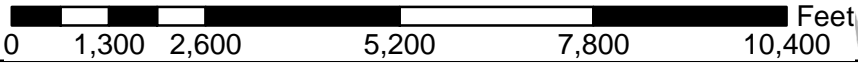


**Marumsco Creek and Farm Creek
Watershed
Stormwater Management Facility
Inspections**



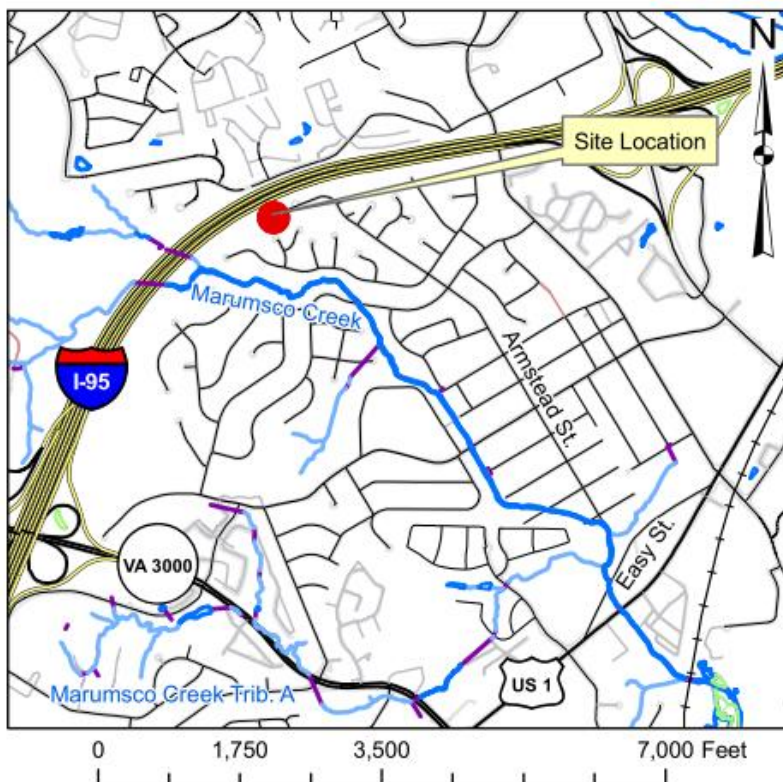
Stormwater Management Facility Inspection

Facility ID: 51
Subshed: 905

Location: Access path off of cul-de-sac at the northern end of Armstead St.

Land Owner:

PWC Board of County Supervisors
13170 Armstead St.
GPIN: 8392-48-4134



Inspection Findings:

FACILITY VICINITY MAP

Facility

Type: Dry Pond, Pond ties into groundwater
Facility Notes:

- Maintenance access path is too narrow for trucks and it does not extend to the gate.
- The pond provides quantity control only.
- All other attributes of the facility were determined to be in good condition.

Pretreatment Facility

Type: No pretreatment facility

Outlet

Outlet structure consists of a single reinforced concrete pipe and headwall. No riser / no low flow orifice.
Outlet Notes: Pipe outfall was not found nor inspected.

Inspection Summary:

The pond is a shallow stormwater management pond providing quantity control benefits only. Maintenance access for county vehicles/equipment is problematic due to narrow access path. The vegetation inside the facility was recently mowed. The outlet structure is a culvert inlet with headwall. The outfall from the BMP was not found.

Stormwater Retrofit Opportunities:

Water Quality Retrofit

The project concept for retrofit of this site involves conversion of the BMP from a quantity control structure to a quantity and quality control structure by installing a riser structure. The conversion of pond to water quality BMP will reduce the amount of pollutants transported from the I-95 corridor and the residential area into the receiving waters downstream of the BMP.

Micro pool Creation Retrofit

Micro pool creation involves the formation of wetland marshes in the BMP to enhance the effectiveness of the storm water management by adding additional water quality treatment. Micro pools will also reduce the amount of sediment directly flowing into the riser thereby preventing the low flow orifice from blockage due to excessive sediments.

Project Benefits

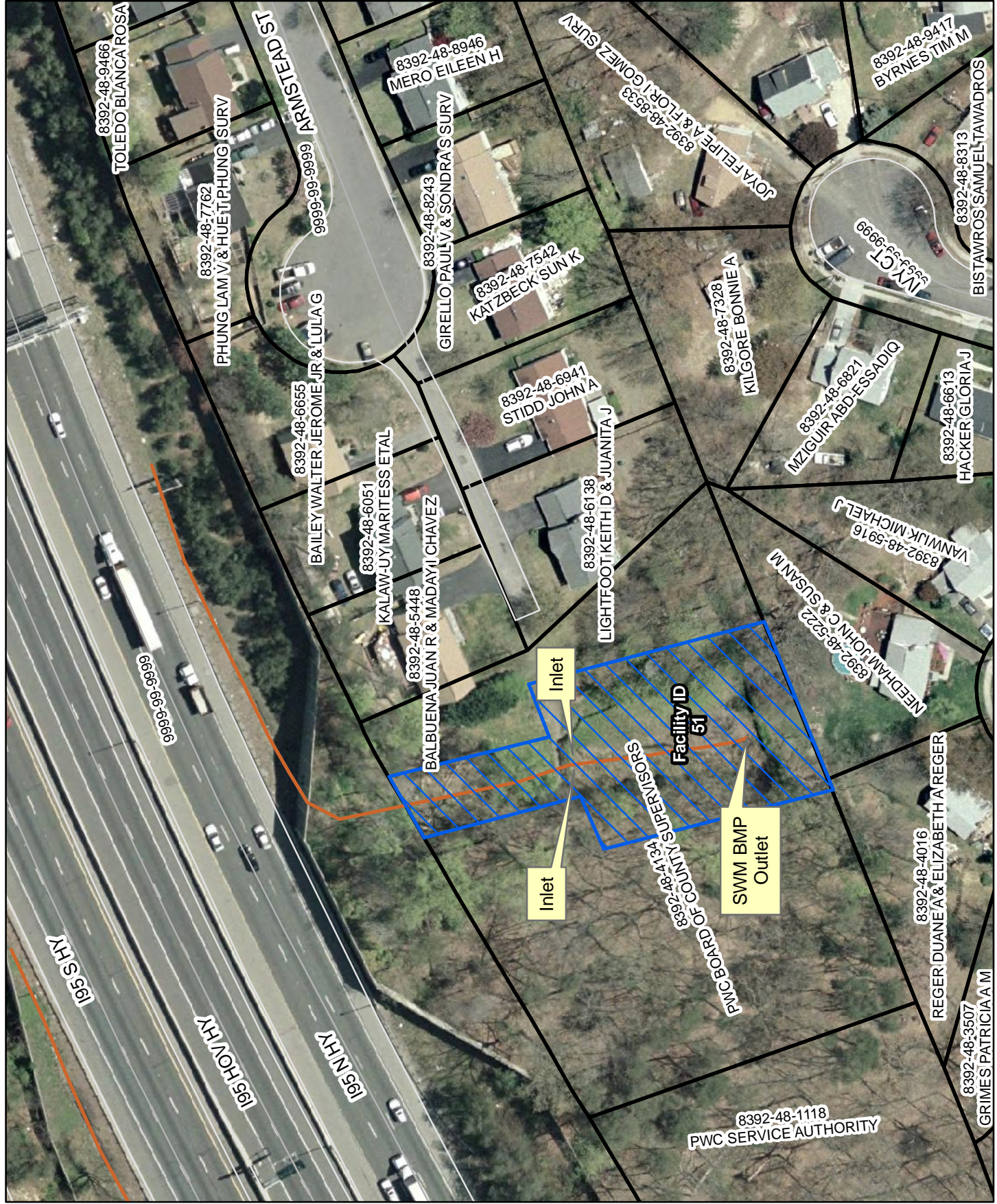
Water Quality – conversion of the current BMP to an extended detention BMP with micro pools will reduce the current pollutant and sediment loadings being transported downstream of the BMP. The tributary area of the BMP likely supplies nitrogen, phosphorus and TSS loadings to the receiving waters that is higher than would naturally occur. Effective water quality treatment within the BMP can help to significantly lower the pollutant loadings transported through the BMP to the receiving waters downstream.

FAC-51



- Legend**
- Parcels
 - Storm Water Management BMP
 - Wetlands
 - Subsheds
 - Stream
 - Culvert
 - Ditch
 - Erosion
 - Impacted Buffer
 - Channel Modification
 - Coastal Zone
 - SD Outfall

Marumsko Creek and Farm Creek Watershed Storm Water Management Facility Summary



1 inch equals 80 feet

Feet
0510203040

Stormwater Management Facility Inspection

Retrofit Costs:

Design Cost: \$40,000

Construction Cost: \$150,000

Total Cost: \$190,000

Access Gate



Overview of SWM facility from north



Outlet structure at the southern end of the SWM facility



Stormwater Management Facility Inspection

Facility ID: 89

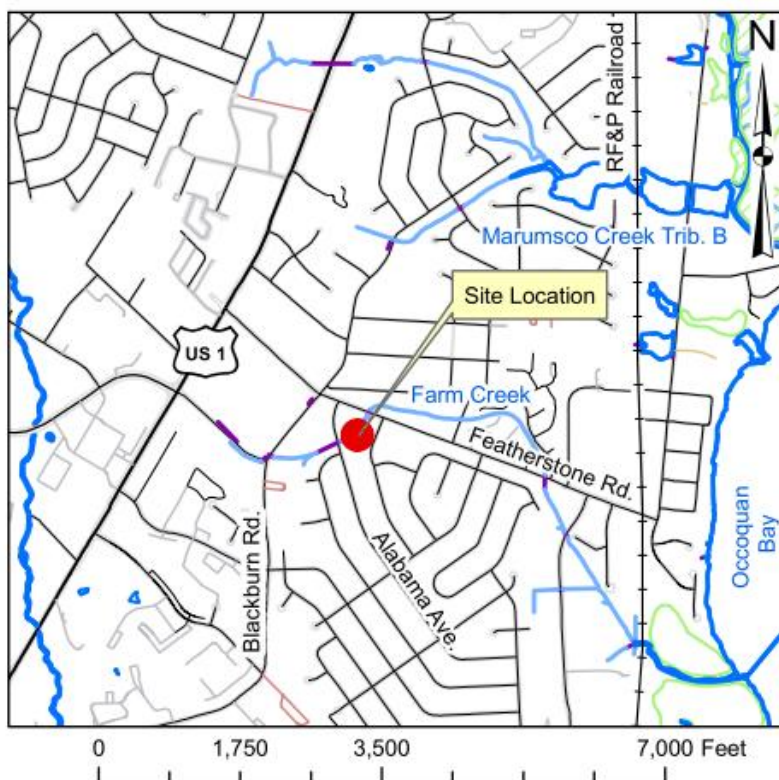
Subshed: 10

Location: Along Farm Creek between Alabama Ave and Arizona Ave. Access path is located along property at 14744 Arizona Ave.

Land Owner:

Beriwala, Firoz & Nasrin
14744 Arizona Ave.
GPIN: 8391-65-1376

Ahluwalia, Gurdeep & Manjit
14741 Arizona Ave.
GPIN: 8391-65-1685



Inspection Findings:

FACILITY VICINITY MAP

Facility

Type: Dry Pond, Pond ties into groundwater

Facility Notes:

Maintenance access path is overgrown.

All other attributes of the facility were determined to be in good condition.

Pretreatment Facility

Type: No pretreatment facility

Outlet

Outlet structure consists of a riser structure with a low flow orifice, trash racks, and a high flow bypass.

