

**U.S. Army Corps  
of Engineers**  
Baltimore District

# Public Notice

In Reply to Application Number:  
CENAB-OPR-M (Washington Gas Company) 2017-60524

PN# 18-02

COMMENT PERIOD: January 11, 2018 - February 28, 2018

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THE PURPOSE OF THIS PUBLIC NOTICE IS TO SOLICIT COMMENTS FROM THE PUBLIC ABOUT THE WORK DESCRIBED BELOW ON THE SUBJECT APPLICATION. AT THIS TIME, NO DECISION HAS BEEN MADE AS TO WHETHER OR NOT A PERMIT WILL BE ISSUED.

**APPLICANT:** Washington Gas Light Company  
Attn: Ms. Theresa A. Curtis  
6801 Industrial Road  
Springfield, VA 22151-4205

**LOCATION:** The proposed project begins at Washington Gas Light Company's existing Strip 24 pipeline at the corner of Frank Tippet Road and US 301 in Brandywine, Maryland and would transport natural gas service to its existing Strip 17 pipeline on Brightseat Road in Landover, Maryland. Waterways that are proposed to be impacted include: Charles Branch, Back Branch, Cabin Branch, Turkey Branch, as well as unnamed tributaries to Charles Branch, Back Branch, Cabin Branch, Turkey Branch, Southwest Branch, Western Branch, and Patuxent River, in Prince George's County, Maryland.

**PURPOSE:** To provide additional natural gas to reinforce the existing system and provide reliability to handle future demands. The project primarily benefits Prince George's County, but would strengthen service in the District of Columbia.

**WORK:** The Washington Gas Light Company (WGL) proposes to construct the Prince George's County and District of Columbia Reliability and Reinforcement Project (Project) which is an approximately 16-mile-long, 24-inch-diameter buried steel natural gas pipeline with a cathodic protection system within a permanent right-of-way (ROW) for the project. A future project through the Southwest Stream Valley Park (SBSVP) may include the co-location of a public use trail within the permanent maintained ROW.

The Project proposes to permanently convert approximately 61,077 square feet (1.4 acres) of forested nontidal wetlands to emergent wetlands; to temporarily impact approximately 21,330 square feet (0.51 acres) of forested nontidal wetlands, 17,220 square feet (0.41 acres) of emergent nontidal wetlands for temporary access for construction; and to temporarily impact 43 stream segments totaling approximately 1,574 linear feet (14,155 square feet) of stream. The pipeline would be installed using conventional boring, trenching using dam and pump, flume pipe, and stream diversion methods, and horizontal directional drilling (HDD) methods.

As part of the avoidance and minimization of impacts to waters of the U.S., including jurisdictional nontidal wetlands, the limit of disturbance and temporary construction ROW were narrowed through wetlands from 75 feet in uplands to 40 feet through wetlands. Permanent ROW widths consist of the following: 15 feet within existing Potomac Electric Power Company (PEPCO); 30 feet within SBSVP; and 40 feet through the remainder of the Project. WGL rerouted the project

to avoid environmental features; co-located the pipeline within existing roads, parking lots, open areas, and electrical utility ROW; and, utilized over two miles of conventional bore and HDD methods. Less than three percent of the proposed route crosses wetlands or streams.

The Project would utilize temporary work spaces of variable width public road ROW, according to traffic control requirements and considerations, as required by Prince George's County Department of Permitting, Inspections and Enforcement and Maryland State Highway Administration. The project route would primarily be accessed using existing state and county roads. WGL rerouted the project to avoid environmental features; co-located the pipeline within existing roads, parking lots, open areas, and electrical utility ROW; and, utilized over two miles of conventional bore and HDD. Less than three percent of the route crosses wetlands or streams.

The work also includes to construct 3 aboveground facilities in upland areas to allow connections to WGL pipelines. These facilities include 2 approximately 20-feet by 100-feet and 50-feet by 100-feet pressure regulator sites located on Brightseat Road and 1 approximately 50-feet by 100-feet pressure reducing site at located on the east side of U.S. 301 in Brandywine.

