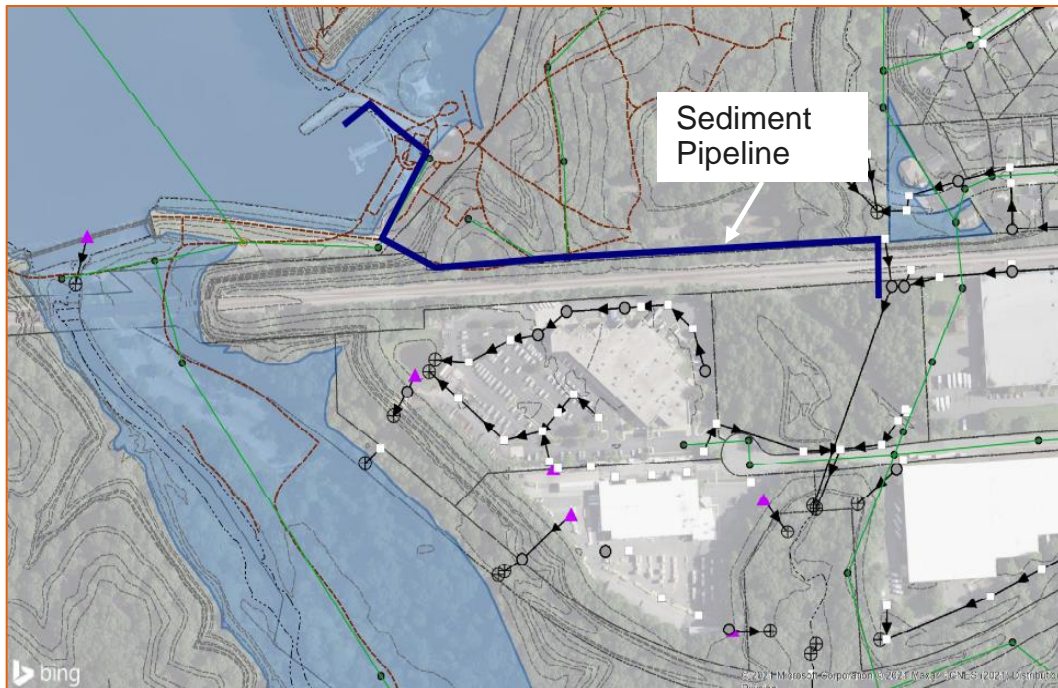
Unknown

- Property purchase/leasing/easement terms
- Environmental impacts
- Railroad spur / utility offsets or restrictions



Southern Drive – Slurry Pipeline Options

Service Road / North of RR



Low Compatibility Considerations

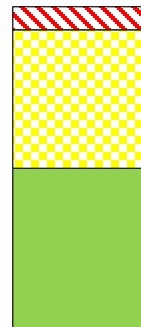
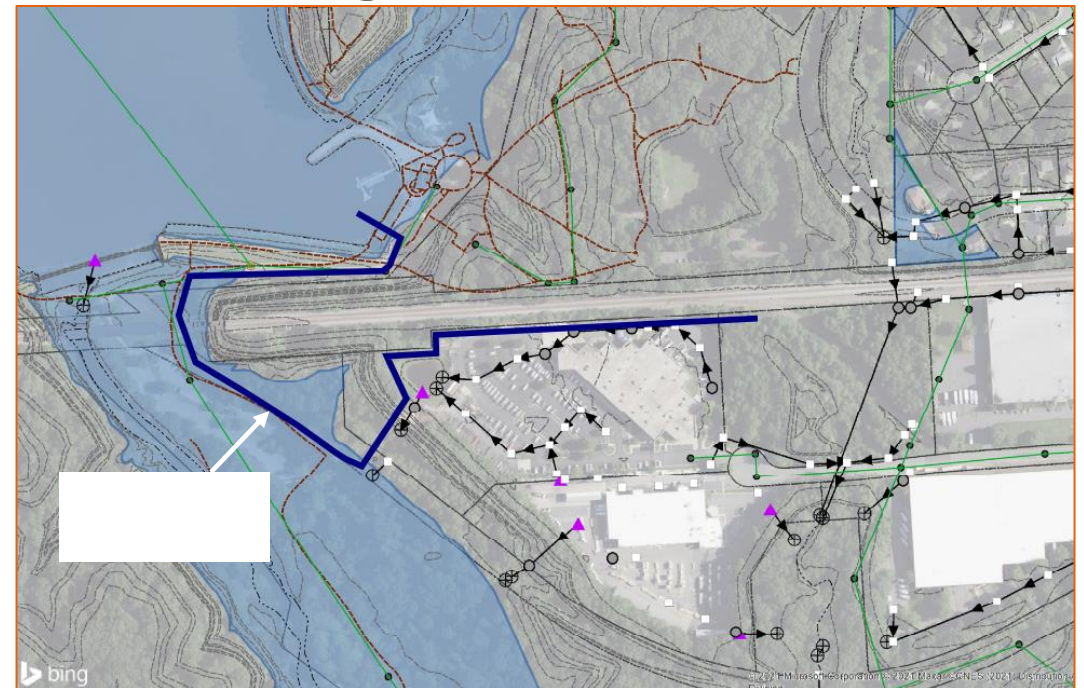
- RR Coordination
- Short term park impact during construction

High Compatibility Considerations

- Shortest alignment
- No anticipated environmental impacts
- No neighborhood impacts during construction

© Arcadis 2020

Under Bridge / South of RR



Low Compatibility Considerations

- RR and private property coordination
- Potential aquatic habitat impacts
- Short term park impact during construction