Pipe outfall was determined to be in good condition

Inspection Summary:

The pond serves an older low density residential area. The pond has an abundance of invasive vegetation. Maintenance access for county vehicles/equipment is slightly problematic due to an overgrown access path. Primary issue with the SWM facility appears to be trash accumulation near the riser. The riser has trash racks installed.

Stormwater Retrofit Opportunities:

Water Quality Retrofit

The project concept for retrofit of this site involves converting the BMP from a quantity control structure to an extended detention quality control structure by retrofitting the low flow orifice on the riser. The water quality BMP will reduce the amount of pollutants transported from the residential area into the receiving waters downstream of the BMP.

Micro pool Creation Retrofit

Micro pool creation involves the formation of wetland marshes in the BMP to enhance the effectiveness of the storm water quality treatment. Micro pools will also reduce the amount of sediment directly flowing into the riser thereby preventing the low flow orifice from blockage due to excessive sedimentation.

Maintenance Opportunities:

Removal of woody vegetation

Maintenance opportunities include removal of woody vegetation and invasive species inside the pond, on the embankment and along the access path.

Project Benefits

Water Quality – conversion of the current BMP to an extended detention BMP with micro pools will reduce the current pollutant and sediment loadings being transported downstream of the BMP. The tributary area of the BMP likely supplies nitrogen, phosphorus and TSS loadings to the receiving waters that is higher than would naturally occur. Effective water quality treatment within the BMP can help to significantly lower the pollutant loadings transported through the BMP to the receiving waters downstream.

Retrofit Costs:

Design Cost: \$40,000

Construction Cost: \$100,000

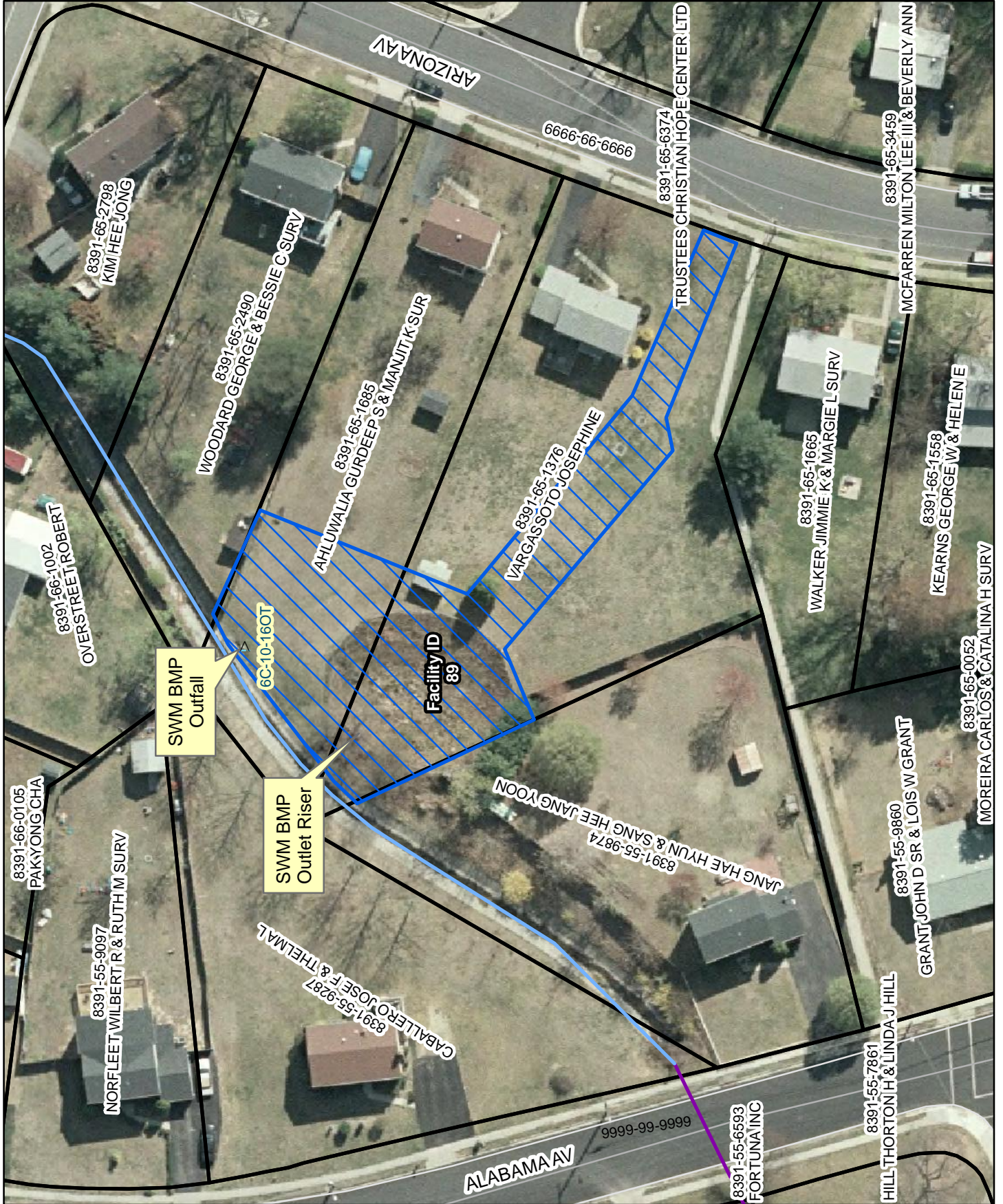
Total Cost: \$140,000



Legend

- Parcels
- Storm Water Management BMP
- Wetlands
- Subsheds
- Stream
- Culvert
- Ditch
- Erosion
- Impacted Buffer
- Channel Modification
- Coastal Zone
- SD Outfall

Marumsc Creek and Farm Creek Watershed Storm Water Management Facility Summary



1 inch equals 60 feet



Overview of BMP outlet riser structure



**SWM facility overview from access gate.
Woody vegetation inside SWM facility.**



SWM BMP Outfall



Stormwater Management Facility Inspection

Facility ID: 154

Subshed: 910

Location: Facility is located at the end of Wigglesworth Way in the Dawson's Ridge subdivision.

Land Owner:

Dawson's Ridge Homeowners Association
1871 Wigglesworth Way
GPIN: 8392-51-4217



FACILITY VICINITY MAP

Inspection Findings:

Facility

Type: Dry Pond, Wetlands, Extended detention, Pond ties into groundwater, pond has wetland plantings

Facility Notes:

There is a lot of woody vegetation inside and outside the SWM facility.
All other attributes of the facility were determined to be in good condition.

Pretreatment Facility

Type: No pretreatment facility

Outlet

Outlet structure consists of a riser structure with a low flow orifice and a high flow bypass. The low flow orifice appears to be fitted for extended detention through use of a synthetic geotextile covering over the orifice.

Outlet Notes: Pipe outfall was determined to be in good condition

Stormwater Retrofit Opportunities:

None

Maintenance Opportunities:

Removal of woody vegetation and invasive species

Maintenance opportunities involve removal of woody vegetation and invasive species inside the pond and on the embankment

Retrofit Costs:

Design Cost: No design fee

Construction Cost: \$5,000

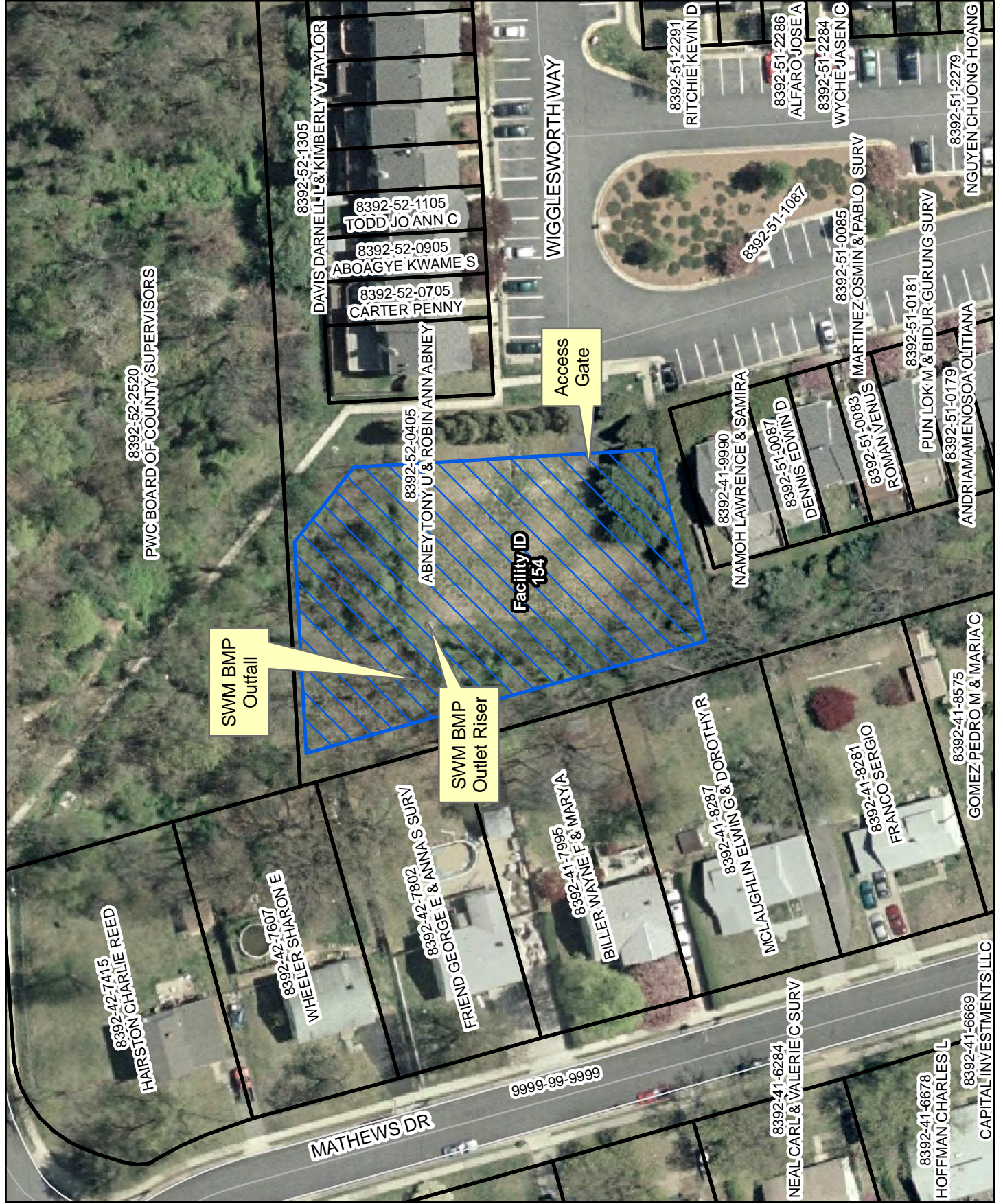
Total Cost: \$5,000

FAC-154



- Legend**
- Parcels
 - Storm Water Management BMP
 - Wetlands
 - Subsheds
 - Stream
 - Culvert
 - Ditch
 - Erosion
 - Impacted Buffer
 - Channel Modification
 - Coastal Zone
 - SD Outfall

