

Heritage Hunt Pump Station Replacement Project 60% Design Update Community Meeting #3 March 7, 2017



Dewberry Consultants LLC



Service Authority Exceptional Water Service

Agenda

- Existing Facility History & Purpose of Project
- Review Project Status
- Current Pump Station Design
 - Siting
 - Architecture
 - Noise & Odor
 - Landscaping
 - Access
- Force Main Project Status
- Remaining Schedule
- Q&A

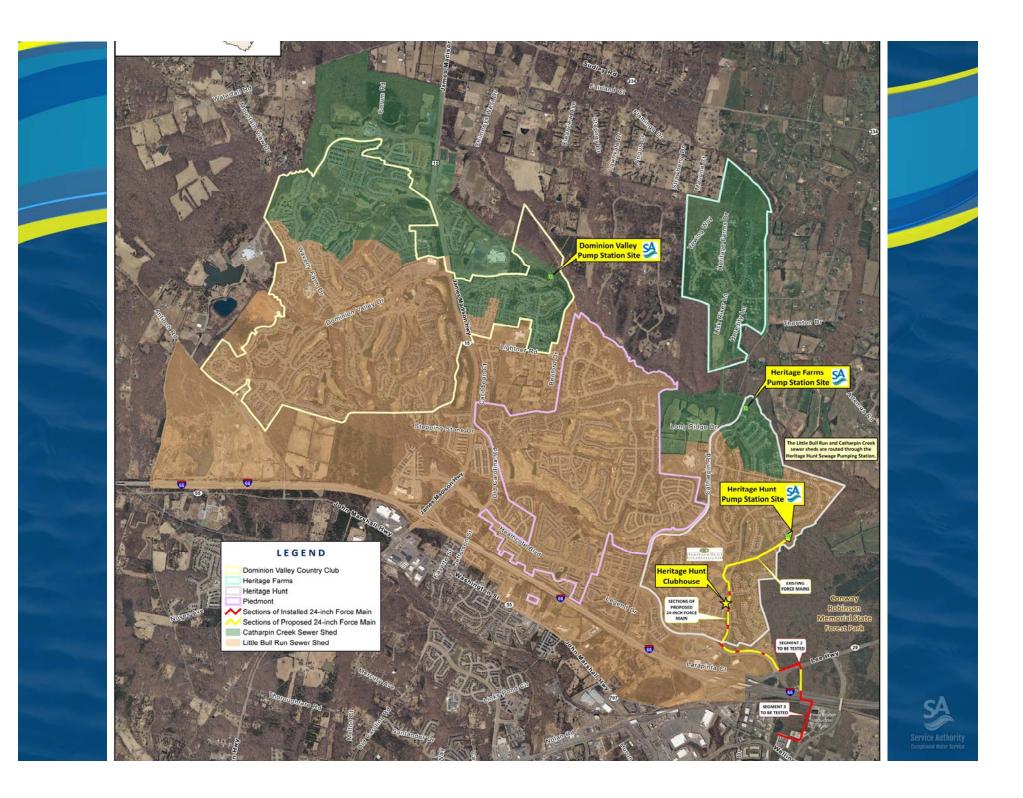


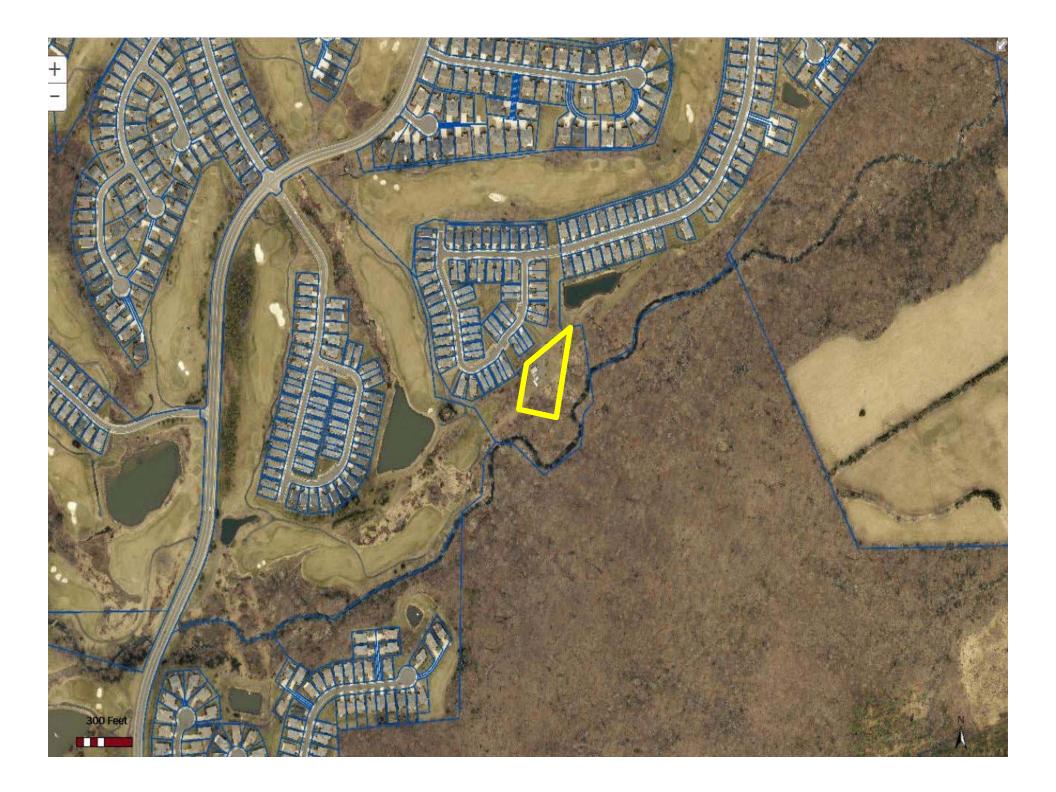
Existing Facility History

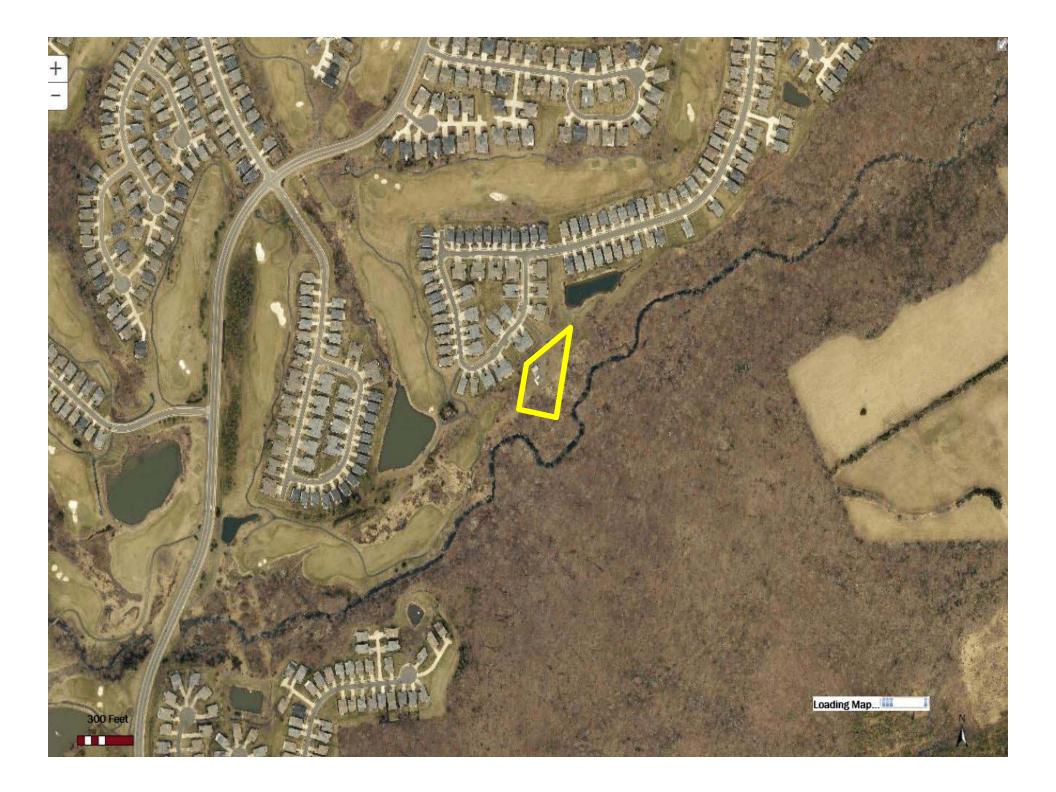
History of Regional Sewage Pump Station and Force Mains

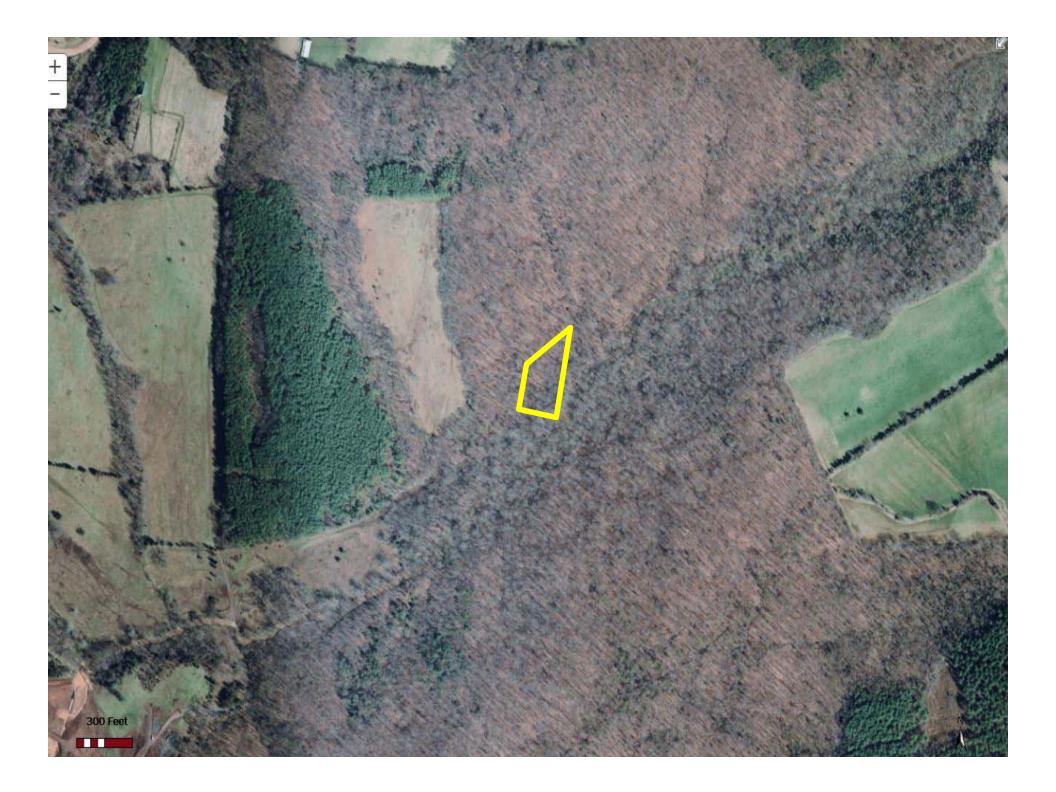
- The existing Interim Regional Sewage Pump Station was constructed in 2001 by US Home Corporation before development could progress in Heritage Hunt
- The interim regional facility was always planned to be expanded to meet sewershed demands of region.
- The parcel was proffered & deeded by US Home Corp.
- Two (2) pressure force mains and portions of a third were constructed in 1998.
- Existing sewer sheds serve approx. 8,000 homes and expect an increase of 600 to 1,400 residences.