The applicant proposes to mitigate for the approximate 61,077 square feet (1.40 acres) of permanent forested nontidal wetland conversion by creating approximately 6,740 square feet (0.15 acres) of forested nontidal wetlands; enhancing approximately 72,437 square feet (1.66 acres) of existing currently cropped wetlands; enhancing approximately 18,295 square feet of 25-foot nontidal wetland buffer; and preserving approximately of 30,056 square feet (0.69 acres) of existing nontidal wetlands, 21604 square feet (0.50 acres) of nontidal wetland buffer, and 7,405 square feet (0.17) of upland riparian stream buffer. The proposed mitigation site is located west of Brown Station Road, north of Dille Drive in, Upper Marlboro, Prince George's County, Maryland. The mitigation site is located within the Western Branch (Patuxent) watershed where the majority of the proposed permanent impacts for the wetland conversion are located.

All work will be completed in accordance with the plans submitted with the Joint Permit Application.

**WRITTEN COMMENTS:** To be included in the official record, written comments and information by interested parties must be received by the Public Notice closing date, February 28, 2018, to receive consideration. The mailing address for submission of written comments is:

U.S. Army Corps of Engineers  
Baltimore District  
Attn: Ms. Erica Schmidt, CENAB-OPR-M  
2 Hopkins Plaza  
Baltimore, Maryland 21201

If you have any questions concerning this matter, please contact Mrs. Erica Schmidt, at (410) 962-6029 or email at Erica.Schmidt@usace.army.mil.

Additional project documentation can be found on the Prince George's County and District of Columbia Reliability and Reinforcement Project website at: <http://pgcdccrrp.com/> .

Hard copies can be requested from the above Corps reviewer.

The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit, which may reasonably be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors, which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are conservation, economic, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, and consideration of property ownership and in general, the needs and welfare of the people.

The evaluation of the impact of the work described above on the public interest will include the application of the Clean Water Act Section 404(b)(1) Guidelines promulgated by the Administrator, U.S. Environmental Protection Agency, under authority of Section 404 of the Clean Water Act.

Comments are being solicited from the public; Federal, State, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps to determine whether to issue, modify, condition or deny each agency's permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments provided will become part of the public record for this action. Comments are also used to determine the overall public interest of the proposed activity.

**SECTION 401 WATER QUALITY CERTIFICATION:** The applicant is required to obtain a Water Quality Certification, (WQC) in accordance with Section 401 of the Clean Water Act from MDE, the Section 401 certifying agency. Any written comments concerning the work described above which relate to the WQC must be received by the Wetlands and Waterways Program, Maryland Department of the Environment, Montgomery Park Business Center, 1800 Washington Boulevard, Suite 430, Baltimore, Maryland 21230-1708 within the comment period as specified above to receive consideration. MDE has a statutory limit of one year from the date of this public notice to make its decision.

**COASTAL ZONE MANAGEMENT PROGRAM:** The applicant has certified in this application that the proposed activity complies with and will be conducted in a manner consistent with Maryland's federally approved Coastal Zone Management Program (CZMP) as required by Section 307 of the Federal Coastal Zone Management Act of 1972. Public comments relating to consistency must be received by the Wetlands and Waterways Program, Maryland Department of the Environment, Montgomery Park Business Center, 1800 Washington Boulevard, Suite 430, Baltimore, Maryland, 21230-1708, within the comment period as specified above. By this public notice, the CORPS is requesting the State concurrence to the applicant's consistency statement. It should be noted that the CZMP has a statutory limit of 6 months to make its determination.

The applicant must obtain any other State and local permits/approvals which are required for the proposed activities.