Marumsko Creek and Farm Creek Watershed Storm Water Management Facility Summary



1 inch equals 60 feet



Overview of SWM facility from access gate



Overview of the outlet riser



SWM BMP Outfall



Stormwater Management Facility Inspection

Facility ID: 157

Subshed: 910

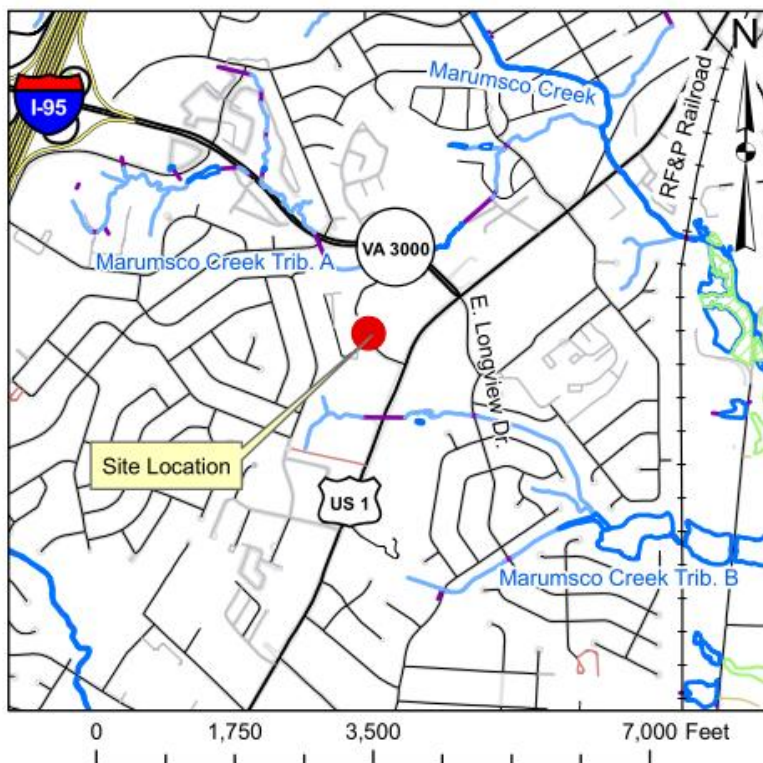
Location: Facility is located off of the cul-de-sac on Wigglesworth Way at the entrance to the Dawson's Ridge subdivision.

Land Owner:

Dawson's Ridge Homeowners Association

1871 Wigglesworth Way

GPIN: 8392-51-4217



FACILITY VICINITY MAP

Inspection Findings:

Facility

Type: Dry Pond, Extended detention, Pond ties into groundwater, Pond with some wetland plantings.

Facility Notes:

There is significant growth of woody vegetation on the embankment outside the fence.

All other attributes of the facility were determined to be in good condition.

Pretreatment Facility

Type: No pretreatment facility

Outlet

Outlet structure consists of a riser structure with a low flow orifice and a high flow bypass. The low flow orifice appears to be fitted for extended detention through use of a synthetic geotextile covering over the orifice.

Outlet Notes: Pipe outfall was determined to be in good condition

Inspection Summary:

The access gate to the SWM facility has been damaged.

Stormwater Retrofit Opportunities:

Wetland Creation

There is evidence of wetland plantings inside the SWM pond. Removal of surrounding invasive vegetation and enhancement of native wetland plantings are proposed as a low cost method for water quality retrofit.

Maintenance Opportunities:

Removal of woody vegetation and invasive species

Maintenance opportunities involve removal of woody vegetation and invasive species on the embankment.

Project Benefits

Wetland Creation

The retrofit of this SWM BMP will provide water quality, quantity and wetland benefits. Creation of wetland inside the SWM facility will reduce the current pollutant and sediment loading downstream of the BMP.

Retrofit Costs:

Design Cost: \$10,000

Construction Cost: \$60,000

Total Cost: \$70,000

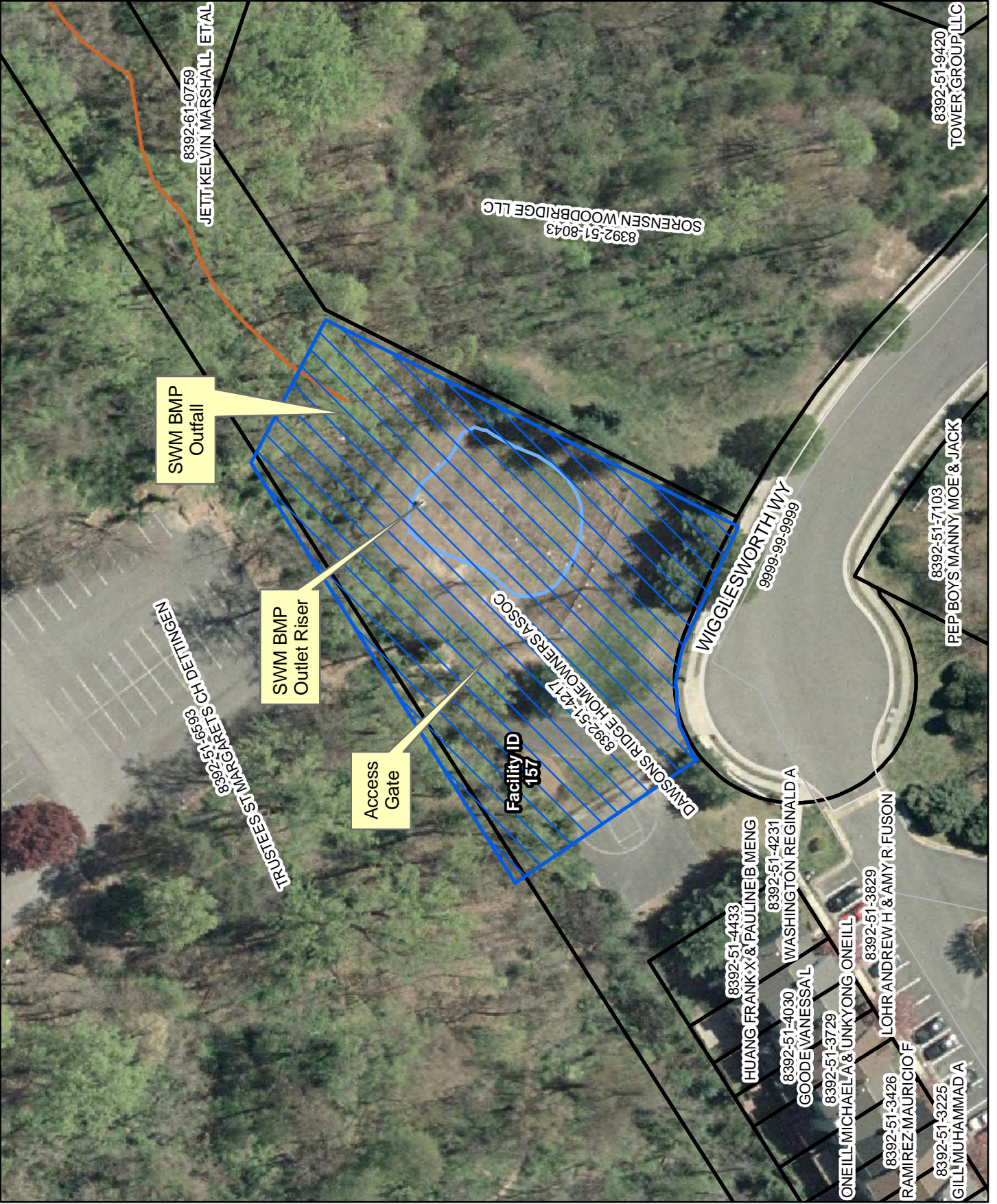
FAC-157



Legend

- Parcels
- Storm Water Management BMP
- Wetlands
- Subsheds
- Stream
- Culvert
- Ditch
- Erosion
- Impacted Buffer
- Channel Modification
- Coastal Zone
- SD Outfall

Marumsko Creek and Farm Creek Watershed Storm Water Management Facility Summary



1 inch equals 60 feet



Overview of the outlet riser



Overview of pond from outlet riser



SWM BMP Outfall



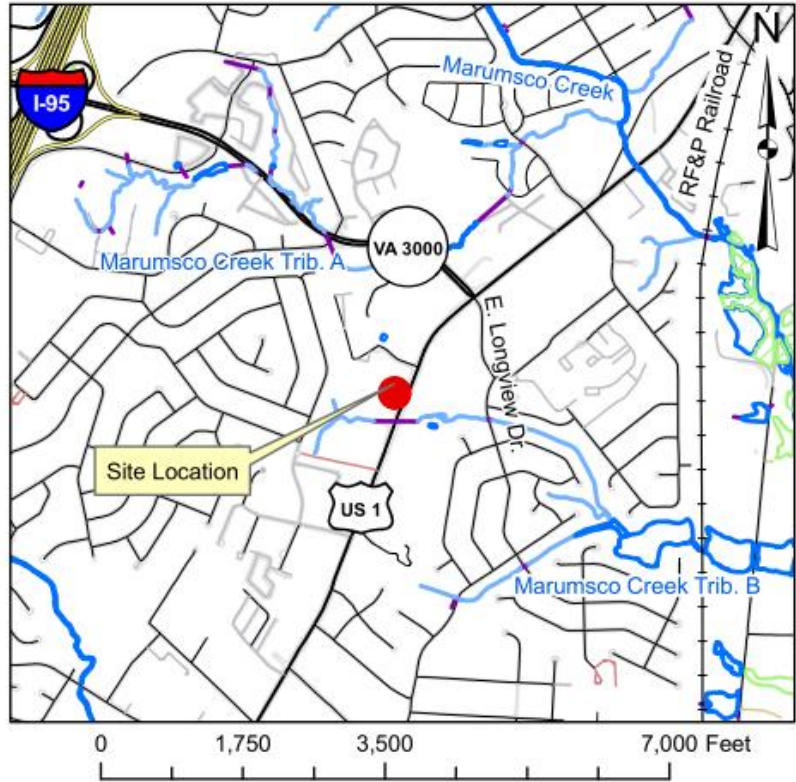
Stormwater Management Facility Inspection

Facility ID: 317
Subshed: 915

Location: The facility is located along the southbound side of Jefferson Davis Highway in front of 14132 Jefferson Davis Highway.

Land Owner:

AVA LLC
14132 Jefferson Davis Hwy
GPIN: 8392-50-5683



FACILITY VICINITY MAP

Inspection Findings:

Facility

Type: Dry Pond, Extended detention

Facility Notes:

All attributes of the facility were determined to be in good condition.

Pretreatment Facility

Type: No pretreatment facility

Outlet

Outlet structure consists of a riser structure with a low flow orifice, trash racks, and a high flow bypass. The low flow orifice has been retrofitted for extended detention using gabion baskets.

Outlet Notes: Pipe outfall could not be inspected. Outfall from the SWM facility drops into a culvert underneath Route 1.

Inspection Summary:

The pond is already retrofitted for extended detention using gabion basket riser structure.