High Compatibility Considerations

- Short alignment
- No neighborhood impacts during construction

Southern Drive – Resource Impacts

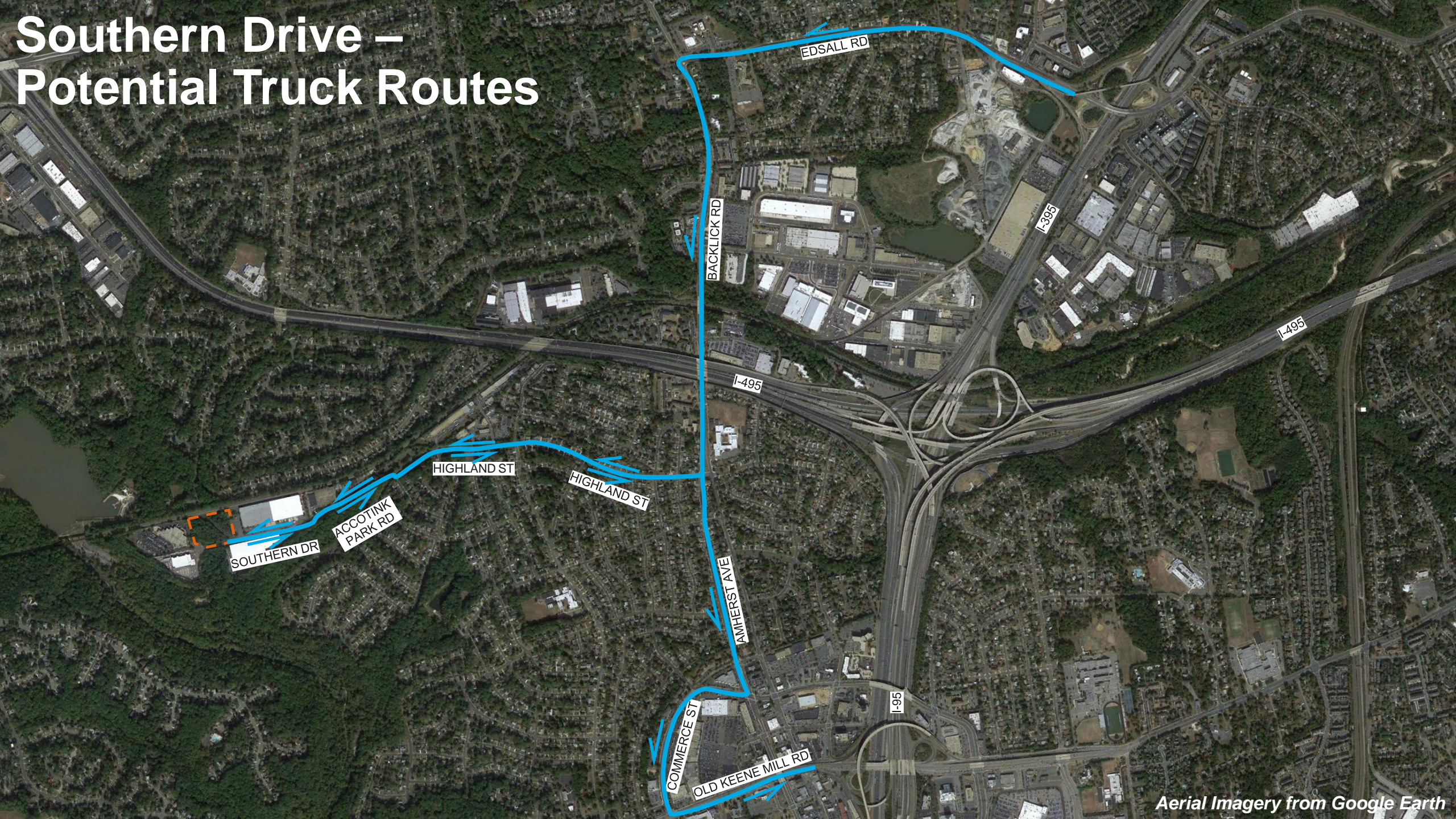
Natural Resources

- Fairfax County mapped perennial stream with possible adjacent wetlands
 - Although stream has been piped, a formal wetland delineation (and possible survey) will be needed to confirm presence or absence of wetlands.
 - Although typically removed for piped streams, the “stream” has a mapped RPA - will need to confirm RPA.
- Similar search for endangered and threatened species as other sites considered

Cultural Resources

- No previously recorded archaeological sites mapped within or adjacent to the dewatering site (based on VDHR online data)
- No indication that the site has previously been subject to cultural resources survey
- Phase I cultural resources investigation of the area will be required.