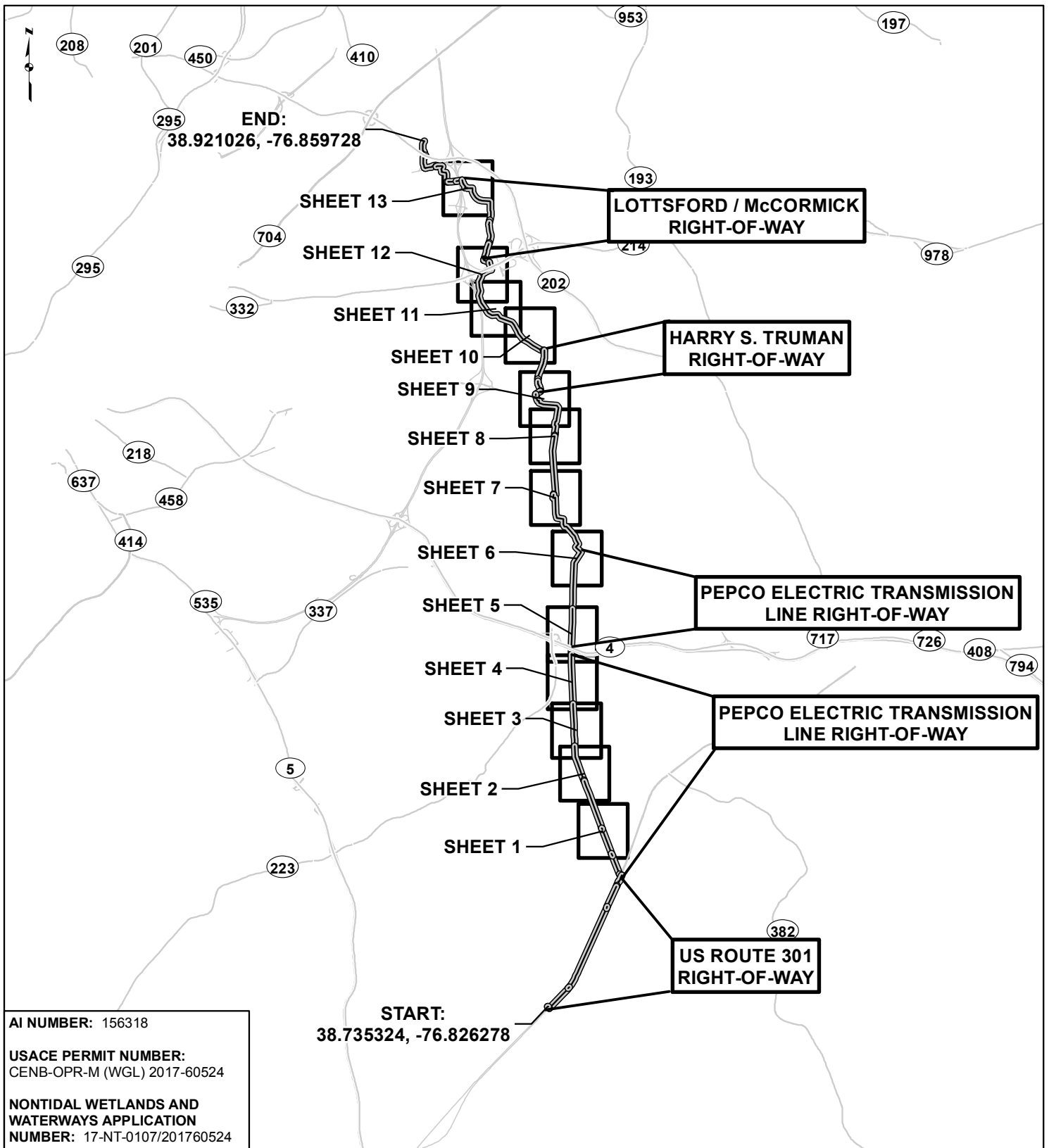
A preliminary review of this application indicates that the proposed work will not affect Federal listed threatened or endangered species or their critical habitat, pursuant to Section 7 of the Endangered Species Act, as amended. As the evaluation of this application continues, additional information may become available which could modify this preliminary determination.

Review of the latest published version of the National Register of Historic Places indicates that the proposed project will not affect properties listed as eligible for inclusion. On-going coordination with the Maryland Historic Trust will determine if known archeological, scientific, prehistoric, or historical data may be affected by the work to be accomplished under the requested permits.

It is requested that you communicate this information concerning the proposed work to any persons known by you to be interested, but may not have received a copy of this public notice.

FOR THE DISTRICT ENGINEER:

KATHY B. ANDERSON  
Chief, Maryland Section Southern



AI NUMBER: 156318  
 USACE PERMIT NUMBER:  
 CENB-OPR-M (WGL) 2017-60524  
 NONTIDAL WETLANDS AND  
 WATERWAYS APPLICATION  
 NUMBER: 17-NT-0107/201760524