Stormwater Retrofit Opportunities:

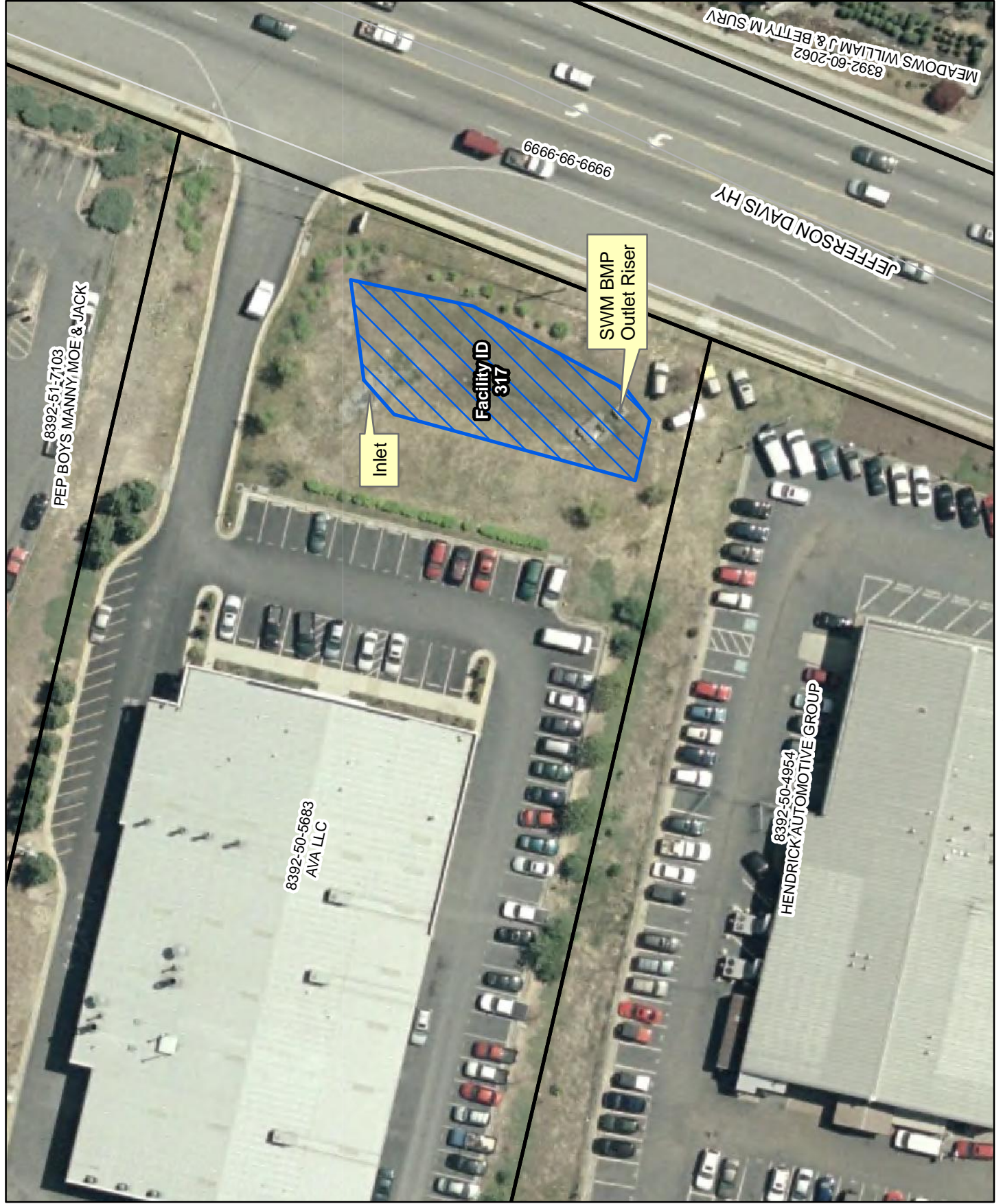
None

FAC-317



- Legend**
- Parcels
 - Storm Water Management BMP
 - Wetlands
 - Subsheds
 - Stream
 - Culvert
 - Ditch
 - Erosion
 - Impacted Buffer
 - Channel Modification
 - Coastal Zone
 - SD Outfall

Marumsko Creek and Farm Creek Watershed Storm Water Management Facility Summary



1 inch equals 50 feet



Overview of primary riser and low flow orifice structure from the driveway.



Gabion retrofit structure to low flow orifice



Overview of SWM facility from the primary riser



Stormwater Management Facility Inspection

Facility ID: 411

Subshed: 10

Location: Along Farm Creek Drive between 15060 Farm Creek Drive and 15020 Farm Creek Drive.

Land Owner:

Tridex Associates Inc
15060 Farm Creek Dr.
GPIN: 8391-82-5162

Inspection Findings:

Facility

Type: Dry Pond, Pond ties into groundwater

Facility Notes:

The access gate has a private lock.

All other attributes of the facility were determined to be in good condition.

Pretreatment Facility

Type: No Pretreatment facility

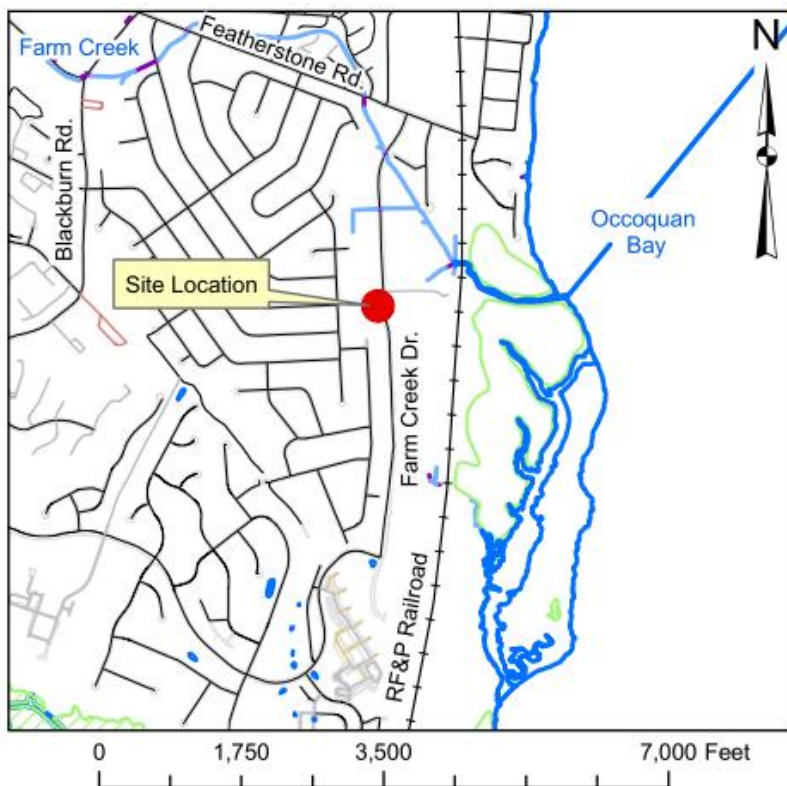
Outlet

Outlet structure consists of a riser structure with a low flow orifice and a high flow bypass. Inspection was unable to determine if the low flow orifice was fitted for extended detention or if the low flow structures were protected by trash racks.

Outlet Notes: Pipe outfall was determined to be in good condition

Inspection Summary:

The facility could not be accessed inside the fence line as there is a private lock on the access gate. A dumpster is placed next to the embankment. A general inspection was performed from outside the fence line. The pond appears to be a dry pond that has shallow ponding of water across the middle of the pond due to either groundwater tie in or grading that does not slope to the outfall. The shallow ponding of water in the site may not have been designed as a water quality treatment and may not be providing the maximum water quality benefit possible through use of micro-pools or wetlands.



FACILITY VICINITY MAP

Maintenance Opportunities:

The SWM does not have a county lock.

Stormwater Retrofit Opportunities:

Water Quality Retrofit

The project concept for retrofit of this site involves creating a wetland inside the facility by planting appropriate vegetative species. The wetland plantings will reduce the amount of pollutants transported from the industrial area through the BMP into the receiving waters downstream of the BMP.

Project Benefits

Water Quality – creation of wetland will reduce the current pollutant and sediment loading downstream of the BMP. Discharge of pollutants and sediments from the industrial and commercial area has many adverse impacts on water quality of the stream. Creation of wetlands inside the existing water quality BMP will further reduce the discharge of pollutants to the downstream receiving waters.

Retrofit Costs:

Design Cost: \$10,000

Construction Cost: \$60,000

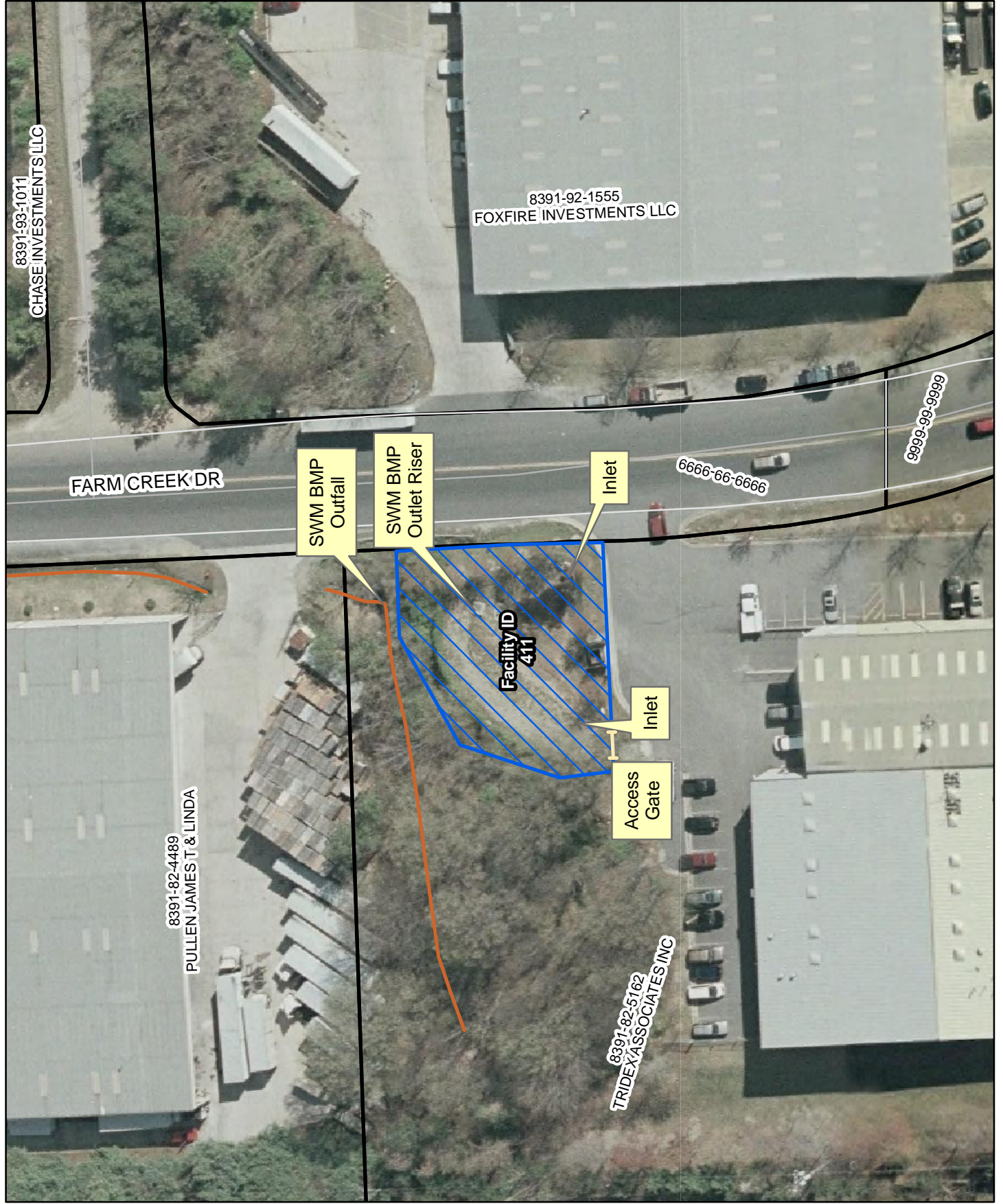
Total Cost: \$70,000

FAC-411



- Legend**
- Parcels
 - Storm Water Management BMP
 - Wetlands
 - Subsheds
 - Stream
 - Culvert
 - Ditch
 - Erosion
 - Impacted Buffer
 - Channel Modification
 - Coastal Zone
 - SD Outfall