Southern Drive – Potential Truck Routes



EDSALL RD

BACKLICK RD

I-395

I-495

I-495

HIGHLAND ST

HIGHLAND ST

SOUTHERN DR

ACCOTINK
PARK RD

AMHERST AVE

I-95

COMMERCE ST

OLD KEENE MILL RD

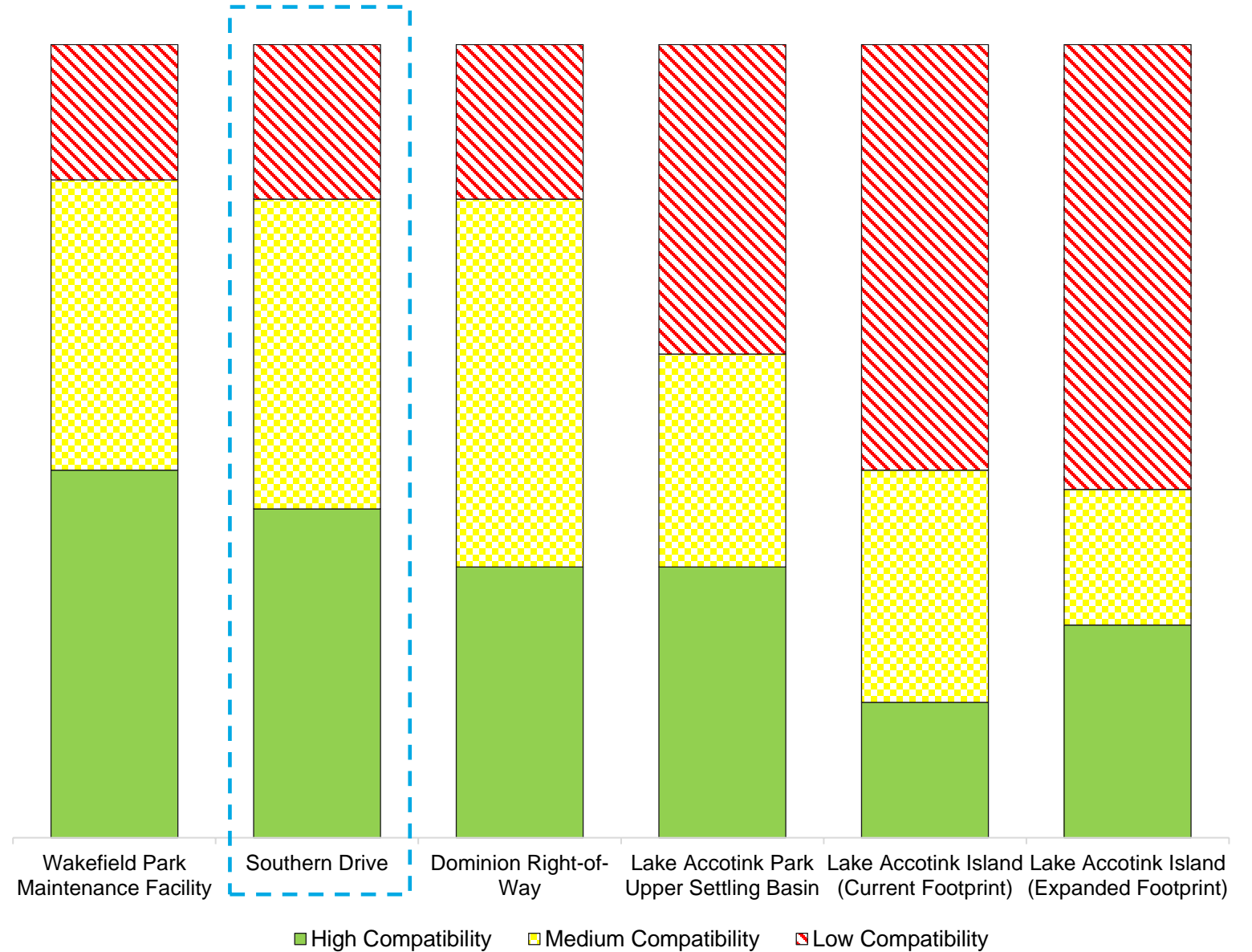
Southern Drive Traffic Impacts



Aerial Imagery from Google Earth

Roadway Name	VDOT 2019 Traffic Data			Estimated Values		
	Average Daily Traffic (One Way Trips)	Percent Trucks	Number of Trucks	Daily Truck Traffic (One Way Trips)	Increase in Trucks	Increase in Traffic
Accotink Park Rd	2,400 to 2,600	NA	NA	190	NA	7% to 8%
Highland St	4,000 to 5,600	4.4%	176 to 246	190	77% to 108%	3% to 5%
SR-617 (Backlick Rd / Amherst Ave)	15,000 to 35,000	1.5% to 1.6%	240 to 525	95	18% to 40%	<1%