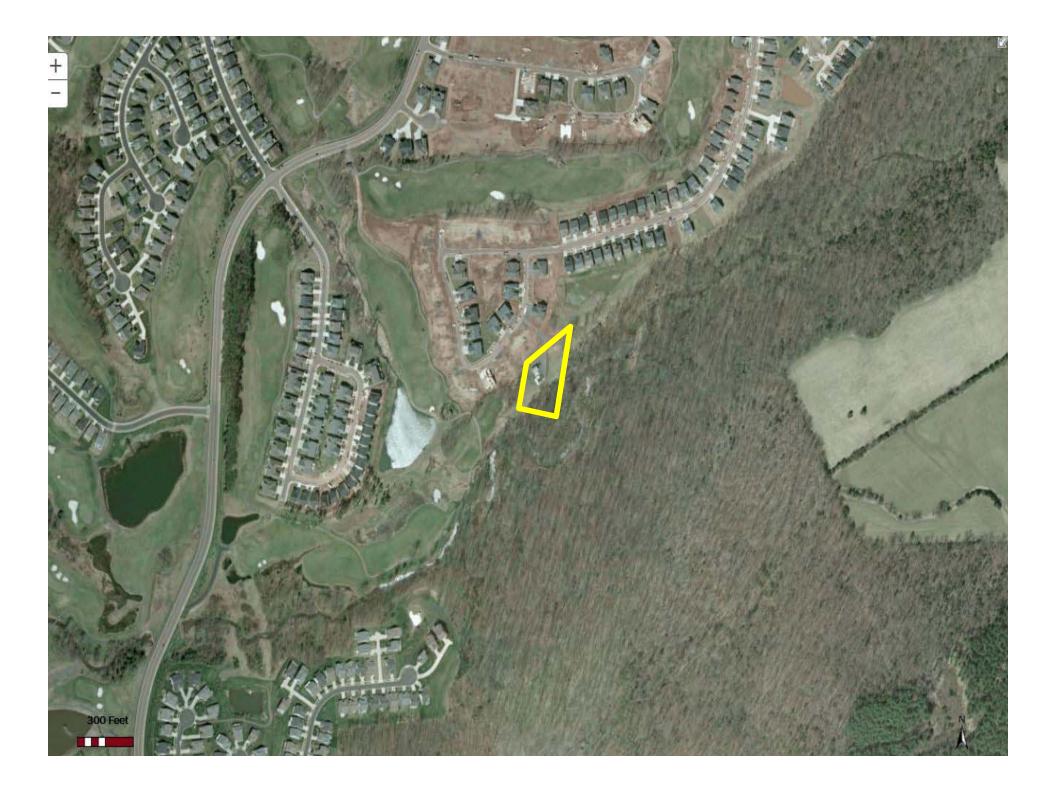


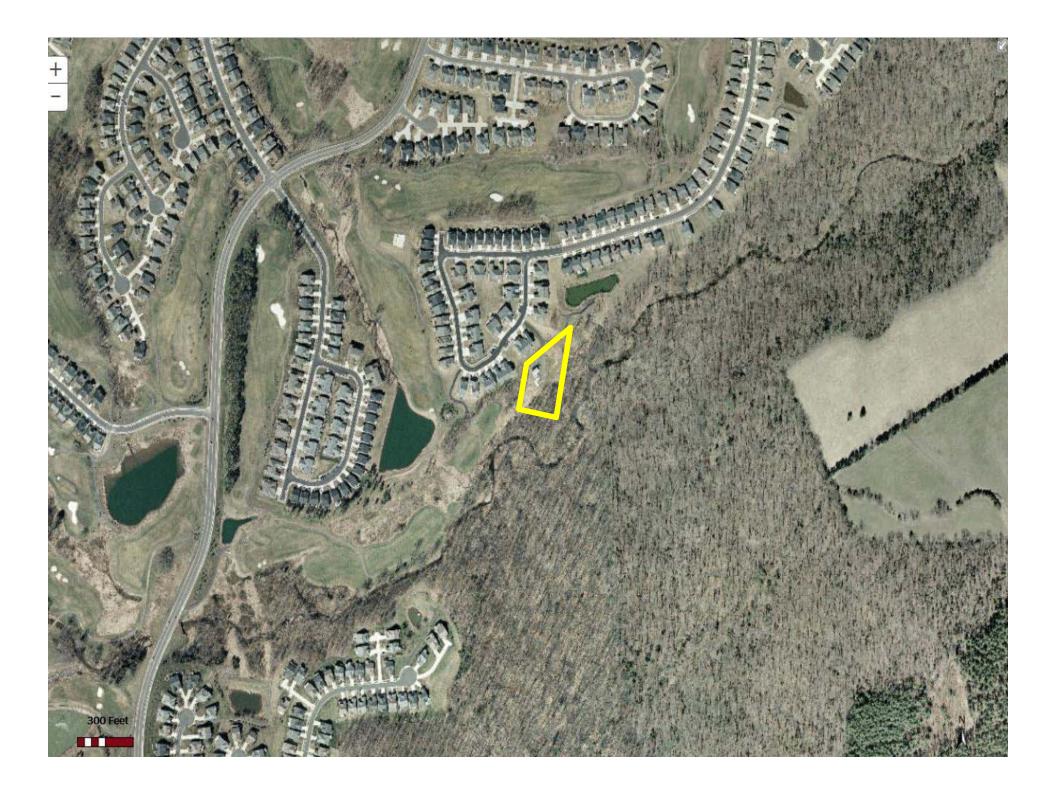


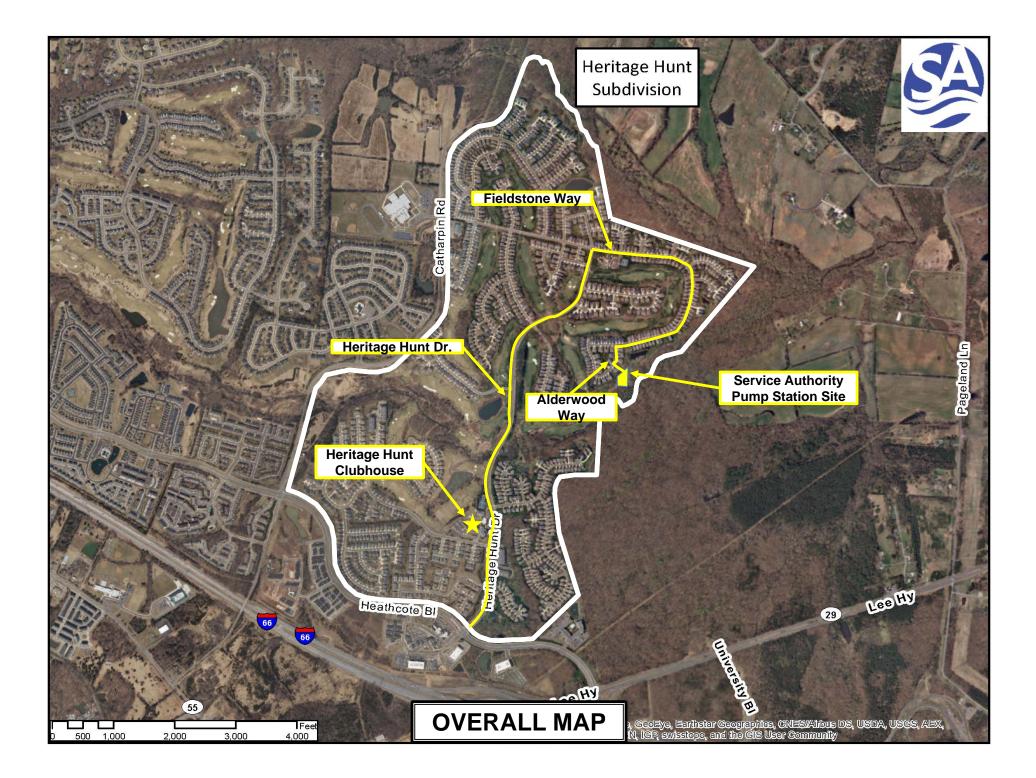


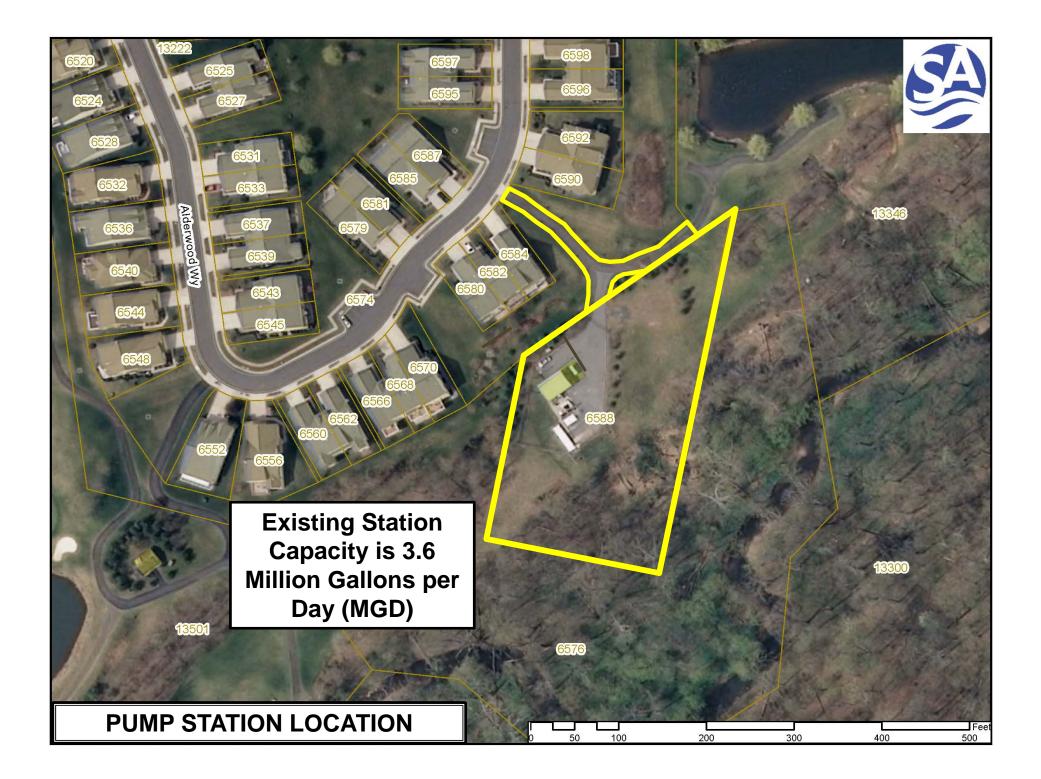












Purpose of the Project

Purpose Of Project

- Replace existing pump station facility with a larger station equipped to handle current and future flows.
- Avoid potential sewer overflows.
- Install the remaining sections of the third force main.