Marumsko Creek and Farm Creek Watershed Storm Water Management Facility Summary



1 inch equals 60 feet



Overview of the outlet riser



Overview of SWM Facility



SWM BMP Outfall



Stormwater Management Facility Inspection

Facility ID: 580

Subshed: 20

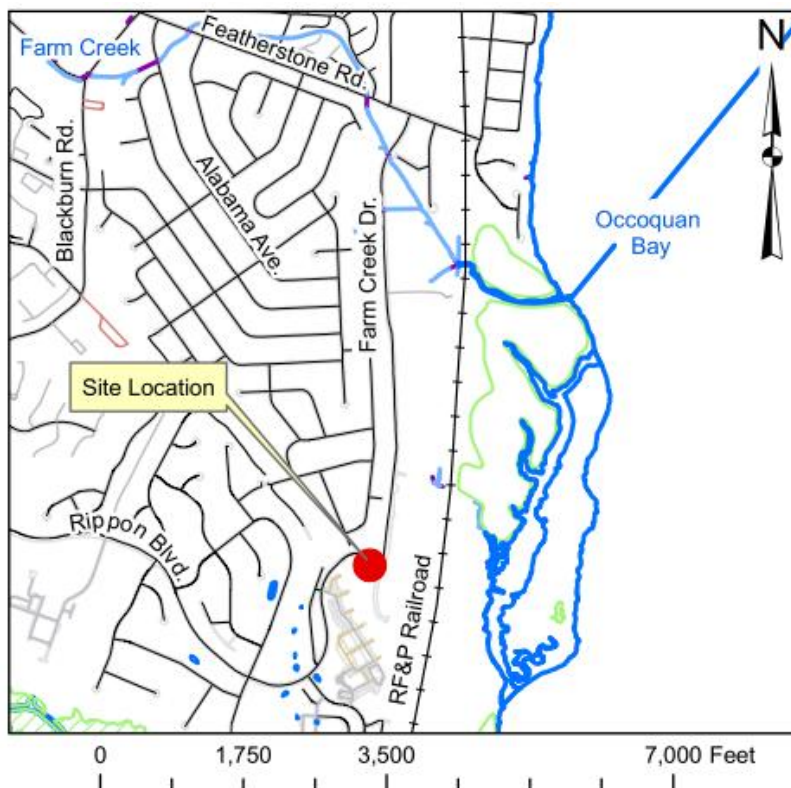
Location: Facility is located at the intersection of Farm Creek Drive and Rippon Boulevard.

Land Owner:

KP Big Crest Lane LLC

15524 Farm Creek Dr.

GPIN: 8390-89-3734



Inspection Findings:

Facility

Type: Wet Pond, Wetlands, Pond with wetland plantings

Facility Notes:

SWM facility embankment is incorporated into the roadway.

All other attributes of the facility were determined to be in good condition.

Pretreatment Facility

Type: No pretreatment facility

Outlet

Outlet structure consists of a riser structure with a low flow orifice, trash racks, and a high flow bypass.

Outlet Notes: Pipe outfall was determined to be in good condition

Inspection Summary:

A riprap channel tributary to the pond has undermining and headcutting occurring. The riprap inlet channel also has fallen trees that can potentially harm the fence during a high storm. The riprap revetment of the inlet channel may have been an attempt to stop erosion, however, undermining and slumping appears to be a continuous problem. SWM facility embankment has minor erosion at locations with sandy soils; however, the erosion is not anticipated to be a significant problem. Minor sediment buildup was

FACILITY VICINITY MAP

Stormwater Management Facility Inspection

observed near the inlet channel. Periodic monitoring of sediment buildup is recommended. Minor trash is also building up in the facility.

Stormwater Retrofit Opportunities:

None

Maintenance Opportunities

Regular Trash maintenance

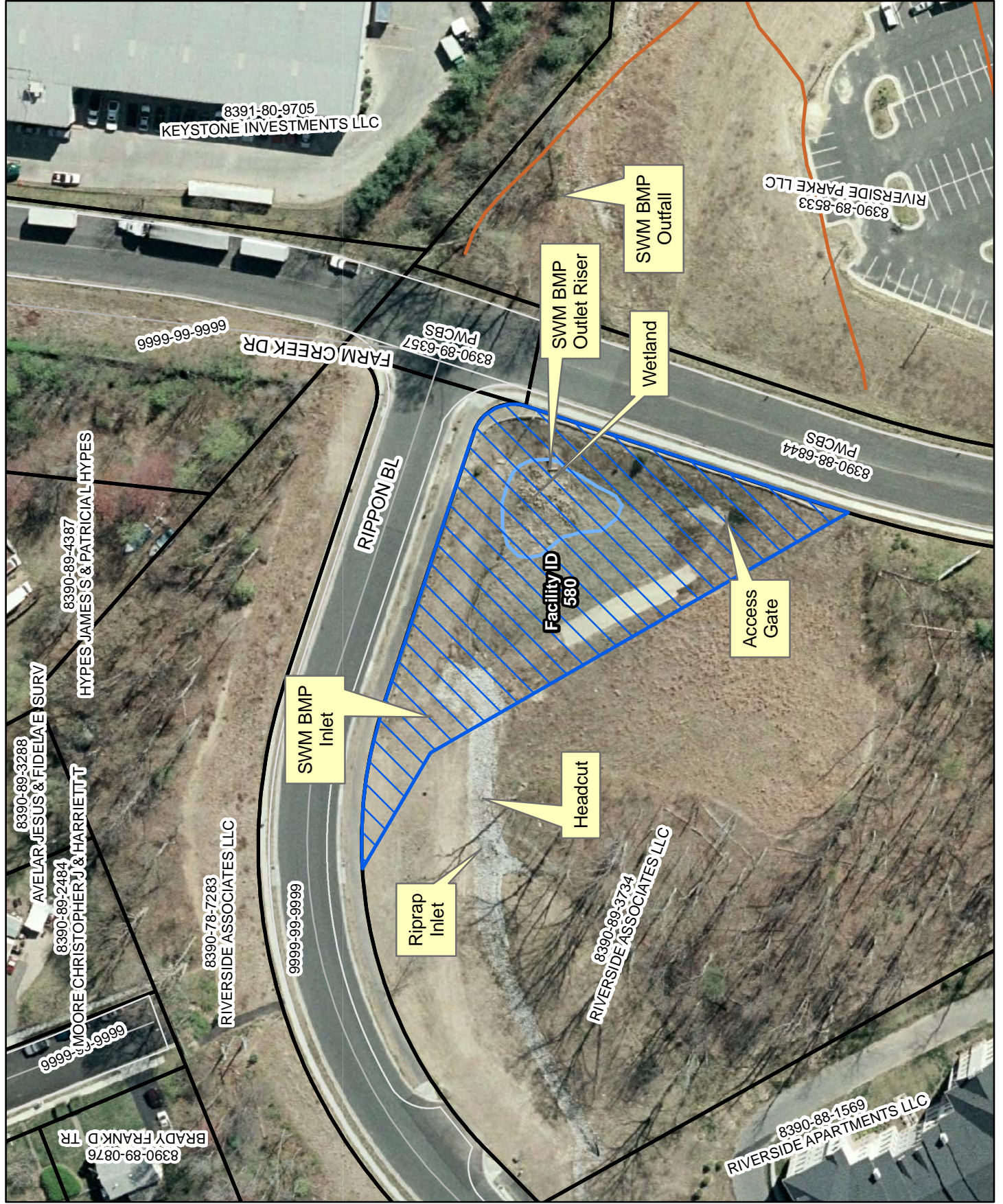
Sediment Removal

FAC-580



- Legend**
- Parcels
 - Storm Water Management BMP
 - Wetlands
 - Subsheds
 - Stream
 - Culvert
 - Ditch
 - Erosion
 - Impacted Buffer
 - Channel Modification
 - Coastal Zone
 - SD Outfall

Marumsko Creek and Farm Creek Watershed Storm Water Management Facility Summary



1 inch equals 80 feet



Wetland inside the SWM facility



Overview of SWM BMP outlet riser



Fine sediment deposition near inlet



Stormwater Management Facility Inspection

Overview of SWM facility from the access gate.



SWM BMP Outfall



Headcut at the riprap channel



Stormwater Management Facility Inspection

Facility ID: 5149

Subshed: 910

Location: Behind commercial property at 1212 Easy Street

Landowners:

Dawson, Vernon D. & Hazel W.

1212 Easy St.

GPIN: 8392-94-3398

Dawson, Vernon D. & Hazel W.

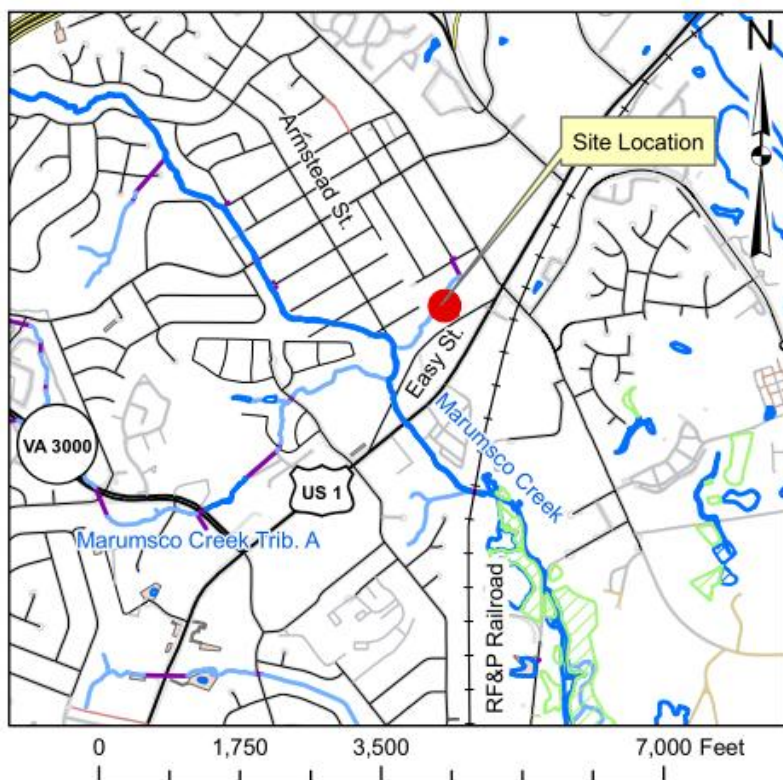
1214 Easy St.

GPIN: 8392-94-2892

Dawson, Vernon D. & Hazel W.

1216 Easy St.

GPIN: 8392-94-2388



FACILITY VICINITY MAP

Inspection Findings:

Facility

Type: Unable to perform inspection as the SWM facility was locked with a private lock.

Facility Notes:

Maintenance Access is poor as the SWM facility is heavily overgrown with woody vegetation and invasive species.

Access gate does not have a county lock.

All other attributes of the facility could not be determined because the facility could not be accessed.

Pretreatment Facility

Type: Unknown

Pretreatment Notes: No access to the SWM facility

Outlet

Outlet Notes: Pipe outfall was inspected and determined to be in good condition

Inspection Summary:

The pond appears to be older with significant amounts of woody vegetation inside the fence line and throughout the pond. Significant amounts of invasive species present.

Maintenance Opportunities:

Removal of woody vegetation and invasive species

Maintenance opportunities at the site involve removal of woody vegetation and invasive species inside the pond and on the embankment along with replanting of appropriate vegetation to supplant the growth of wetland inside the pond to achieve water quality benefits. Given the lack of access and appropriate county locks, the ownership and maintenance responsibility for the pond may need investigation.