Dewatering Location Evaluation Summary As of December 2021



Summary of Additional Alternatives Eliminated

➤ Lake Accotink Upper Settling Basin: **Eliminated**

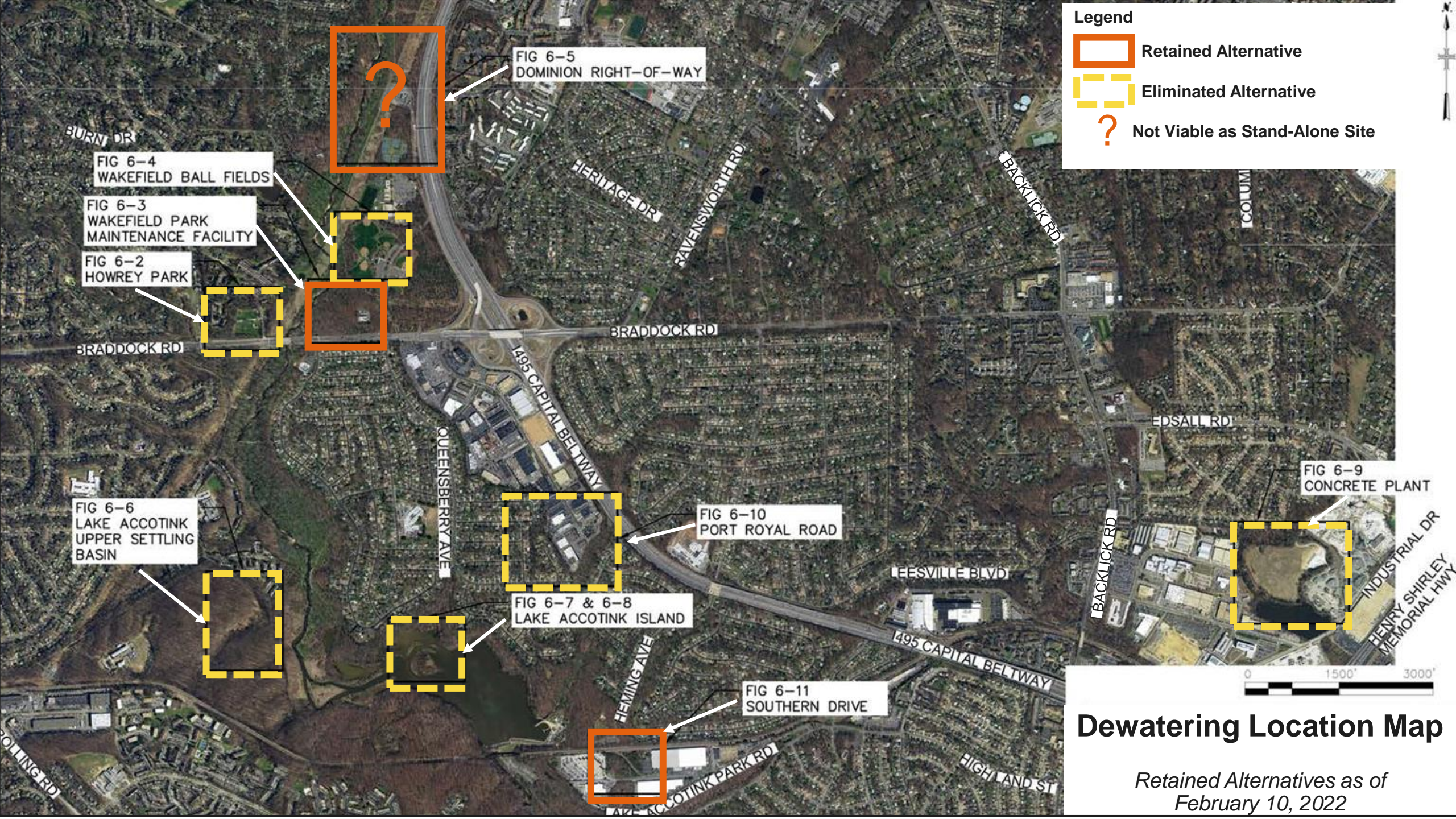
- Limited site access, limited sediment processing capacity, and infrastructure limitations (1850s railroad grade).

➤ Lake Accotink Island: **Eliminated**

- Significant environmental impacts, complex logistics, impacts of site access on communities.

➤ Dominion Right of Way: **Questionable**

- Unable to meet processing needs due to power line conflicts and active floodplain limiting sediment processing capacity.



Legend




-  Retained Alternative
-  Eliminated Alternative
-  Not Viable as Stand-Alone Site