Benefits Of Project

- Increase system capacity.
- Maintain service reliability.
- Reduce noise and odors.



60% Design Update

Progress On Permitting

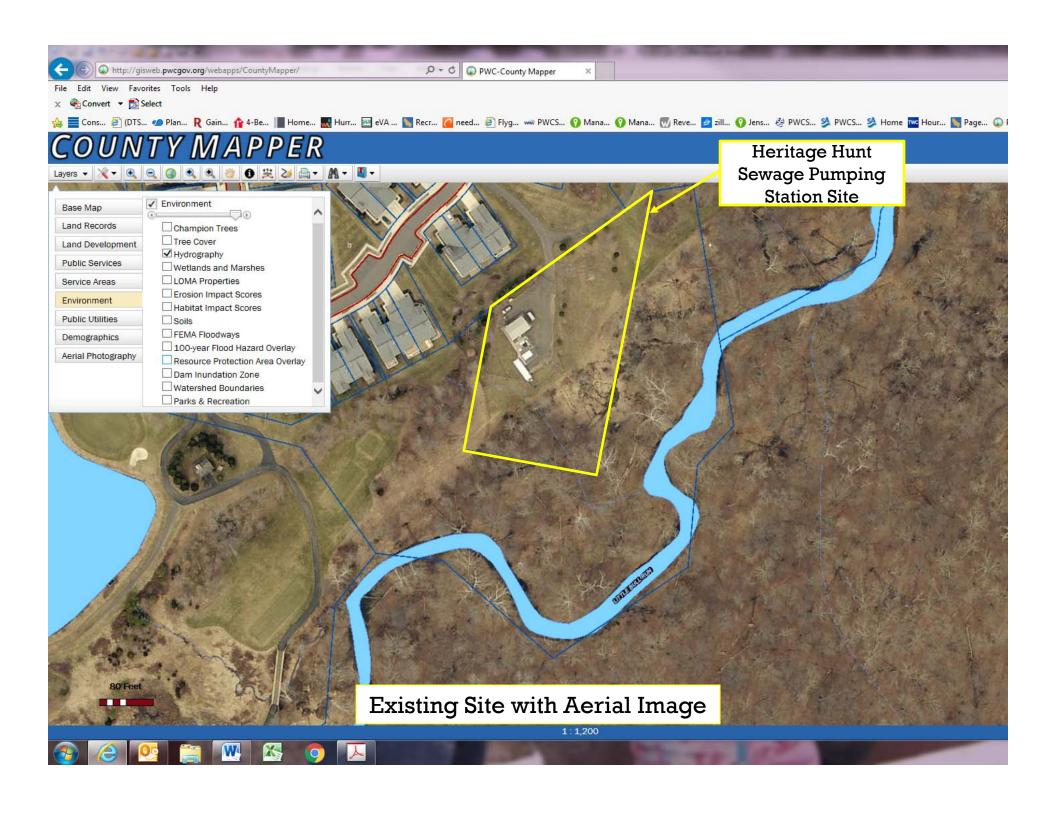
- County's Public Facilities Review is complete; approval on February 1, 2017.
- The Service Authority will follow key commitments, which are:
 - 1) Pump station building to have a residential appearance.
 - 2) Use best available technology odor control.
 - 3) Use best available technology sound control.
 - 4) Plant Riparian Forest area over old station bldg. site.
 - 5) Supplement landscaping in buffer adjacent to station.
 - 6) Present plan to address noise/odors at existing station.
 - 7) Restore damaged property, due to our construction activities, to existing or better condition.

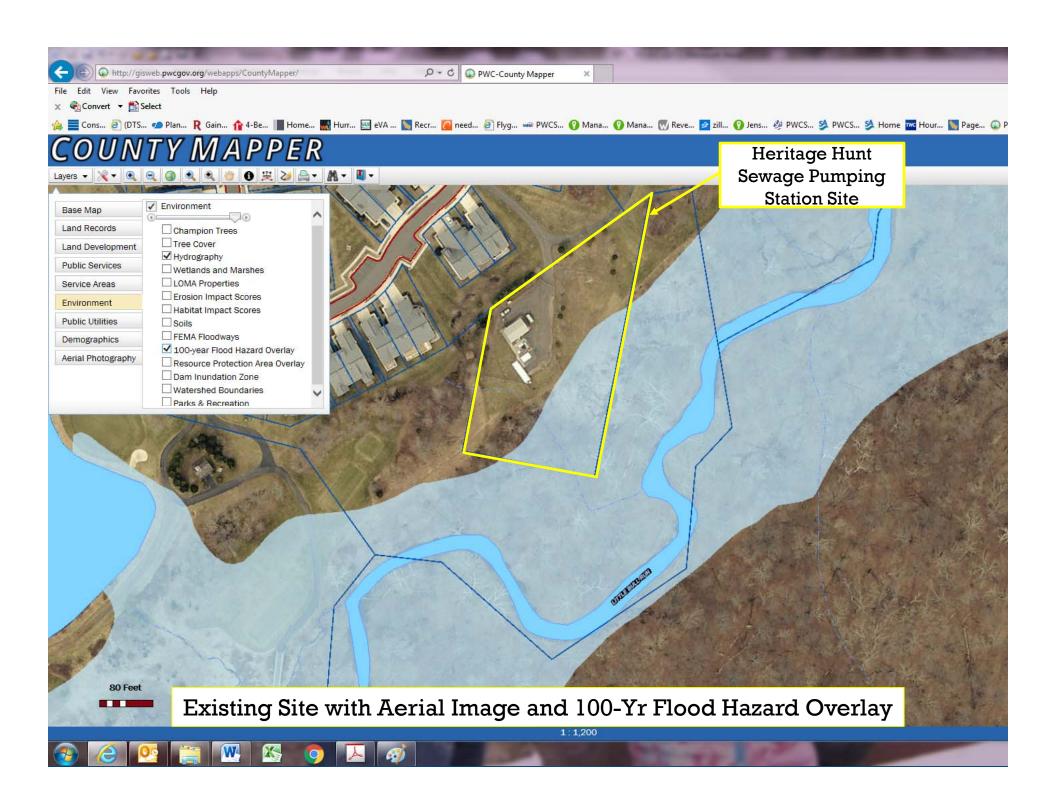
60% Design Update

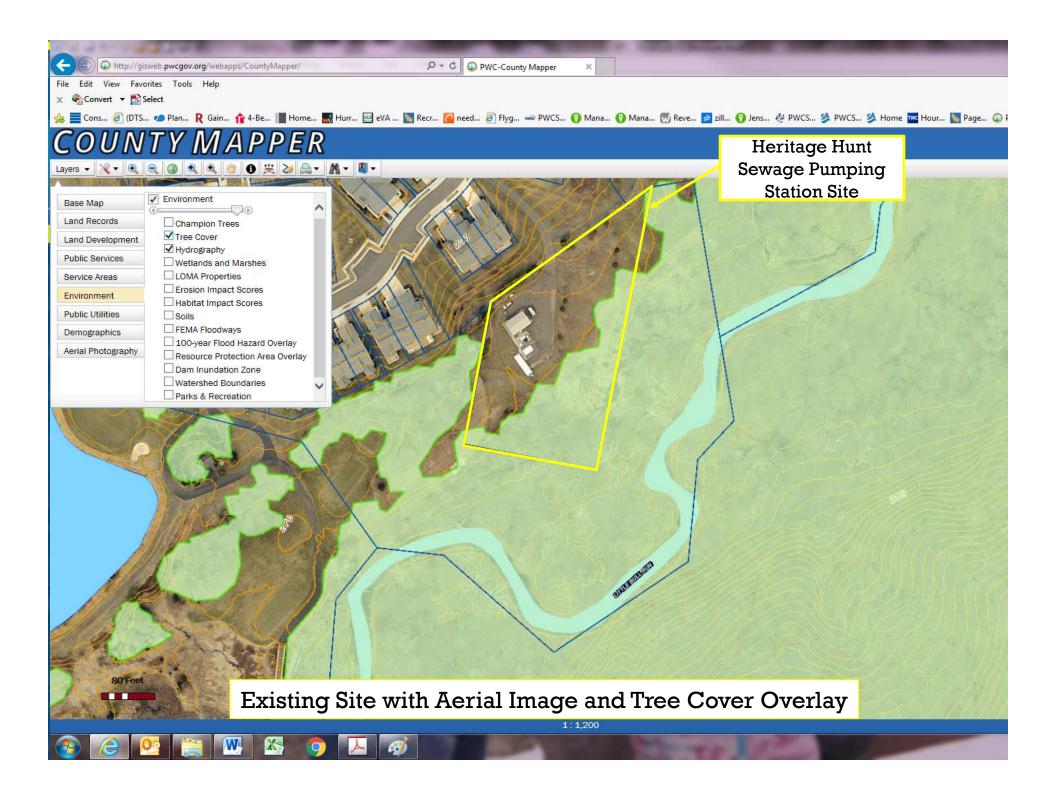
Progress On Regional Pump Station Design