Retrofit Costs:

Design Cost: No design fee

Construction Cost: \$5,000

Total Cost: \$5,000

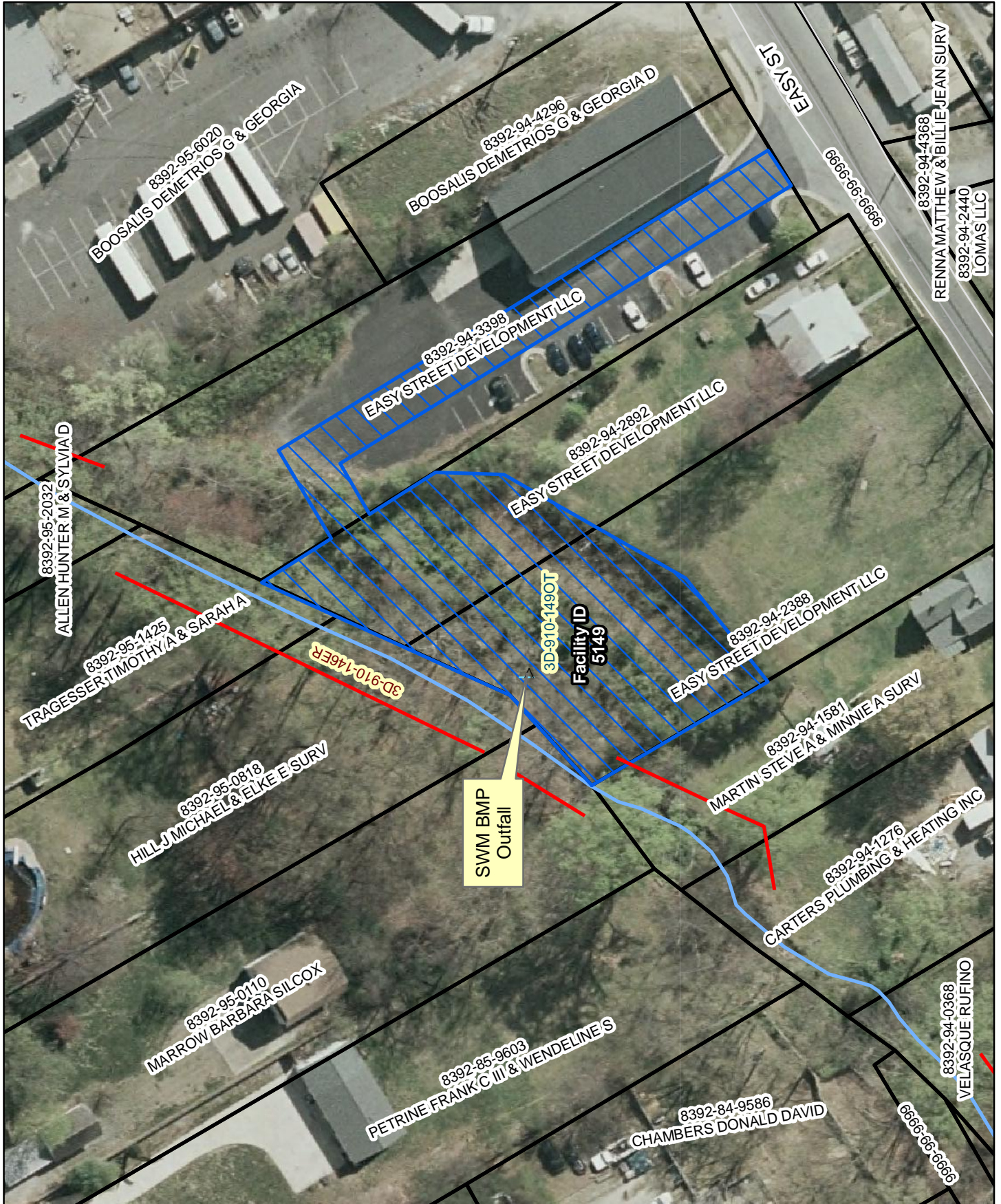
FAC-5149



Legend

- Parcels
- Storm Water Management BMP
- Wetlands
- Subsheds
- Stream
- Culvert
- Ditch
- Erosion
- Impacted Buffer
- Channel Modification
- Coastal Zone
- SD Outfall

Marumsc Creek and Farm Creek Watershed Storm Water Management Facility Summary



Stormwater Management Facility Inspection

Access gate does not have a county lock



Overview of fence line



View of SWM facility from fence line



Stormwater Management Facility Inspection

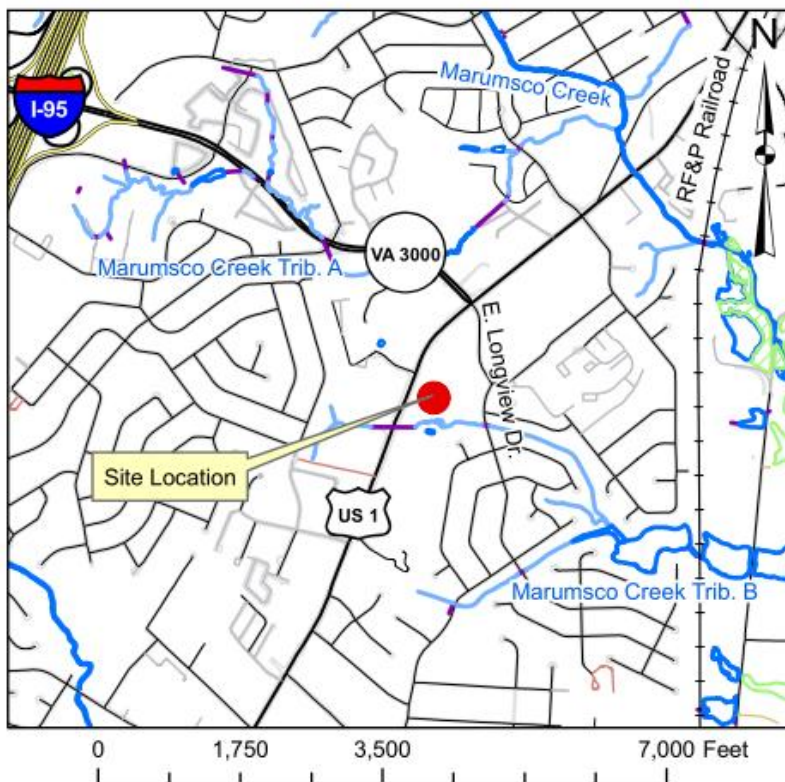
Facility ID: 5165

Subshed: 915

Location: The facility is located along the northbound side of Jefferson Davis Highway between 14131 and 14135 Jefferson Davis Highway.

Land Owner:

Public Storage Euro Partnership
14131 Jefferson Davis Hwy
GPIN: 8392-60-3188



FACILITY VICINITY MAP

Inspection Findings:

Facility

Type: Dry Pond, Pond ties into groundwater

Facility Notes:

- Facility appears to be a dry pond that has ponded water in it. Inspection can not conclusively determine the reason for ponding and the design intent for the facility.
- No access to the SWM facility due to access restrictions from Public Storage facility.
- Riser opening appears to be clogged with debris.
- Some roots in the embankment are exposed.
- There is also evidence of presence of woody and invasive vegetation.
- All other attributes of the facility were determined to be in good condition.

Pretreatment Facility

Type: No pretreatment

Outlet

Outlet structure consists of a riser structure with a high flow bypass. The low flow orifice could not be inspected due to access restrictions and ponded water.

Outlet Notes: Pipe outfall was not found.

Maintenance Opportunities:

Removal of Debris

Debris needs to be removed from around the riser structure periodically to maintain the low flow required to prevent flooding.

Removal of woody vegetation and invasive species

Additional maintenance opportunities involve removal of woody vegetation and invasive species inside the pond and on the embankment.

Retrofit Costs:

Design Cost: No design fee

Construction Cost: \$5,000

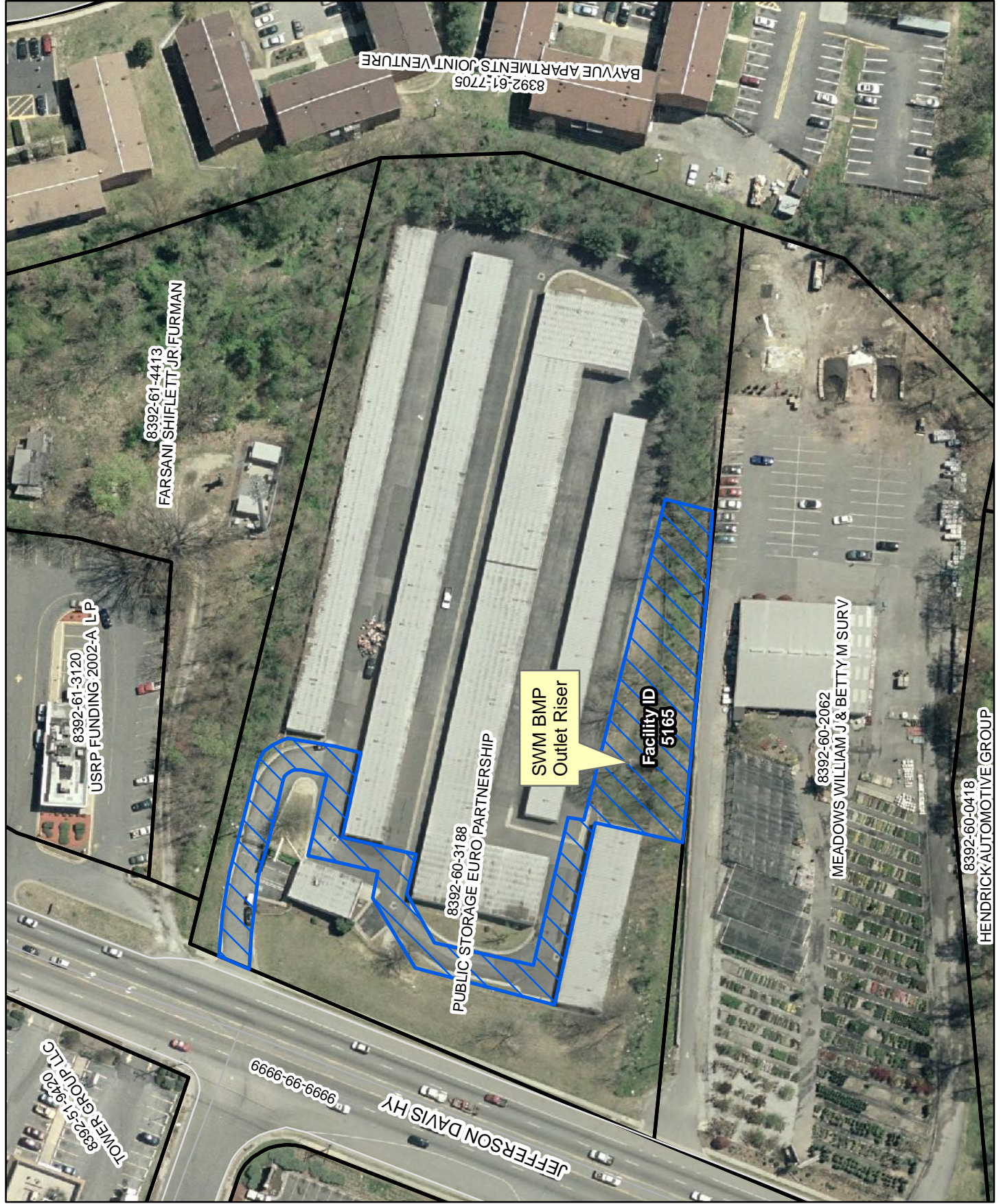
Total Cost: \$5,000

FAC-5165



- Legend**
- Parcels
 - Storm Water Management BMP
 - Wetlands
 - Subsheds
 - Stream
 - Culvert
 - Ditch
 - Erosion
 - Impacted Buffer
 - Channel Modification
 - Coastal Zone
 - SD Outfall