PROJECT LOCATION

PRINCE GEORGE'S  
 COUNTY, MARYLAND

**LEGEND**

- PROPOSED ROUTE
- ROADS
- SHEET INDEX

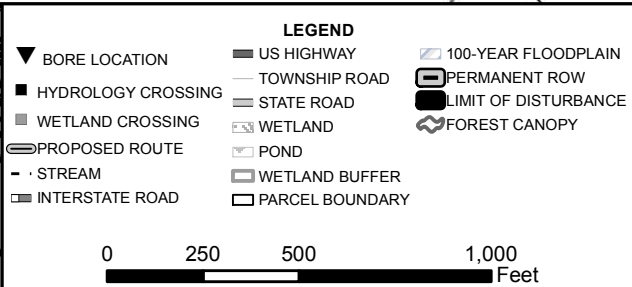
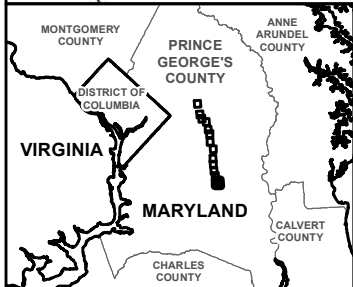
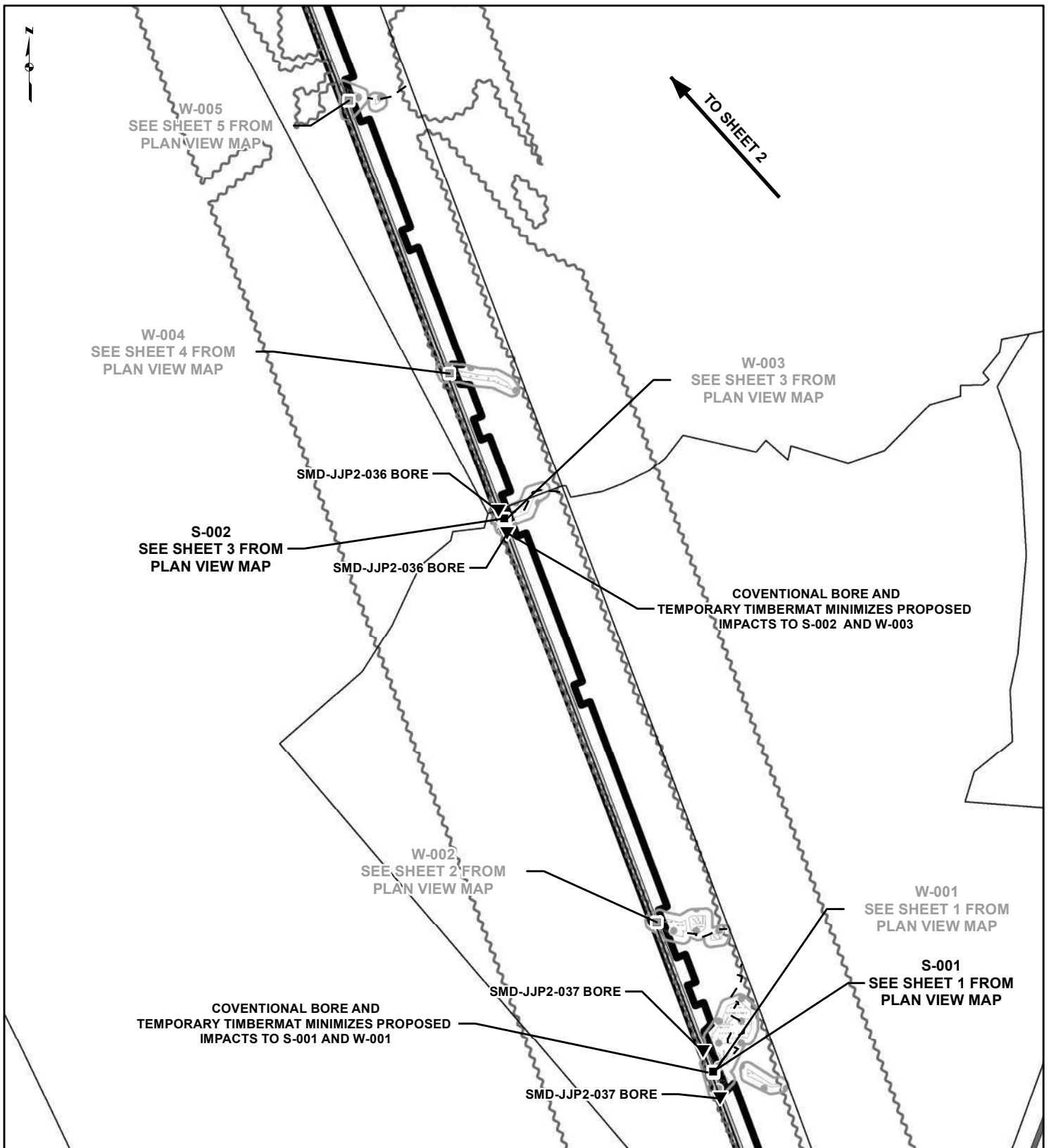
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**FIGURE 2B  
 IMPACT OVERVIEW MAP  
 SHEET INDEX**

PRINCE GEORGE'S COUNTY AND  
 DISTRICT OF COLUMBIA RELIABILITY  
 AND REINFORCEMENT PROJECT  
 WASHINGTON GAS LIGHT COMPANY

DRAWN BY: BJM DATE: 12/22/2017  
 CHECKED: JDP APPROVED: CET

REFERENCE: ROADS, U.S. CENSUS BUREAU, 2015.