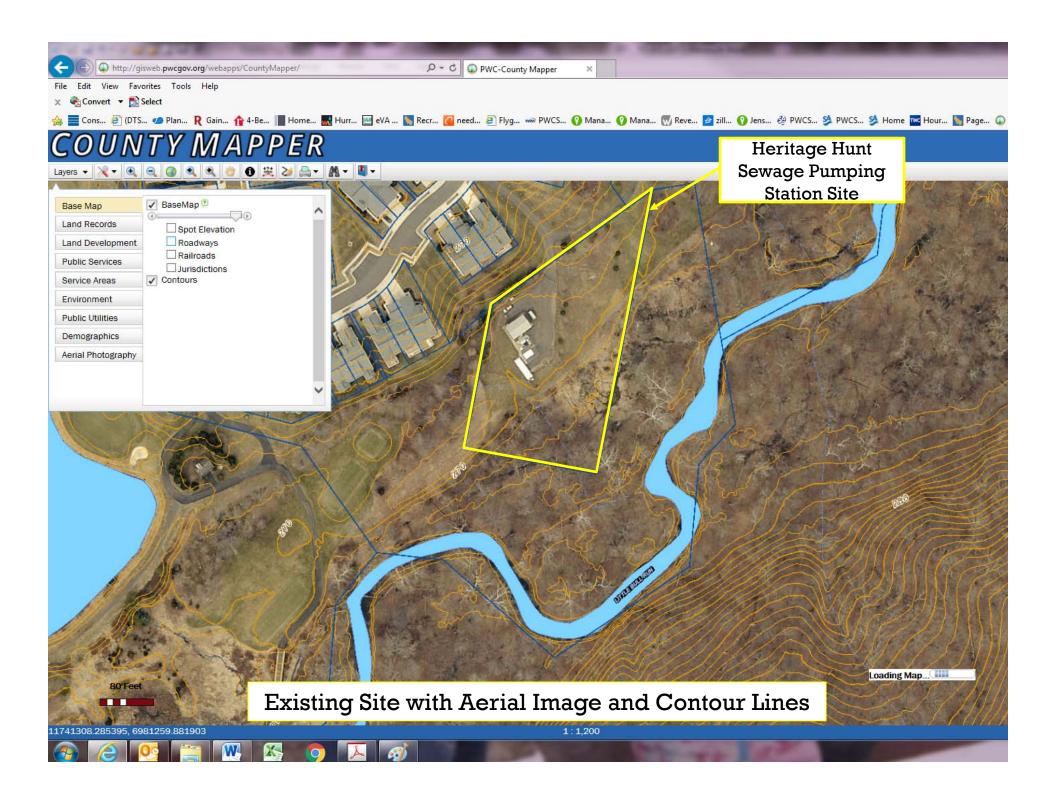
- Peak capacity designed for up to 8.0 MGD.
- New odor control system is included.
- Odor control system blowers are enclosed.
- Backup power generator is located inside the building.
- Brick screening wall to hide the odor control equipment and to provide additional sound attenuation is included.
- To the extent possible, fuel and other deliveries are scheduled to be offloaded at the back of the station.
- Building architecture does match the Community.
- Landscaping plans (draft) have been prepared.