Marumsko Creek and Farm Creek Watershed Storm Water Management Facility Summary



Stormwater Management Facility Inspection

Overview of SWM facility from fence line



Overview of riser structure from fence line



Overview of SWM facility from fence line



Stormwater Management Facility Inspection

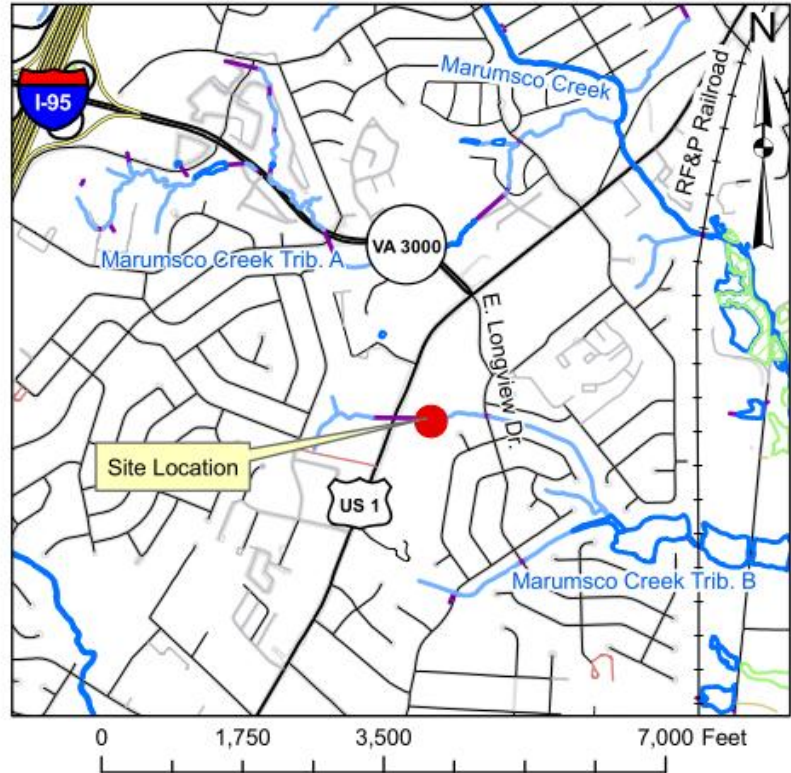
Facility ID: 5197

Subshed: 915

Location: Facility is located along the northbound side of Jefferson Davis Highway between 14201 Jefferson Davis Highway and Tributary number 1 to Tributary B to Marumscro Creek.

Land Owner:

Hendrick Automotive Group
14201 Jefferson Davis Hwy
GPIN: 8392-60-0418



FACILITY VICINITY MAP

Inspection Findings:

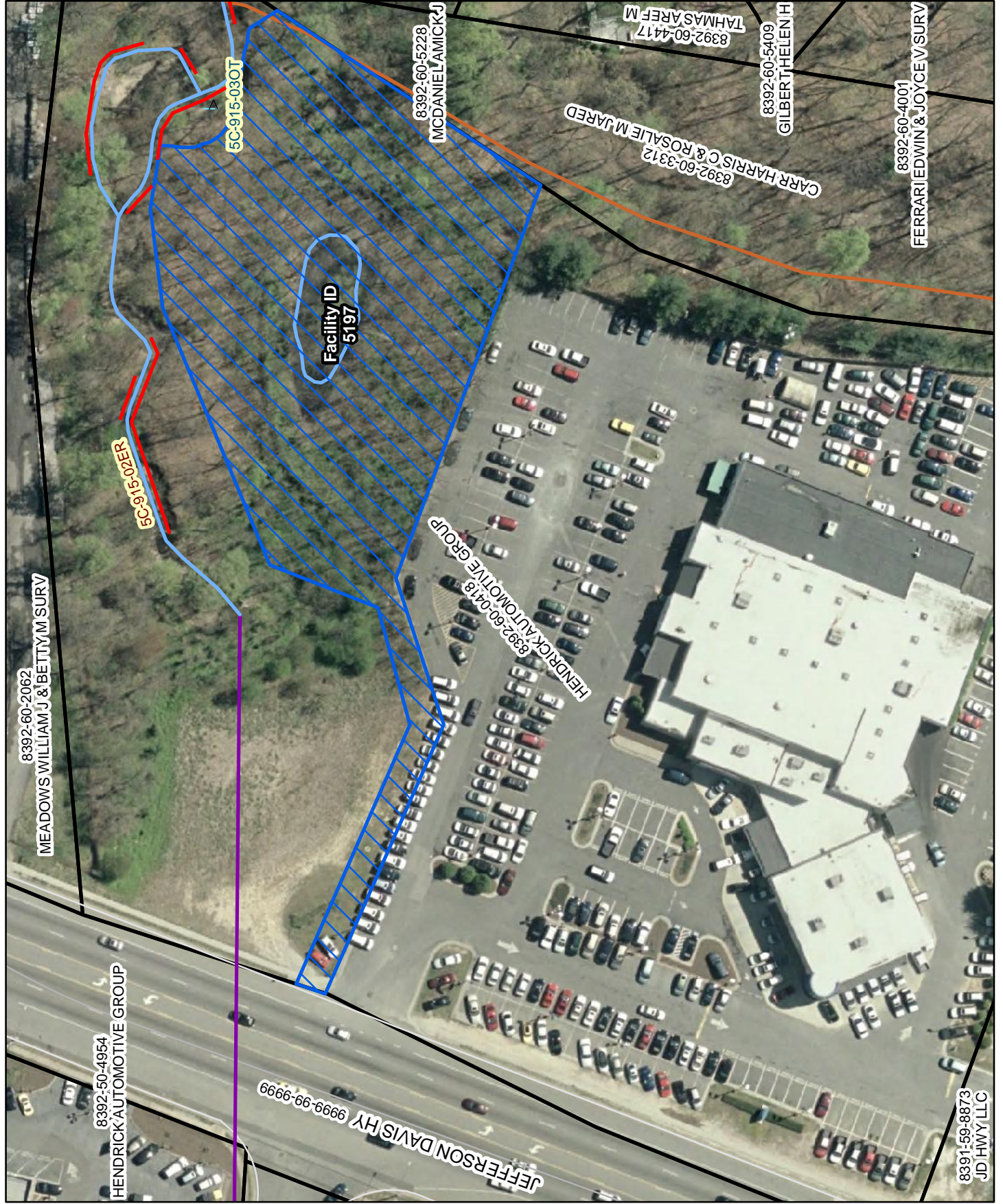
SWM facility could not be accessed because the access gate has a private lock.

FAC-5197

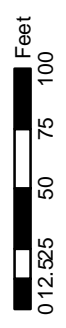


- Legend
- Parcels
 - Storm Water Management BMP
 - Wetlands
 - Subsheds
 - Stream
 - Culvert
 - Ditch
 - Erosion
 - Impacted Buffer
 - Channel Modification
 - Coastal Zone
 - SD Outfall

Marumsko Creek and Farm Creek Watershed Storm Water Management Facility Summary



1 inch equals 80 feet



Stormwater Management Facility Inspection

Facility ID: 5249

Subshed: 10

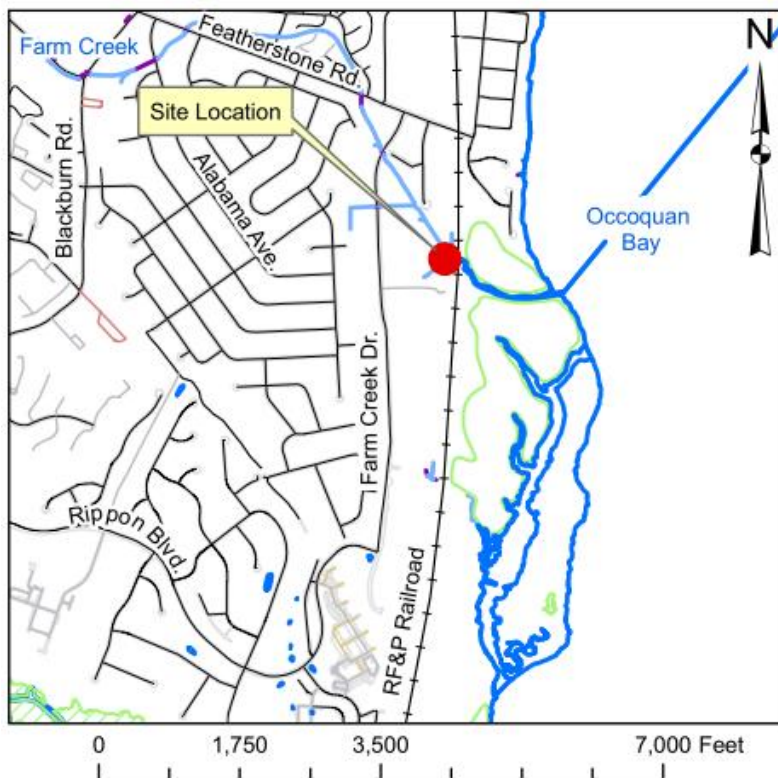
Location: Located behind the commercial property at 15015 Farm Creek Drive.

Land Owner:

Steuart-Chase Investments LLC

15015 Farm Creek Dr.

GPIN: 8391-93-1011



Inspection Findings:

Facility

Type: In-line Pond with stream,
Pond ties into groundwater

Facility Notes:

- Maintenance Access is poor as it requires equipment traveling through heavily overgrown area with high grass.
- The SWM facility has lots of trees.
- SWM facility is not fenced.
- All other attributes of the facility were determined to be in good condition.

FACILITY VICINITY MAP

Pretreatment Facility

Type: No pretreatment facility

Outlet

Outlet structure consists of a single reinforced concrete pipe and headwall. No riser / no low flow orifice.

Outlet Notes: Pipe outfall was determined to be in good condition

Inspection Summary:

The pond is an old quantity control SWM facility with no riser. The outlet structure is a culvert inlet with headwall and was likely sized only for management of high flow events.

Stormwater Retrofit Opportunities:

Water Quality Retrofit

The project concept for retrofit of this site involves converting the BMP from an in-line quantity control facility to a quantity and quality control facility through installation of a riser structure or retrofit of the outfall using gabion baskets. The water quality BMP will reduce the amount of pollutants transported from the industrial and commercial area into the receiving waters downstream of the BMP.

Project Benefits

Water Quality – conversion of the BMP to water quality BMP will reduce the current pollutant and sediment loading downstream of the BMP. Discharge of pollutants and sediments from the industrial has many adverse impacts on water quality of the stream.