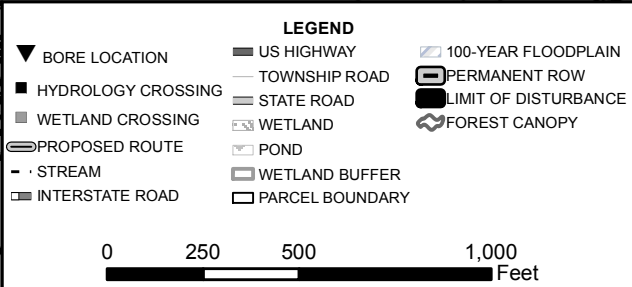
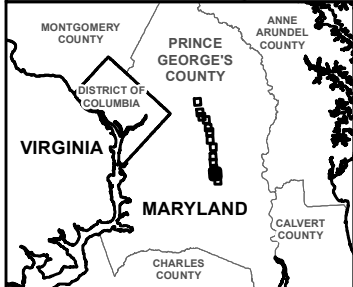
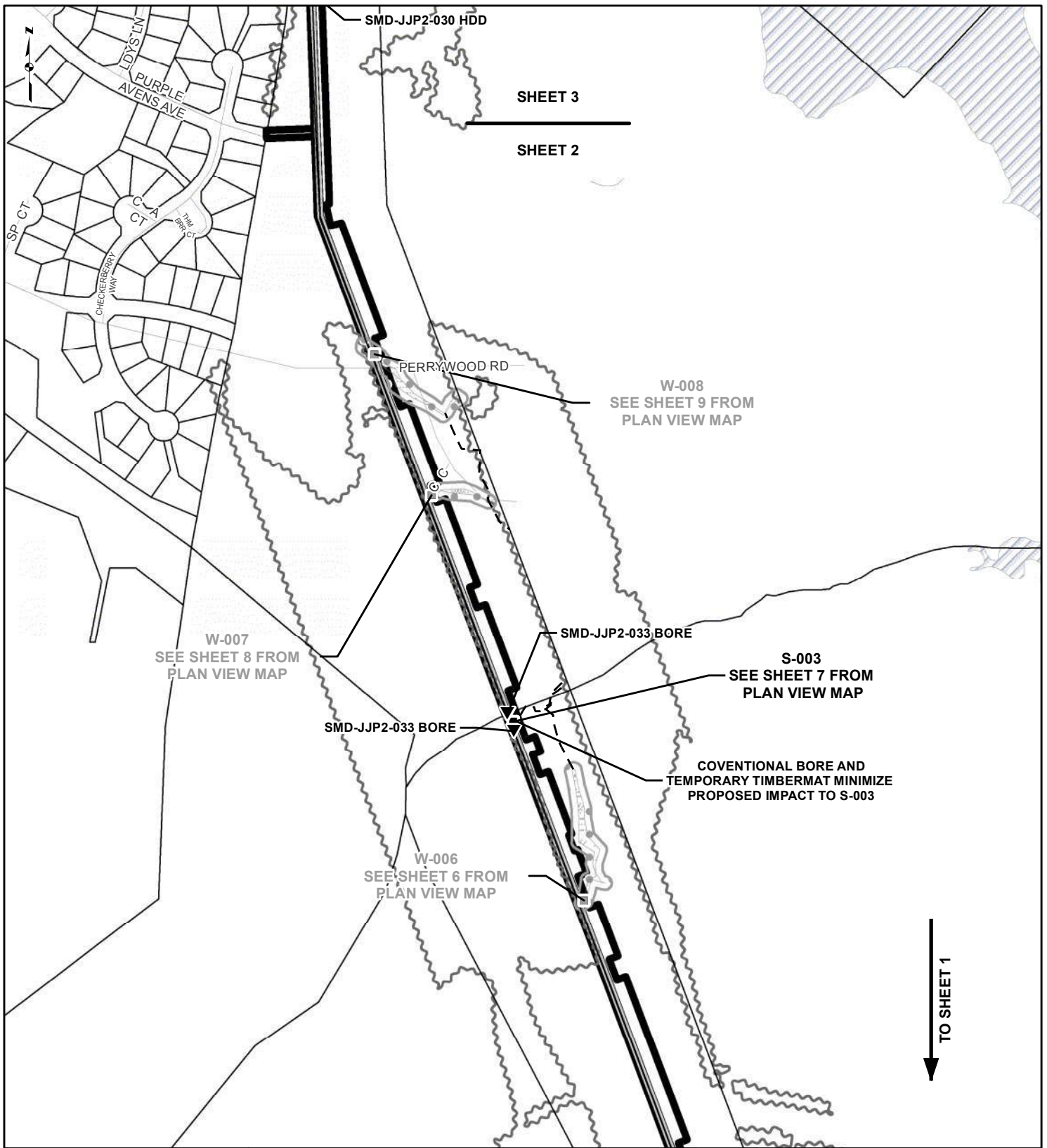
**FIGURE 2B**  
**IMPACT AREA OVERVIEW MAP**  
**SHEET 1 OF 13**