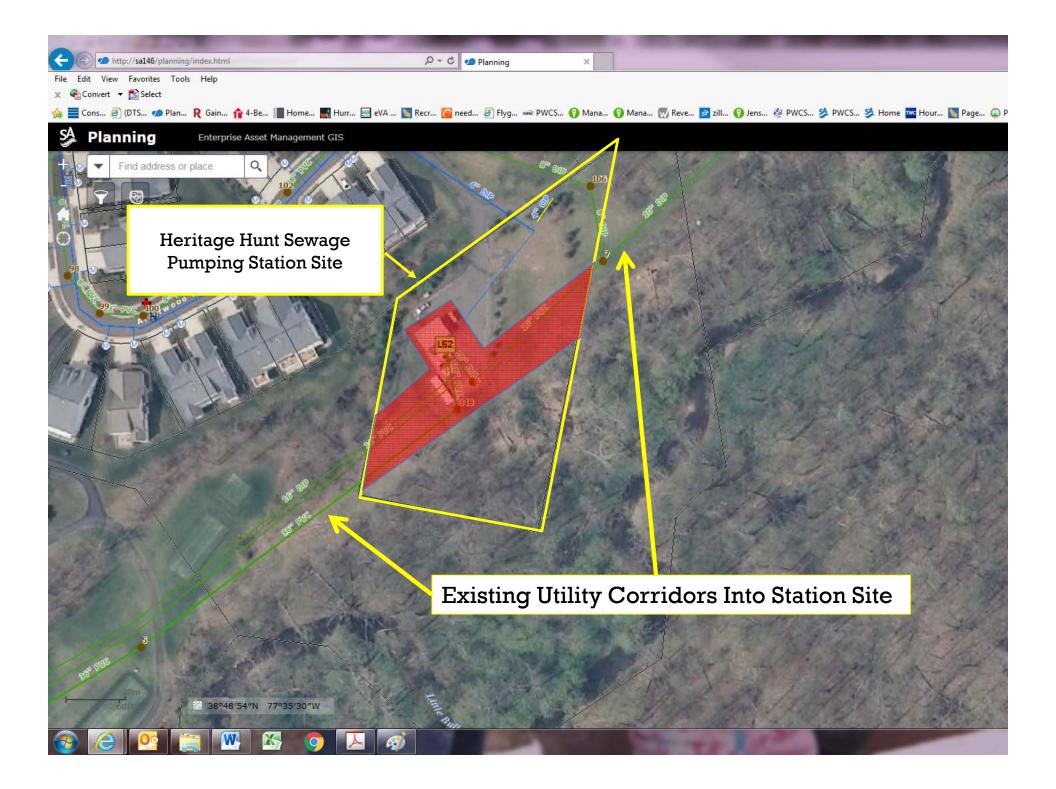


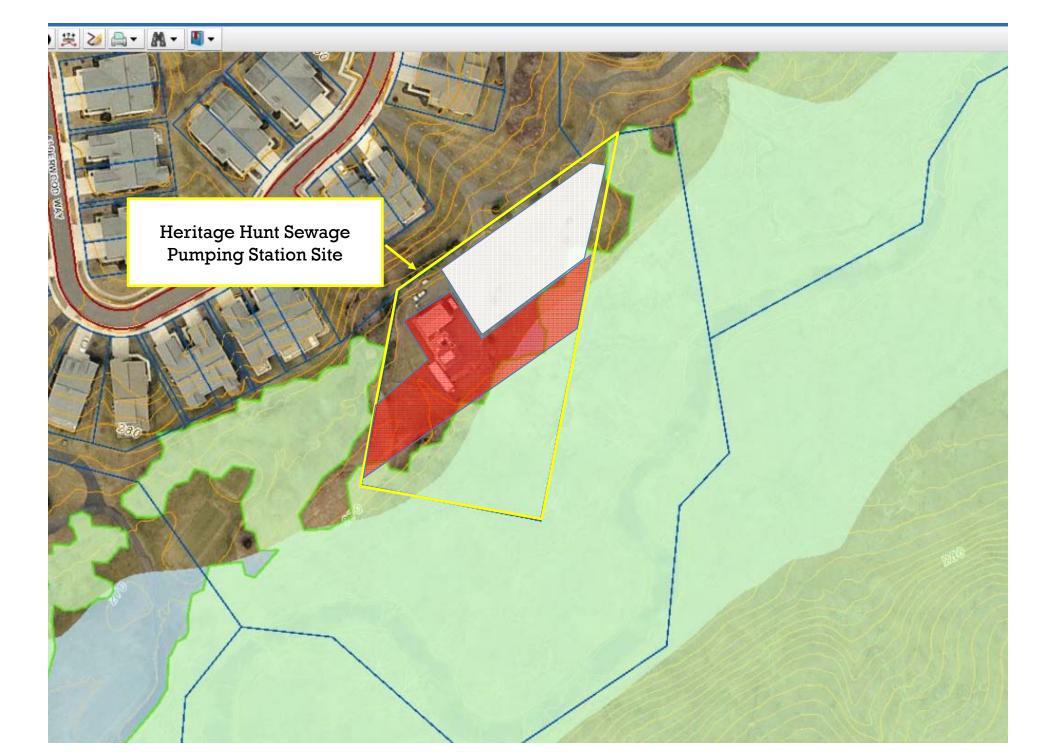


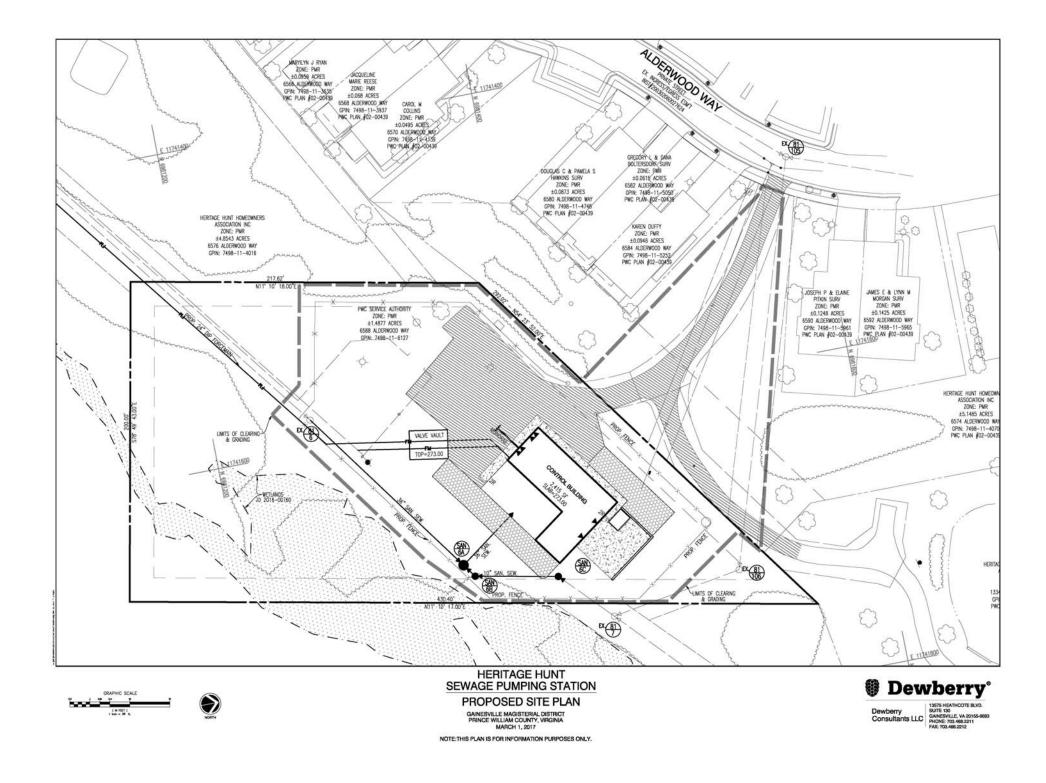




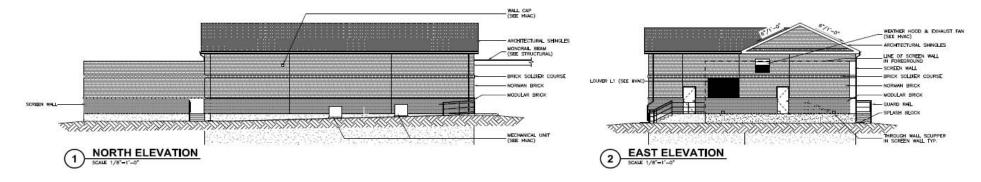


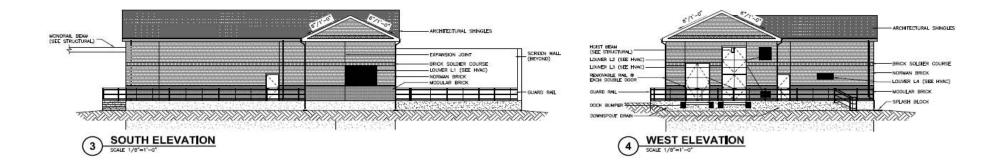






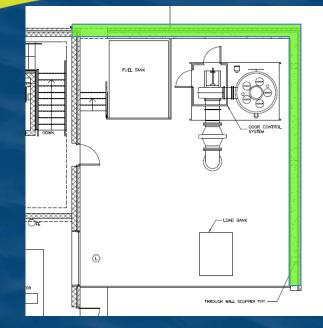






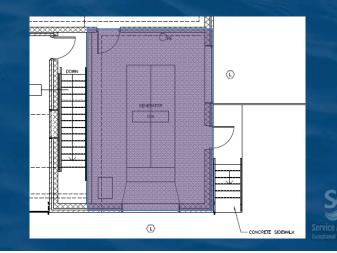


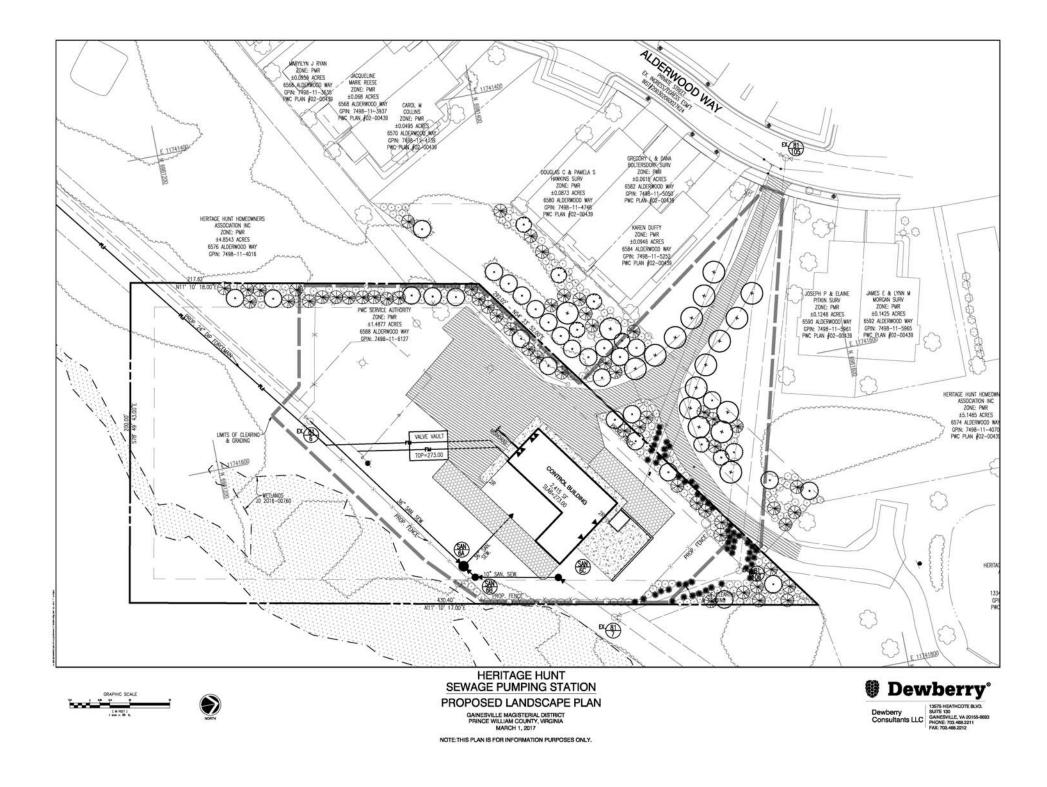
Noise & Odor Reduction Features



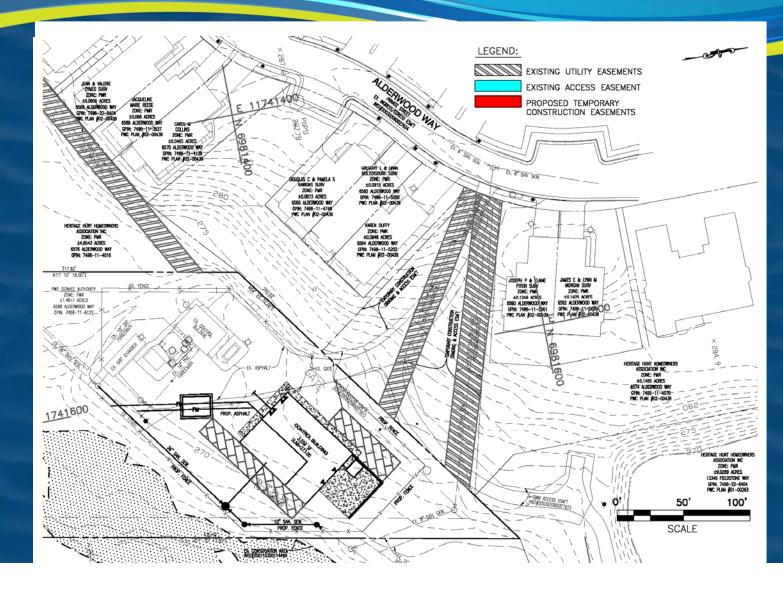
- Odor Control will have sufficient capacity to handle the entire facility.
- Behind screening Wall.
- Blowers will be enclosed.

- Generator and channel grinder motors are inside the building.
- Generator room will have noise control features.