FIG 6-5
DOMINION RIGHT-OF-WAY

FIG 6-4
WAKEFIELD BALL FIELDS

FIG 6-3
WAKEFIELD PARK
MAINTENANCE FACILITY

FIG 6-2
HOWREY PARK

BRADDOCK RD

HERITAGE DR

RAVENSWORTH RD

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SOUTHERN DRIVE

495 CAPITAL BELTWAY

HIGH WIND ST

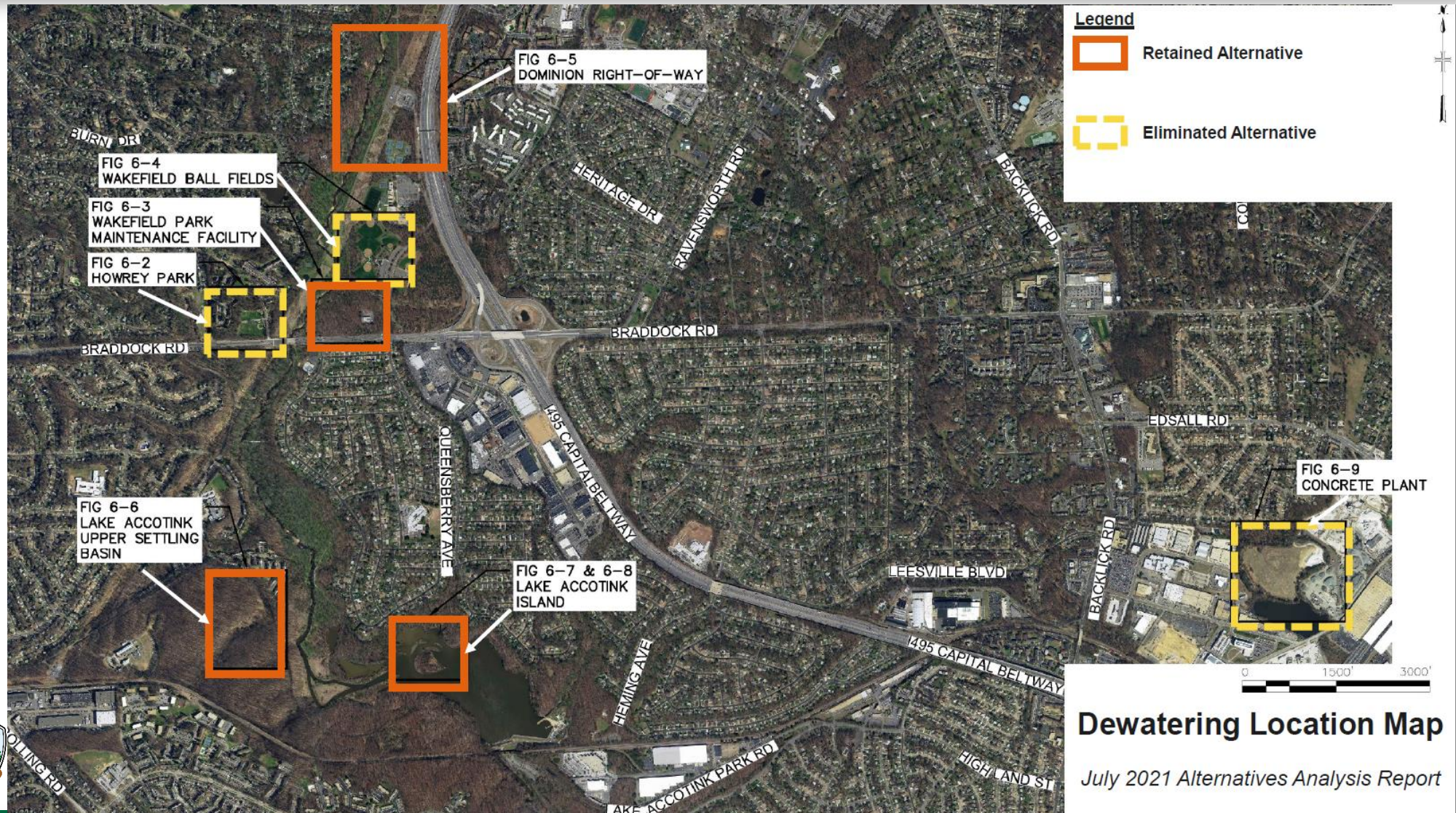
LAKE ACCOTINK PARK RD

Dewatering Location Map

*Retained Alternatives as of
February 10, 2022*

Thank You For Your Time!

Review of Staff Recommendations from August 2021



Dewatering Location Map

July 2021 Alternatives Analysis Report



Review of Staff Recommendations from August 2021

- **Lake Accotink Upper Settling Basin: Eliminated**
 - Limited site access, limited sediment processing capacity, and infrastructure limitations (1850s railroad grade).

- **Lake Accotink Island: Eliminated**
 - Significant environmental impacts, complex logistics, truck traffic impacts to communities.

- **Dominion Right of Way: Questionable**
 - Unable to meet processing needs due to power line conflicts and active floodplain limiting sediment processing capacity.

- **Wakefield Park Maintenance Area: Viable**
 - Site can support full base and maintenance dredging operations. Significant potential natural and cultural resource impacts. Impacts to park connector trail. Direct access to Braddock Road minimizes traffic impacts to local communities.

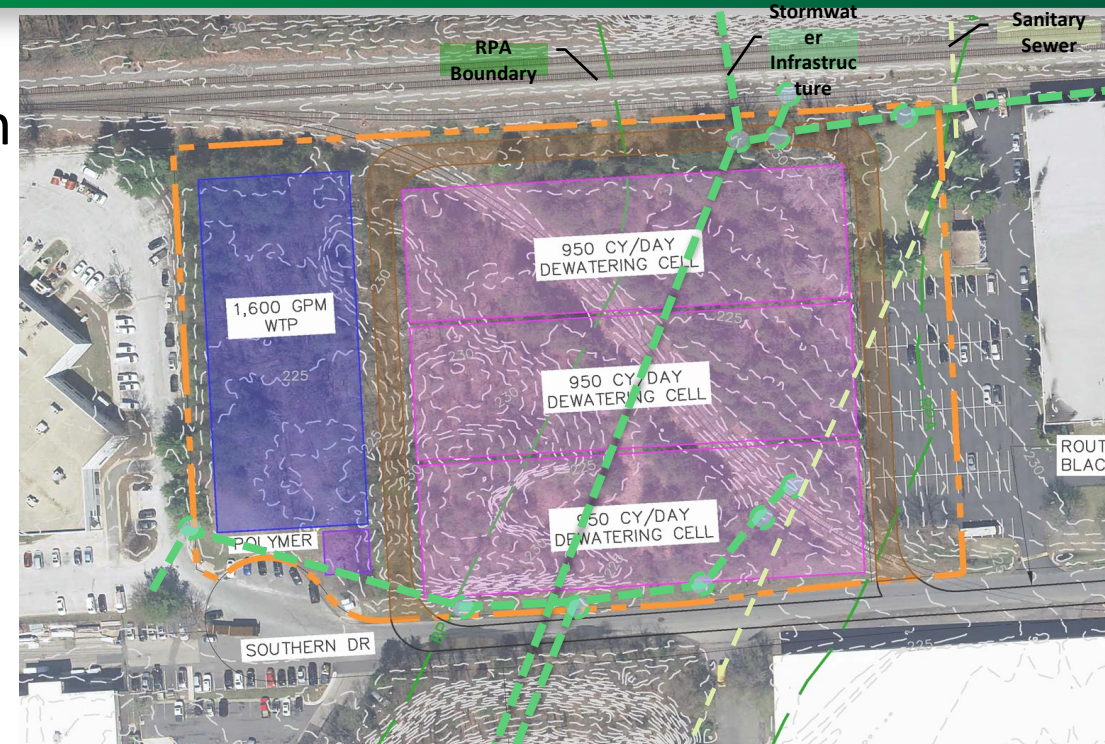


Port Royal Road:
Eliminated



- **Private Property with Buildings – owners do not want to sell**
- **Pipeline Impacts to Flag Run Stream Valley**
- **Access minimizes community impacts**