PRINCE GEORGE'S COUNTY AND  
DISTRICT OF COLUMBIA RELIABILITY  
AND REINFORCEMENT PROJECT  
WASHINGTON GAS LIGHT COMPANY

GSI CONSULTANTS

DRAWN BY: BJM      DATE: 12/20/2017  
CHECKED: JDP      APPROVED: CET

REFERENCE: 100 YEAR FLOODPLAIN, FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), 2015. FOREST TREE CANOPY, PRINCE GEORGE COUNTY PLANNING DEPARTMENT, 2014. ROADS, US CENSUS BUREAU, 2015. PARCELS DOWNLOADED FROM PRINCE GEORGE COUNTY'S PLANNING DEPARTMENT'S GIS PORTAL, 06/2016.

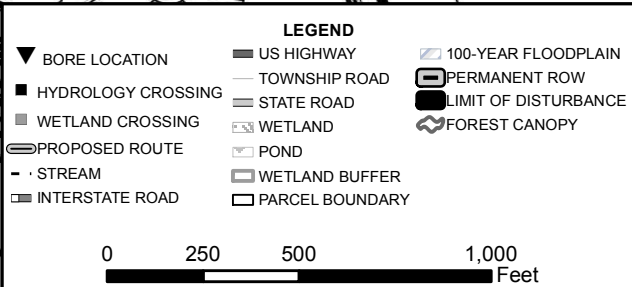
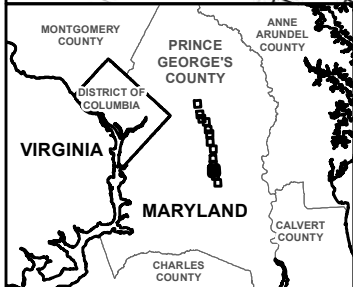
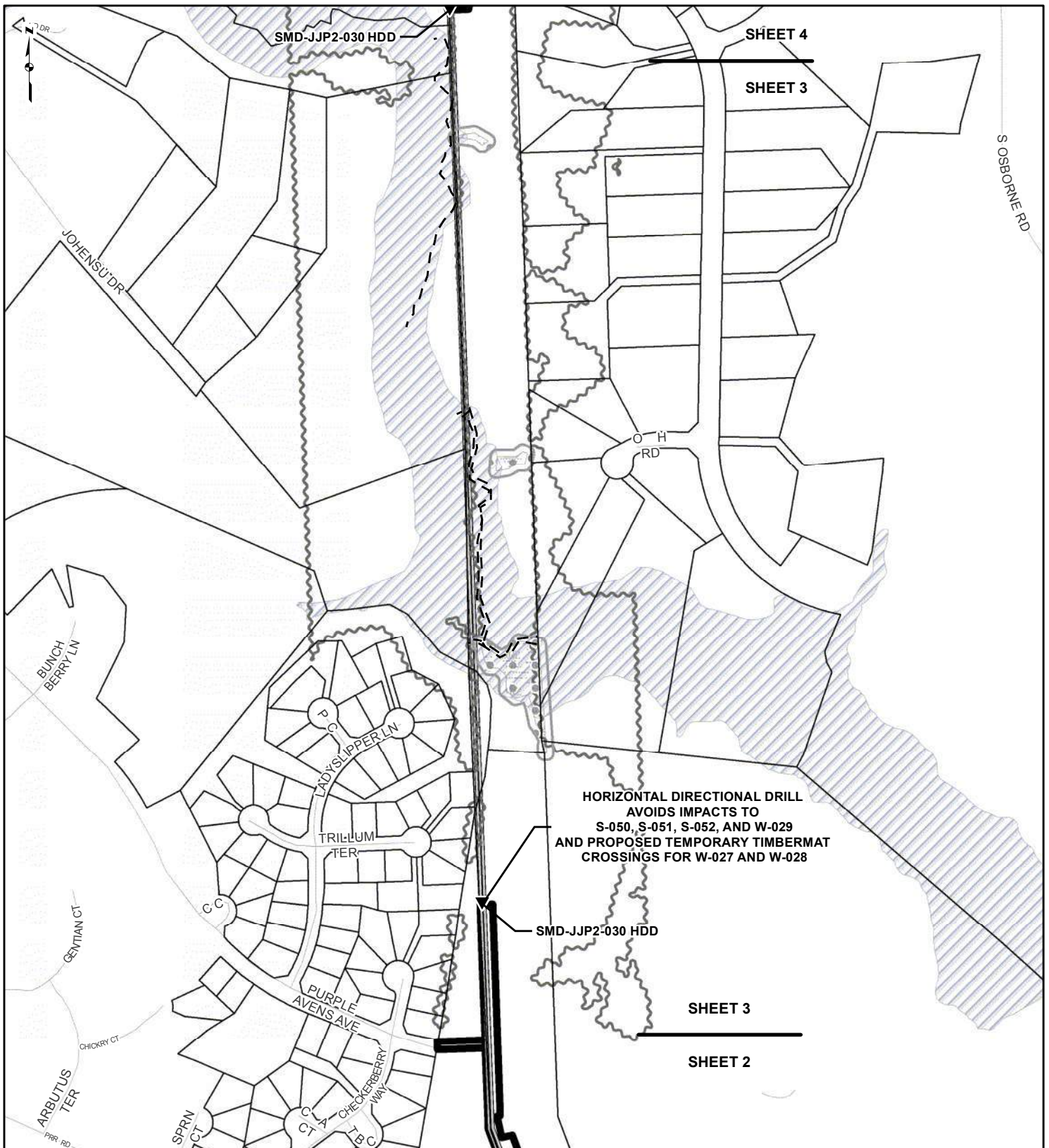