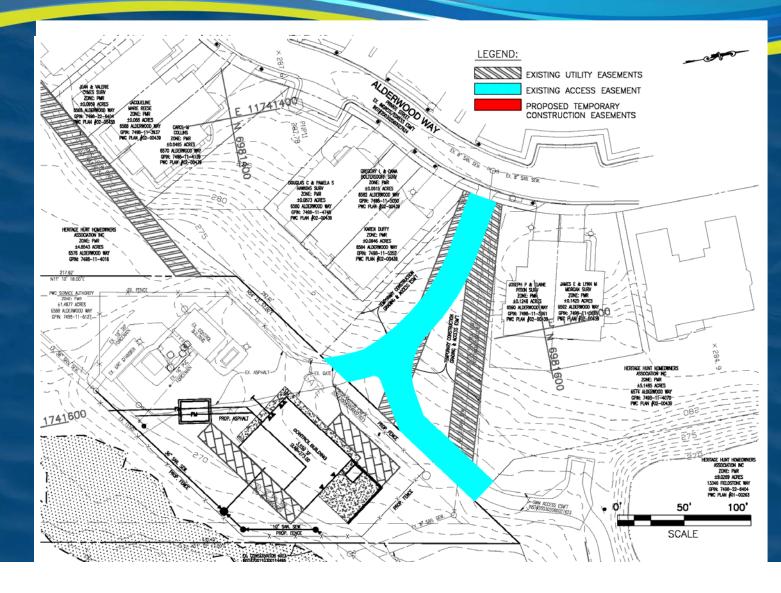


Proposed Temporary Easement for Efficient Access to Site

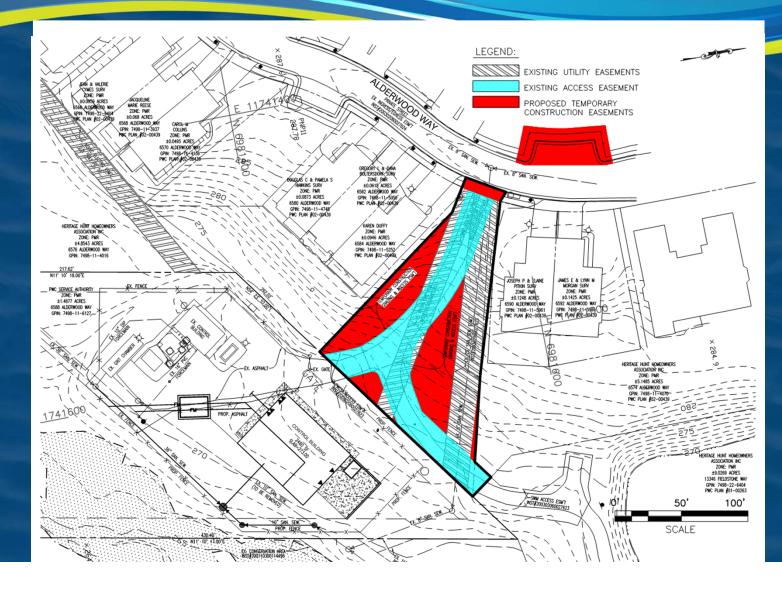


Service Authority

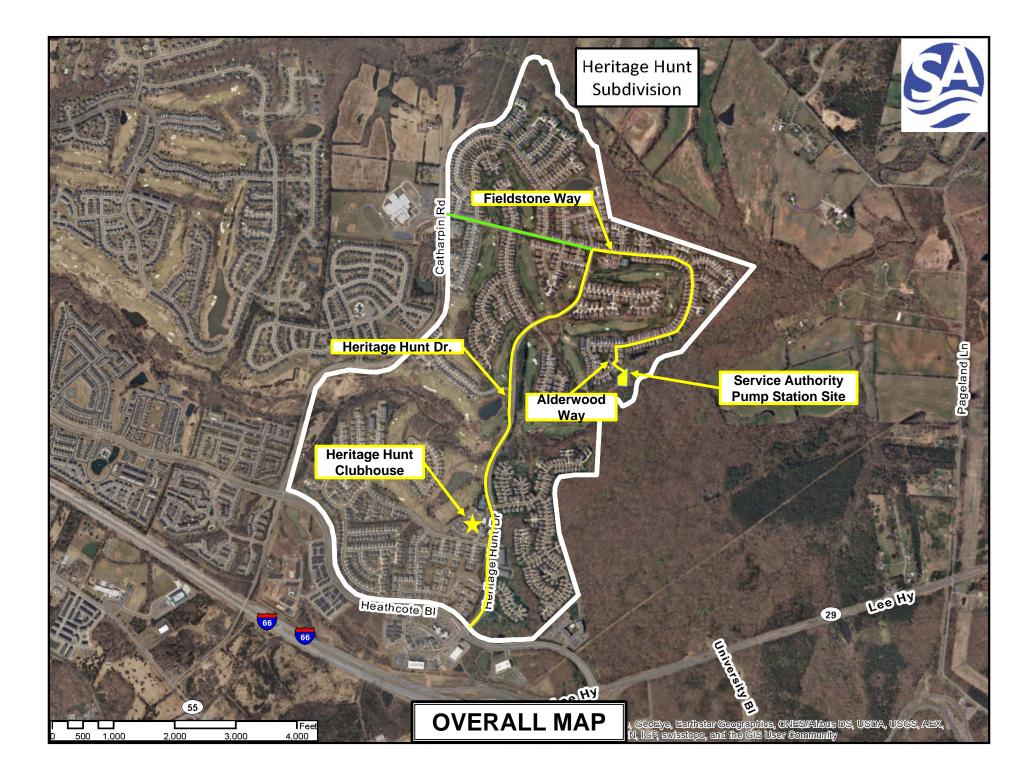
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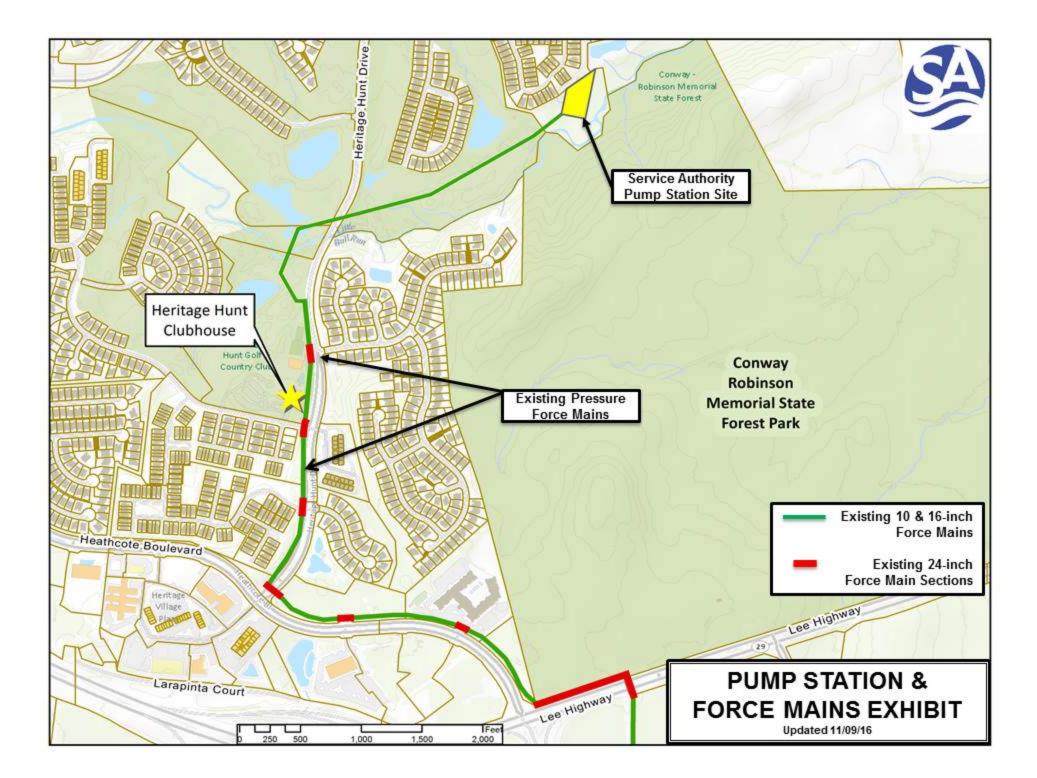


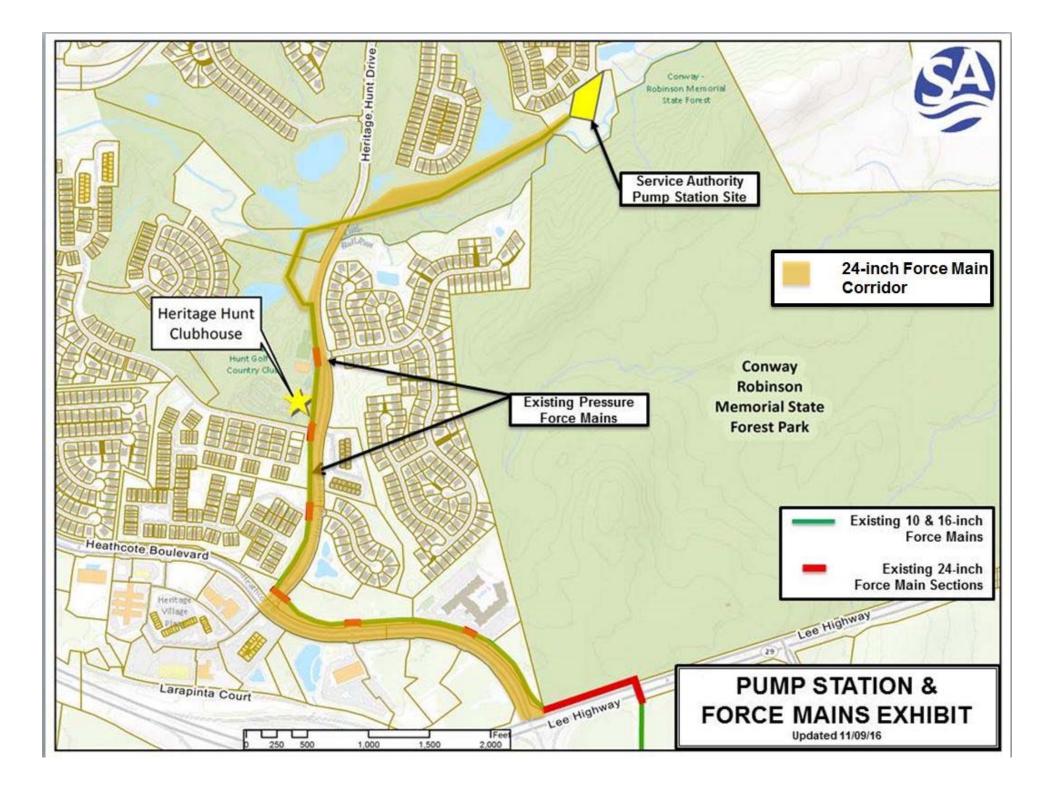
Proposed Temporary Easement for Efficient Access to Site



Service Authority







Key Issues - Force Mains

- The Service Authority's commitment to restore damaged property, caused by construction activities, to original or better condition is firm and unchanged.
- The SA plans to minimize the daily work zone areas to reduce travel times and disruption to the Community.
- Minimizing the time the Golf Course may be impacted.













Anticipated Project Duration

Design and Permitting Timeframe:

- January 2015 April 2018
- Future Steps Easement Negotiations With The HOA.
 - On-going
- Public Facility Review Process
 - Approved on February 1, 2017
- Anticipated Sewage Pump Station and Force Main Construction Duration:
 - 24 Months



Resolution Approach

Assess sources of noise

- Blower fans on OCU (set to operate from 10 am 3 pm daily).
- Channel grinder motors (operate 24/7).
- Emergency generator (set to exercise 1 hr. per week on Tuesdays).
- Wet well cleaning via Vactor Truck (every 6 months for 4-6 hours).
- Assess source of odors
 - Installed monitors to measure hydrogen sulfide (H2S) levels at 5 locations, including in the backyard of a nearby customer.



Measures Implemented To Date

Noise

- Reduced generator exercise frequency to monthly.
- Rebuilt sound enclosure on OCU.
- Installed sound mitigation wall around OCU and channel grinder motors.

Odor

- Increased odor inhibiting chemical feed upstream.
- Resealed all exterior lids and hatches.
- Installed seals on manholes near the station.
- Installed duct to push exhaust air from OCU away from homes.



Results to Date

Noise

- Noise levels were reduced with sound mitigation fencing, but customers still reported dissatisfaction
- Will evaluate effectiveness of sound mitigation wall which was installed last week

Odor

Minimal to non-detect levels of H2S



Next Steps

 The primary focus continues to be to address the noise concerns, which then should give us more options/flexibility to address the odor concerns.

- Evaluate effectiveness of recently installed sound mitigation wall
- Will continue to investigate moving channel grinder motors inside the building; initial investigation indicated that there are safety issues that may make this infeasible
- Investigate custom enclosure for OCU
- Investigate custom enclosure for channel grinder motors reference checks on this option were not encouraging
- Bolster the process for feedback from adjoining customers – Marlo to solicit feedback bi-weekly



Contacts

Kathy Bentz Community Relations and Outreach Manager Phone: 703.335.8944 Email: heritagehunt@pwcsa.org