Retrofit Costs:

Design Cost: \$30,000

Construction Cost: \$100,000

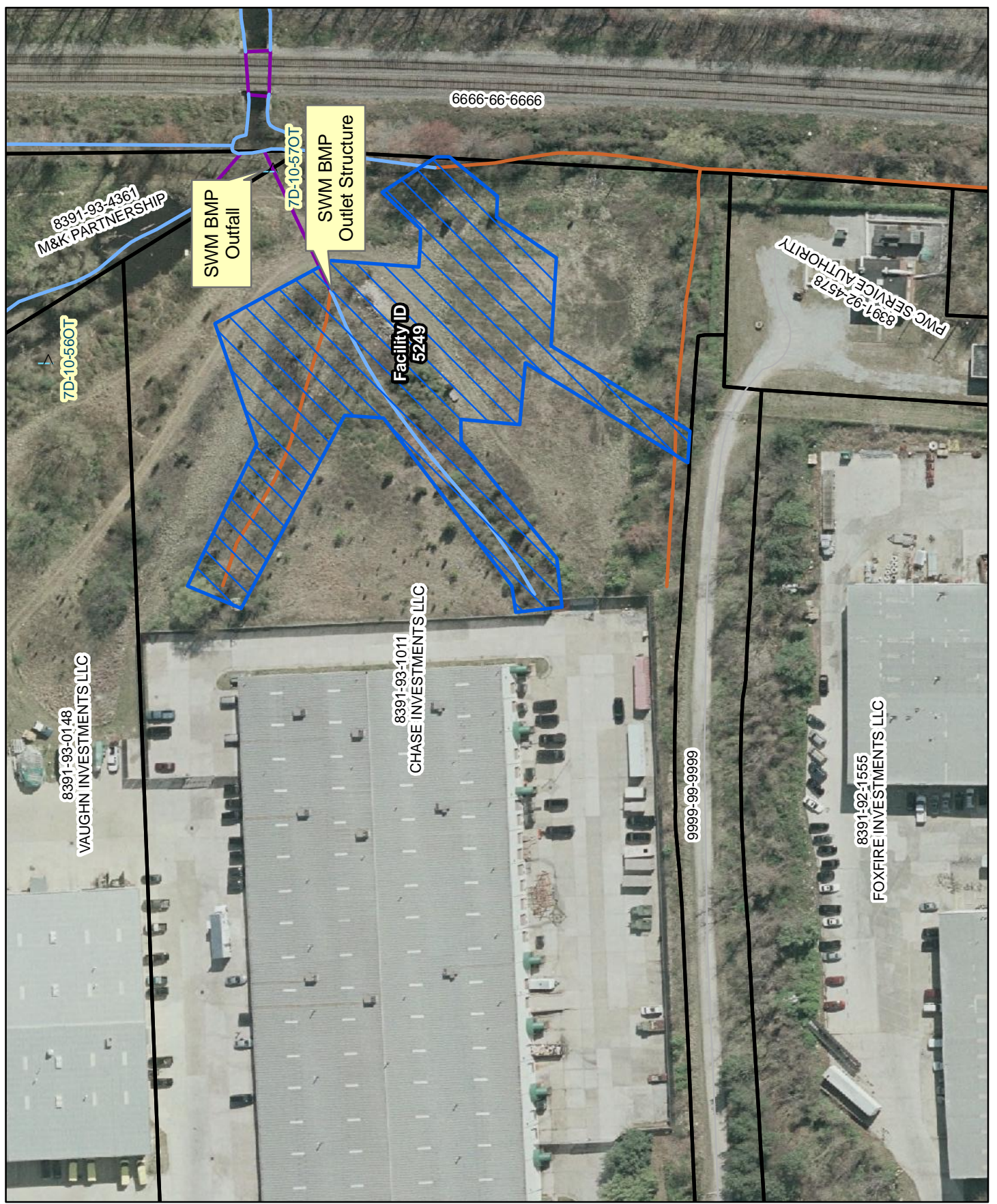
Total Cost: \$130,000

FAC-5249



- Legend**
- Parcels
 - Storm Water Management BMP
 - Wetlands
 - Subsheds
 - Stream
 - Culvert
 - Ditch
 - Erosion
 - Impacted Buffer
 - Channel Modification
 - Coastal Zone
 - SD Outfall

Marumsko Creek and Farm Creek Watershed Storm Water Management Facility Summary



Stormwater Management Facility Inspection

Overview of SWM facility



SWM BMP outlet inside SWM facility



SWM BMP Outfall



Stormwater Management Facility Inspection

Facility ID: 5324

Subshed: 10

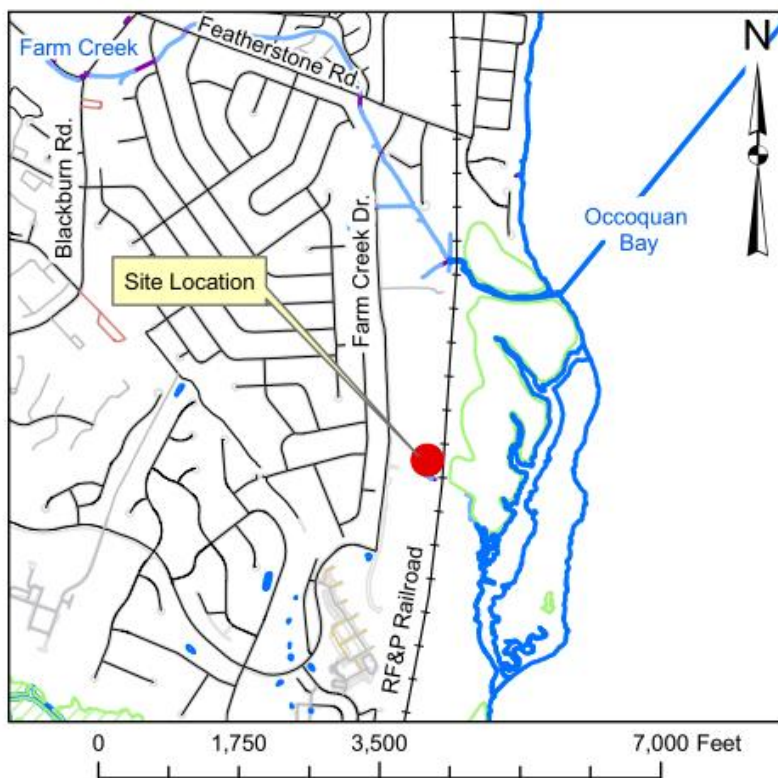
Location: Behind 15441 Farm Creek Drive. Access path is located between 15441 and 15397 Farm Creek Drive.

Land Ownership:

Roubin Associates LLC

15441 Farm Creek Dr.

GPIN: 8391-90-0474



FACILITY VICINITY MAP

Inspection Findings:

Facility

Type: Dry Pond, Pond ties into groundwater

Facility Notes:

Maintenance Access is poor as it requires equipment traveling through the forebay area.

The pond riser is overgrown with vegetation and the low flow orifice is clogged with sediment, trash and debris.

All other attributes of the facility were determined to be in good condition.

Pretreatment Facility

Type: Wetland Forebay

Pretreatment Notes: Access to the pond requires equipment traveling through the forebay area. All other attributes of forebay determined to be in good condition.

Outlet

Outlet structure consists of a riser structure with a low flow orifice, trash racks, and a high flow bypass.

Outlet Notes: Pipe outfall was determined to be in good condition

Inspection Summary:

The pond is a shallow stormwater management pond controlling runoff from a paving contractor's equipment yard. Maintenance access for county vehicles/equipment is problematic due to private fence line and locks; current access requires traversing wetland forebay. The stormwater pond is not fully surrounded by fence.

Stormwater Retrofit Opportunities:

Water Quality Retrofit

The project concept for retrofit of this site involves converting the BMP from a quantity control structure to a quantity and quality control structure. The water quality BMP will reduce the amount of pollutants transported from the paving company's construction yard into the receiving waters downstream of the BMP.

Extended Detention Retrofit

The project concept incorporates creation of extended detention for the SWM BMP for the purpose of water quality treatment. Extended detention can be achieved by retrofitting the low flow orifice.

Micro pool Creation Retrofit

Micro pool creation involves the formation of wetland marshes in the BMP to enhance the effectiveness of the storm water quality treatment. Micro pools will also reduce the amount of sediment directly flowing into the riser thereby preventing the low flow orifice from blockage due to excessive sedimentation.

Project Benefits

Water Quality – conversion of the BMP to water quality BMP will reduce the current pollutant and sediment loading downstream of the BMP. Discharge of asphalt, petroleum and sediments from the construction yard has many adverse impacts on water quality of the stream.

Retrofit Costs:

Design Cost: \$40,000

Construction Cost: \$150,000

Total Cost: \$190,000

FAC-5324



- Legend**
- Parcels
 - Storm Water Management BMP
 - Wetlands
 - Subsheds
 - Stream
 - Culvert
 - Ditch
 - Erosion
 - Impacted Buffer
 - Channel Modification
 - Coastal Zone
 - SD Outfall

Marumsko Creek and Farm Creek Watershed Storm Water Management Facility Summary



Overview of low flow orifice



Overview of outlet riser



Overview of SWM facility from riser



Stormwater Management Facility Inspection

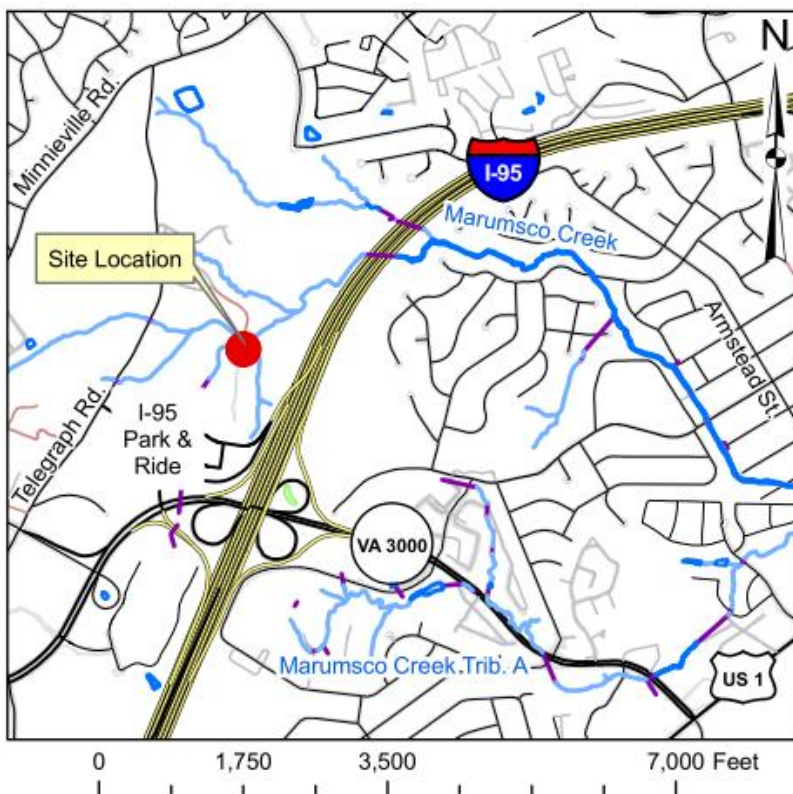
Facility ID: 9999
(Not in county database)

Subshed: 905

Location: Facility is located north of the I-95 Park and Ride, along the utility right-of-way access road. The pond treats drainage from the Park & Ride.

Land Owner:

Horner Road LC
13405 Telegraph Road
GPIN: 8392-06-6719



Inspection Findings:

Facility

Type: Dry Pond, Wetlands, Extended detention, Pond ties into groundwater, pond with wetland plantings, multiple pond system.

Facility Notes:

- Fine sediment accumulation was observed near the riser structure.
- All other attributes of the facility were determined to be in good condition.

FACILITY VICINITY MAP

Pretreatment Facility

Type: No pretreatment

Outlet

Outlet structure consists of a riser structure with a low flow orifice, trash racks, and a high flow bypass.

Outlet Notes: Pipe outfall is slightly perched from streambed and has a potential for undermining.

Inspection Summary:

The pond is clogged with sediments. The pond appears to be a dry pond with wetland micro-pools but accumulated sediment is affecting its proper function. The pond is not fenced or gated.

Stormwater Retrofit Opportunities:

None

Maintenance Opportunities

Sediment Removal

Maintenance opportunities include the removal of sediment from the SWM facility. Additionally, the SWM facility will need to be formally entered into the county database system.

Retrofit Costs:

Design Cost: No design fee

Construction Cost: \$5,000

Total Cost: \$5,000

FAC-9999



Legend

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Marumsko Creek and Farm Creek Watershed Storm Water Management Facility Summary



1 inch equals 50 feet



Overview of the outlet riser and low flow orifice



Overview of SWM facility from outlet riser



Riprap outfall as emergency spillway



SWM BMP Outfall



Crack in outfall pipe



Overview of SWM facility from access gate