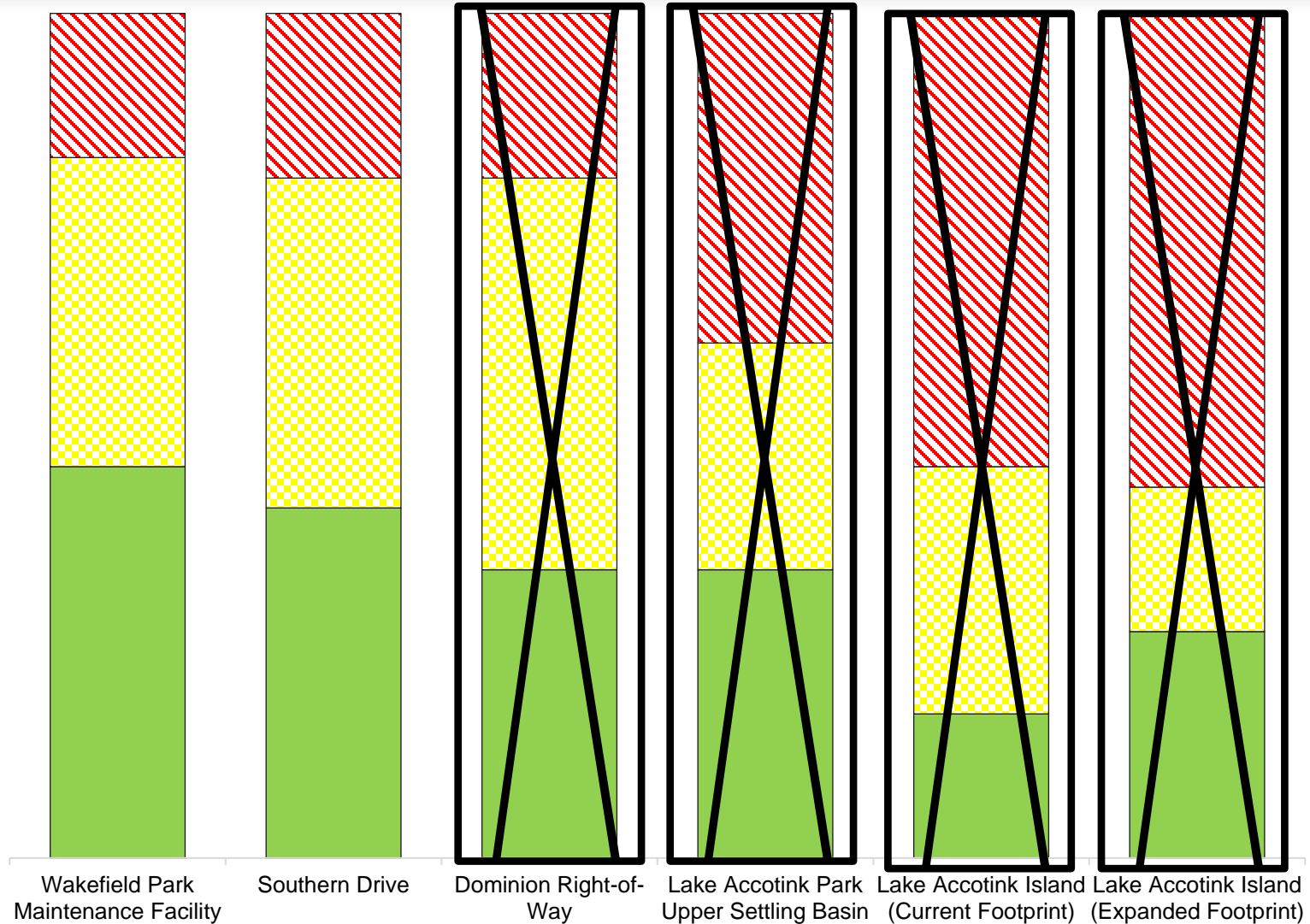
Southern Drive:
Viable



- **Vacant Property – Clearing of Existing Vegetation**
- **Pipeline Impacts Require Further Evaluation**
- **Truck traffic impacts to community**