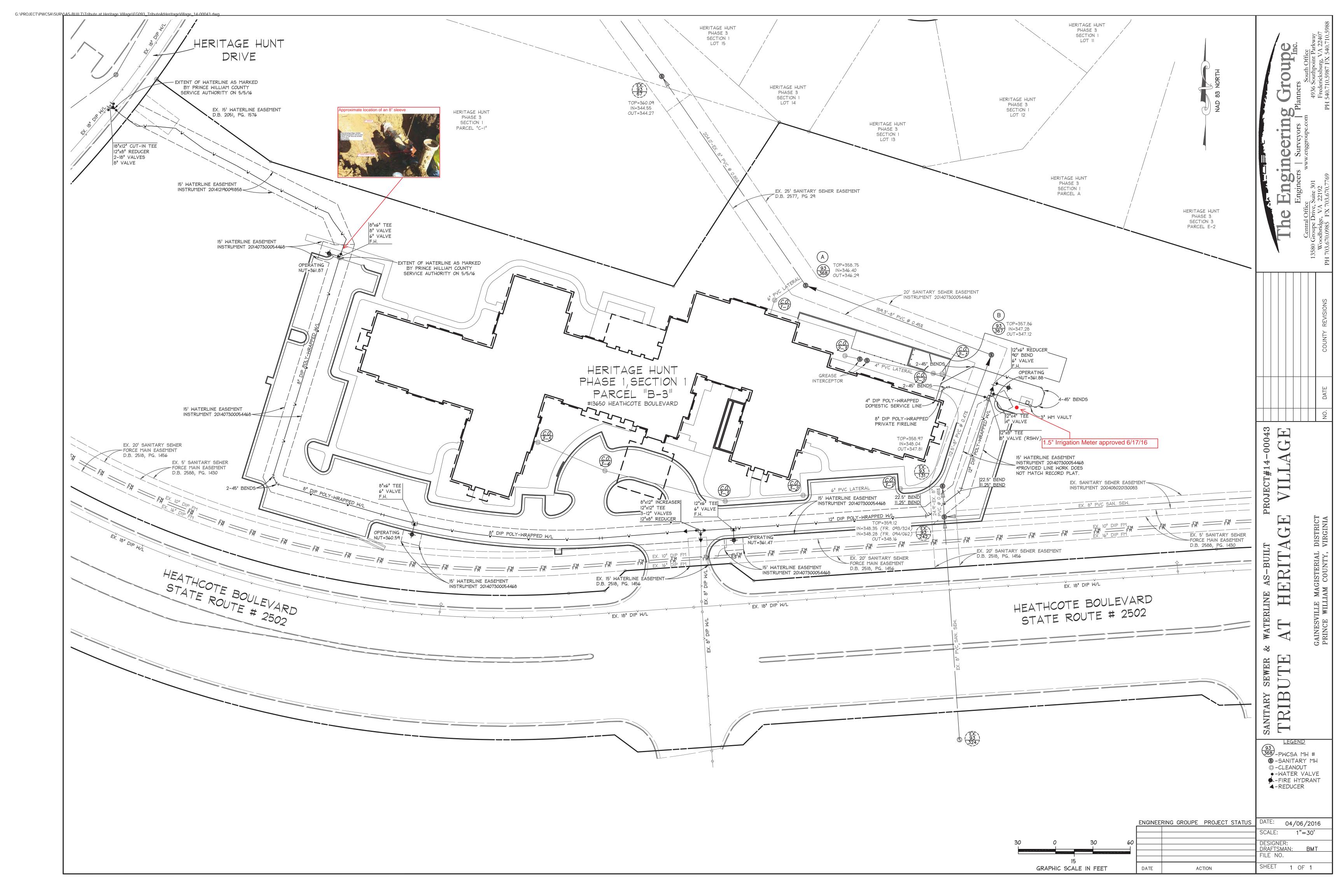
Project Website: https://www.pwcsa.org/heritage-hunt-project



Q & A

Any Questions?

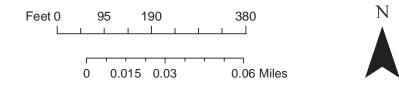








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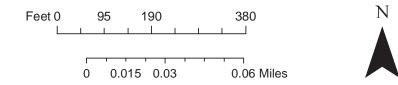
April 14, 2017

The Prince William County Service Authority (PWCSA) will be held harmless for any direct or indirect claim based on this data. The PWCSA is not responsible for assumptions, calculations, designs or construction activities making use of or derived from this data.



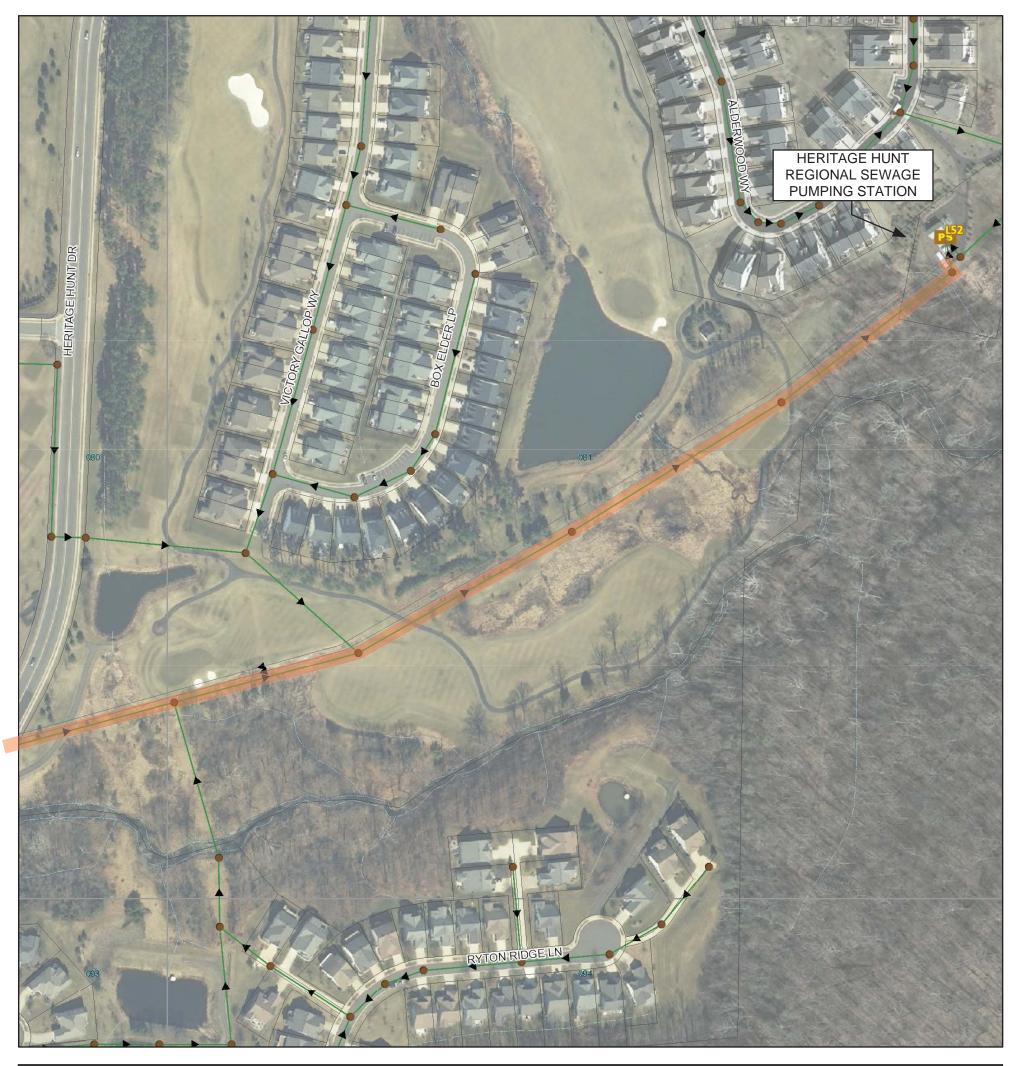


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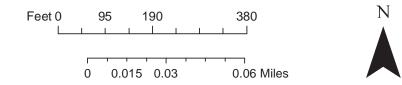
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Lege	Legend													
	WATER									Flow Direction sewer				
	General Water Fitting		Other Water Valves		Gate	+	Hydrant	Other Jurisdiction	F	General Sewer Fitting		Manhole	Other Jurisdiction	
O	Water Bend		Air Release	类	Pressure Release Valve		Water Meter	PWCSA	-	Sewer Plug	\bowtie	Sewer Valve	PWCSA	
Ð	Water Cross	۲	Ball		Valve Enclosure	PS	Water Pump Station	Unknown Ownership	M	Sewer Reducer	۲	Grinder Pump	Unknown Ownership	
-	Water Plug	*	Blowoff		Wheel Valve	\otimes	Water Tank	Privately Owned	٢	Flush Station		Grease Trap	Privately Owned	
•	Water Reducer	۲	Butterfly	\bigcirc	Hydrant Valve		Water Well	Under Beneficial Use	۰	Clean Out		Pump Station	Under Beneficial Use	
A .	Water Tee Connection		Check		Valve Normally Open		Water Meter Vault	Project Permitted	ø	Meter Station	0	Septic Tank	Project Permitted	
0	Water Wet Tap	\oplus	Control		Valve Normally Closed			Water Line Abandoned	= Sewer Route			- Tribute	Sewer Line - Abandoned	
		Ø	Fitting		Valve Partially Open								Sewer Line "Abandoneu	

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Heritage Hunt Force Main – Subsurface Exploration

Informational Meeting August 9, 2017

SA Project Manager:

Debbie J. Maxwell, P.E., CCM **Program Mgmt. Consultant:** Rummel, Klepper & Kahl, Inc. **Design Engineer:**

Dewberry Consultants LLC

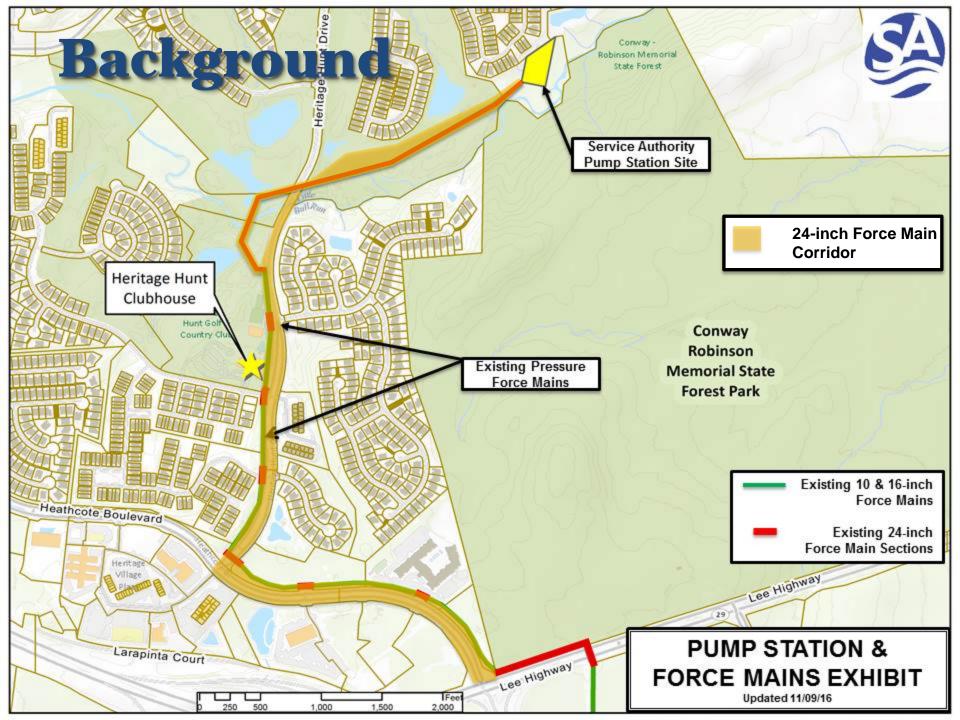


Service Authority Exceptional Water Service

Agenda

- Background
- Purpose of Project
- Scope of Work
- Community Impact
- Schedule
- Q&A





Purpose of the Project

Assist in determination of a preferred alignment of the FM.



Survey

 Dewberry surveyors will survey the existing easement and mark the area.

Utility Locating Service

- Accumark will perform locations of underground utilities in the area.
- Seismic Refraction
 - ECS will perform seismic refraction of the alignments shown to determine subsurface geology.



Pump Station

Heritage H_{unt}

Charismatic Way



Heritage Hunt Dr.

Heritage Hunt Country Club







Scope of Work - Survey

- Dewberry surveyors will be on site to locate and mark the alignments.
- Areas with more turns will require more markings.
- Marking methods
 - Flag (For grassy areas)
 - Stake (For grassy areas)
 - Paint (For grassy areas or pavement)
 - Nails (For grassy areas or pavement)
- Community Preference



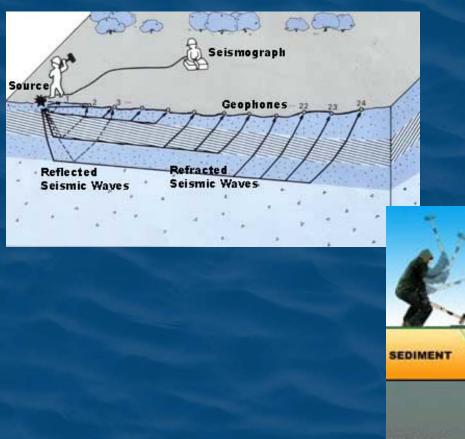
Scope of Work - Seismic Refraction

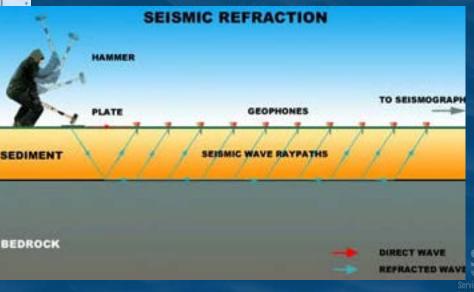
• Seismic refraction is the study of subsurface geology using minimally invasive technology.

- Geophones are installed in a line to gather data.
- Will create noise
 - Sledgehammer striking metal plate
 - Demonstration after meeting
- Golf course coordination
- Weather dependent



Scope of Work - Seismic Refraction





Community Impact

Golf Course
Roadways
Walking Trails
Noise & Visual Impacts



Anticipated Task Duration

Field Work Timeframe:

 Start - August 14, 2017
 Duration – Approximately 4-5 weeks

 Preliminary Findings - November 2017
 Alignment Selection – end of 2017



Contacts

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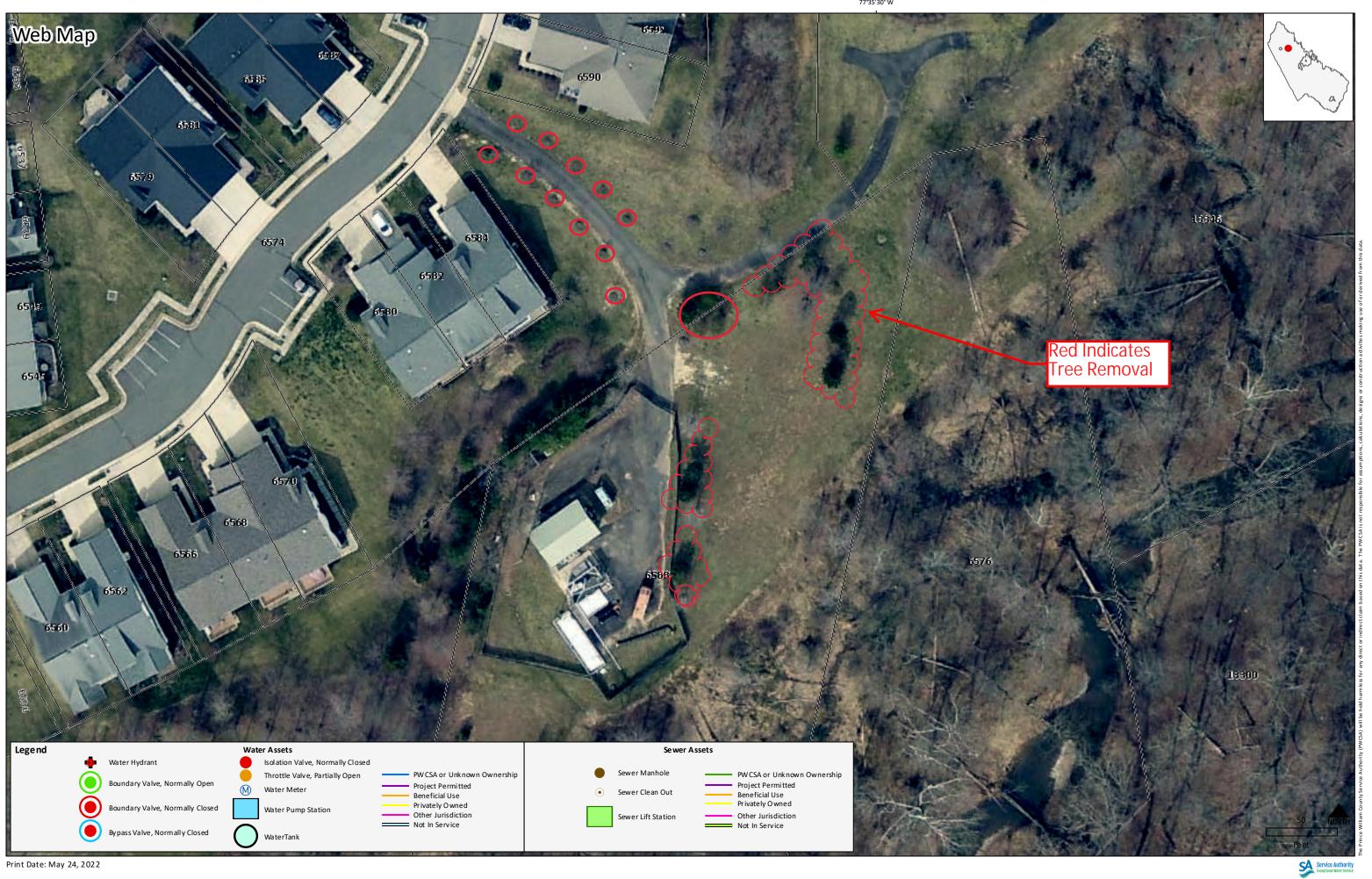
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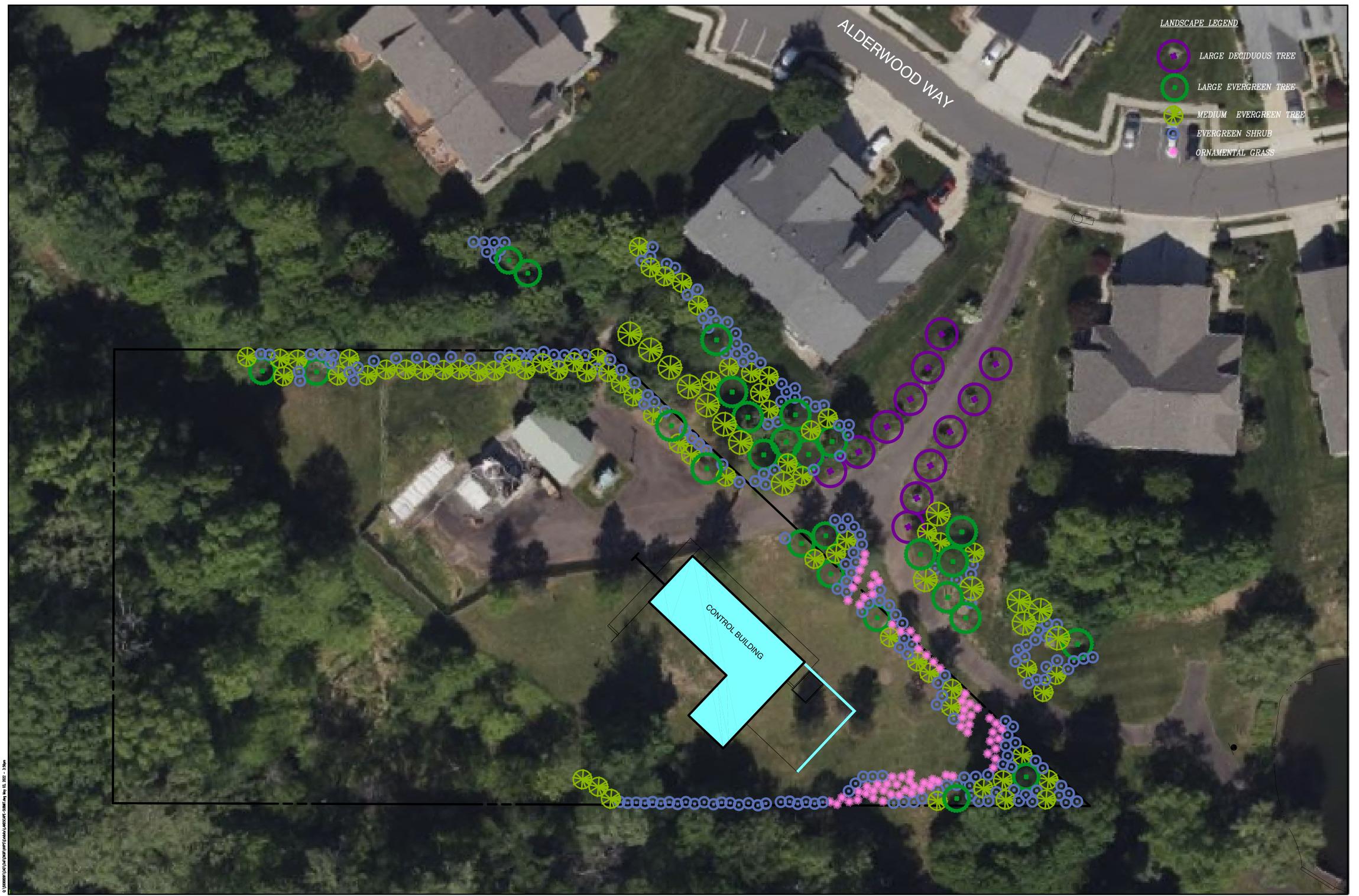




Any Questions?







GRAPHIC SCALE





GAINESVILLE MAGISTERIAL DISTRICT PRINCE WILLIAM COUNTY, VIRGINIA MAY 3, 2022

NOTE: THIS PLAN IS FOR INFORMATION PURPOSES ONLY.



Dewberry Engineers Inc.

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