Staff Recommendations

Dewatering Location County Staff Evaluation



Staff Recommendations

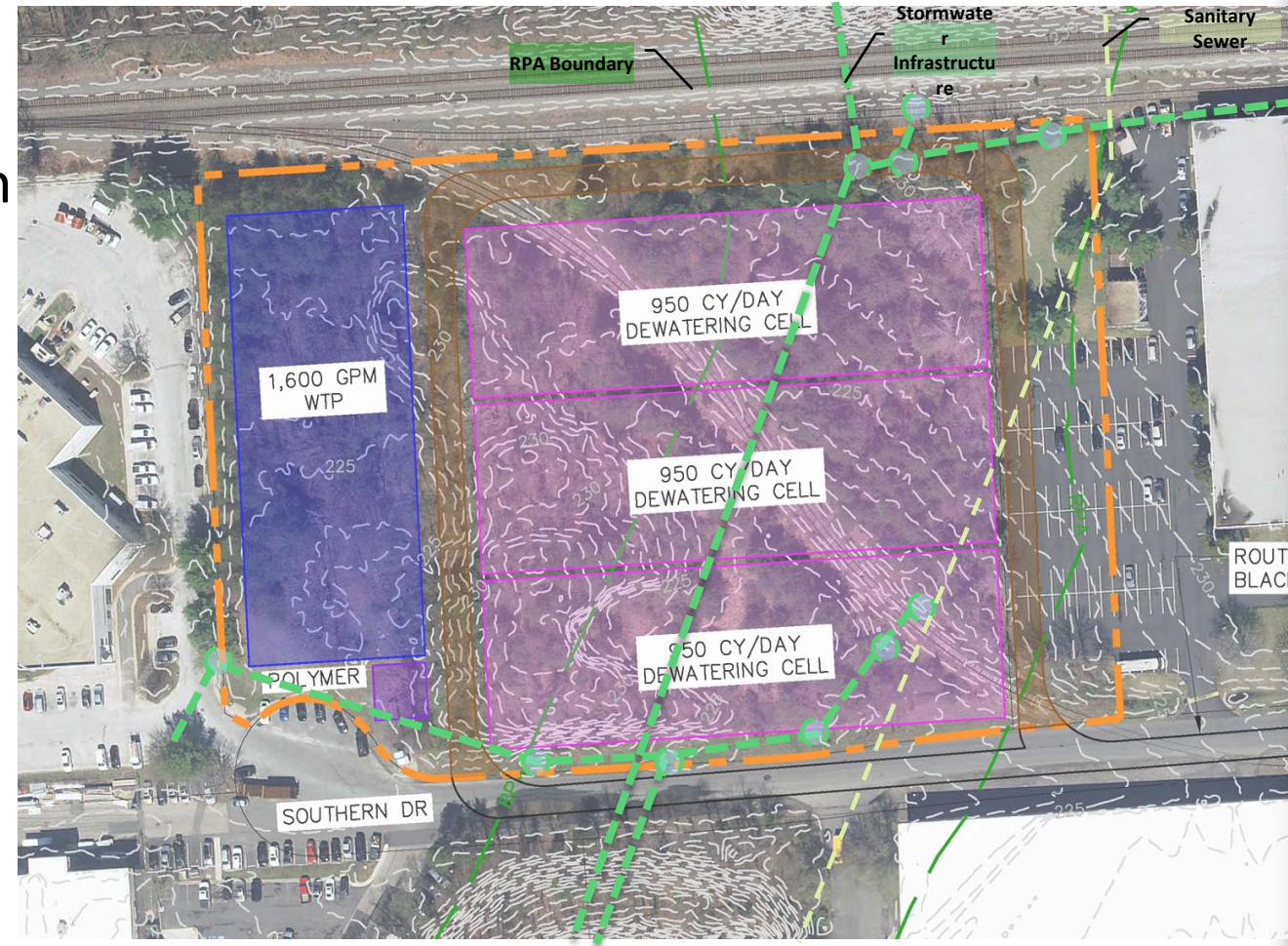
Southern Drive

Pros:

- Will accommodate full dredging operation
- Short pipeline route
- Low anticipated natural/cultural resource impacts on processing site (assessments required)

Cons:

- Private land
- Truck traffic impacts to community
- Clearing of existing vegetation



Staff Recommendations

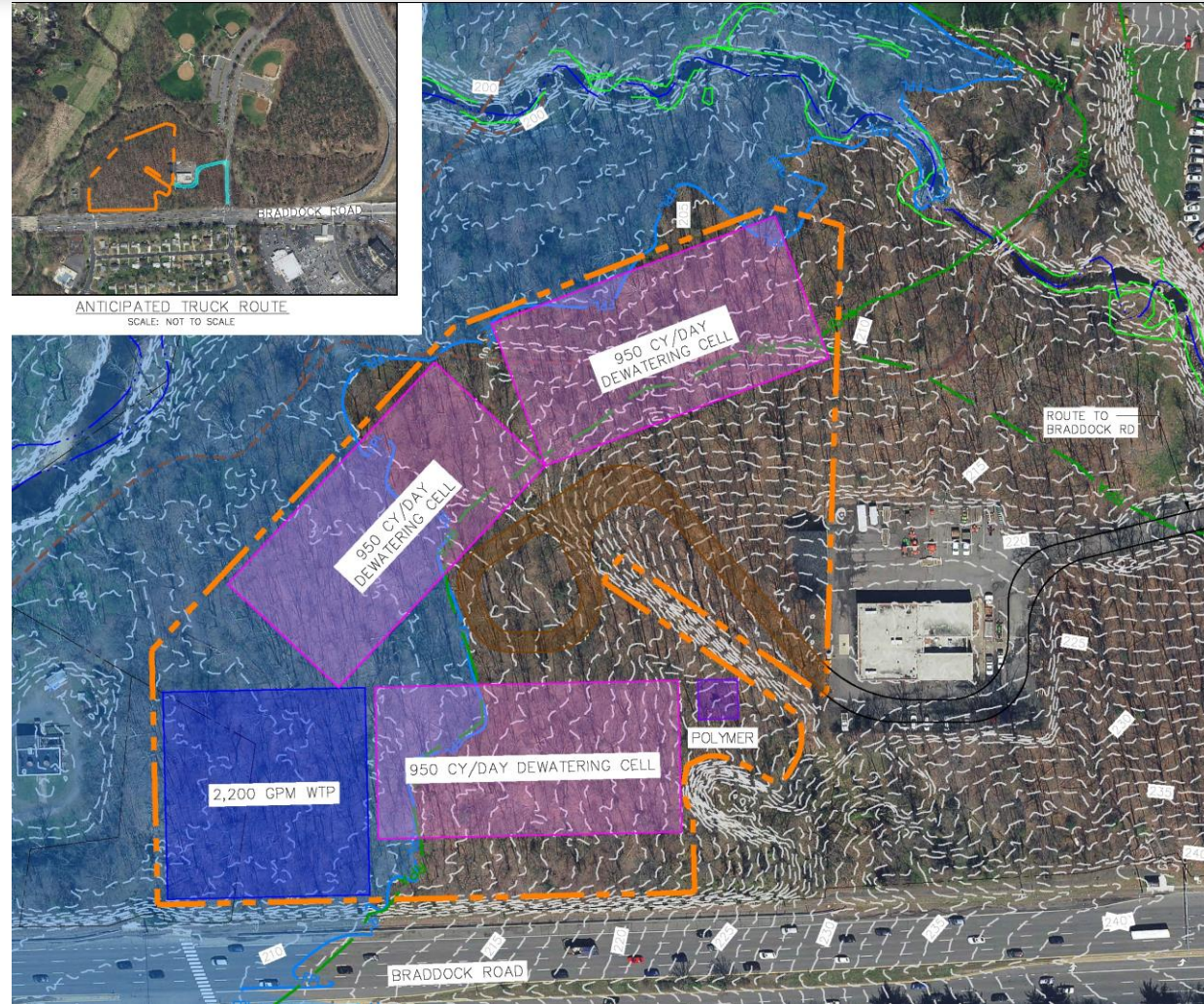
Wakefield Park Maintenance Facility

Pros:

- Will accommodate full dredging operation
- Direct access to Braddock Road
- Public land; largely outside of floodplain

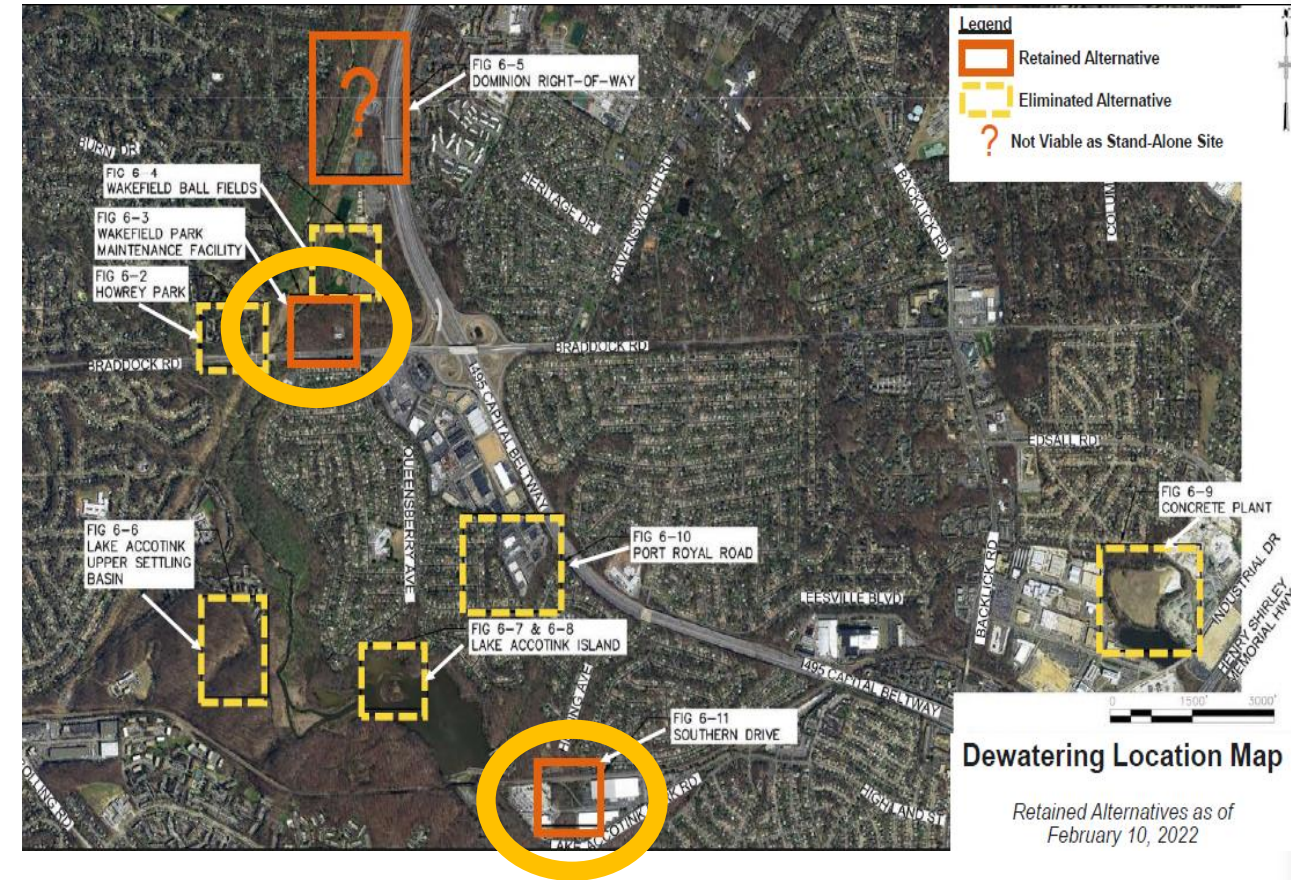
Cons:

- Removal of 7 to 9 acres of mature forest
- Cultural resource assessment required
- Disruption to connector trail
- Potential disruption of park access



Staff Recommendations

- **Dredging:** Pursue hydraulic dredging with mechanical debris removal.
- **Pipeline:**
 - Pursue lowest impact/cost pipeline alternative.
 - Retain flexibility during design for permanent and temporary pipeline options.
- **Dewatering:**
 - Select one of two locations considered viable from an engineering and logistics perspective:
 - Southern Drive Industrial Park; or
 - Wakefield Park Maintenance Facility





Community stewardship – Photo by Friends of Lake Accotink Park



Native mussels below Lake Accotink dam – Photo by Friends of Accotink Creek

Discussion & Questions



Mallard ducks – Photo by Fairfax County Park Authority



Cardboard boat regatta – Photo by Friends of Lake Accotink Park

Thanks for Attending!!

The window for comments will be open until
Friday, March 11, 2022.

Public Input Webpage: <https://publicinput.com/R018>

For Additional Information, to Comment or Sign up for Email Updates, Please Visit the Project Web Page:

<https://www.fairfaxcounty.gov/publicworks/lake-accotink-dredging>