**FIGURE 2B**  
**IMPACT AREA OVERVIEW MAP**  
**SHEET 2 OF 13**

PRINCE GEORGE'S COUNTY AND  
DISTRICT OF COLUMBIA RELIABILITY  
AND REINFORCEMENT PROJECT  
WASHINGTON GAS LIGHT COMPANY

DRAWN BY: BJM      DATE: 12/20/2017  
CHECKED: JDP      APPROVED: CET

REFERENCE: 100 YEAR FLOODPLAIN, FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), 2015. FOREST TREE CANOPY, PRINCE GEORGE COUNTY PLANNING DEPARTMENT, 2014. ROADS, US CENSUS BUREAU, 2015. PARCELS DOWNLOADED FROM PRINCE GEORGE COUNTY'S PLANNING DEPARTMENT'S GIS PORTAL, 06/2016.



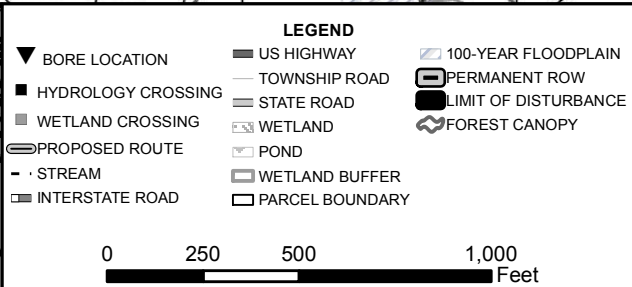
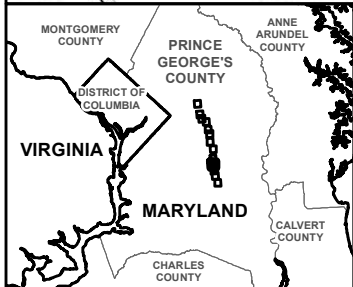
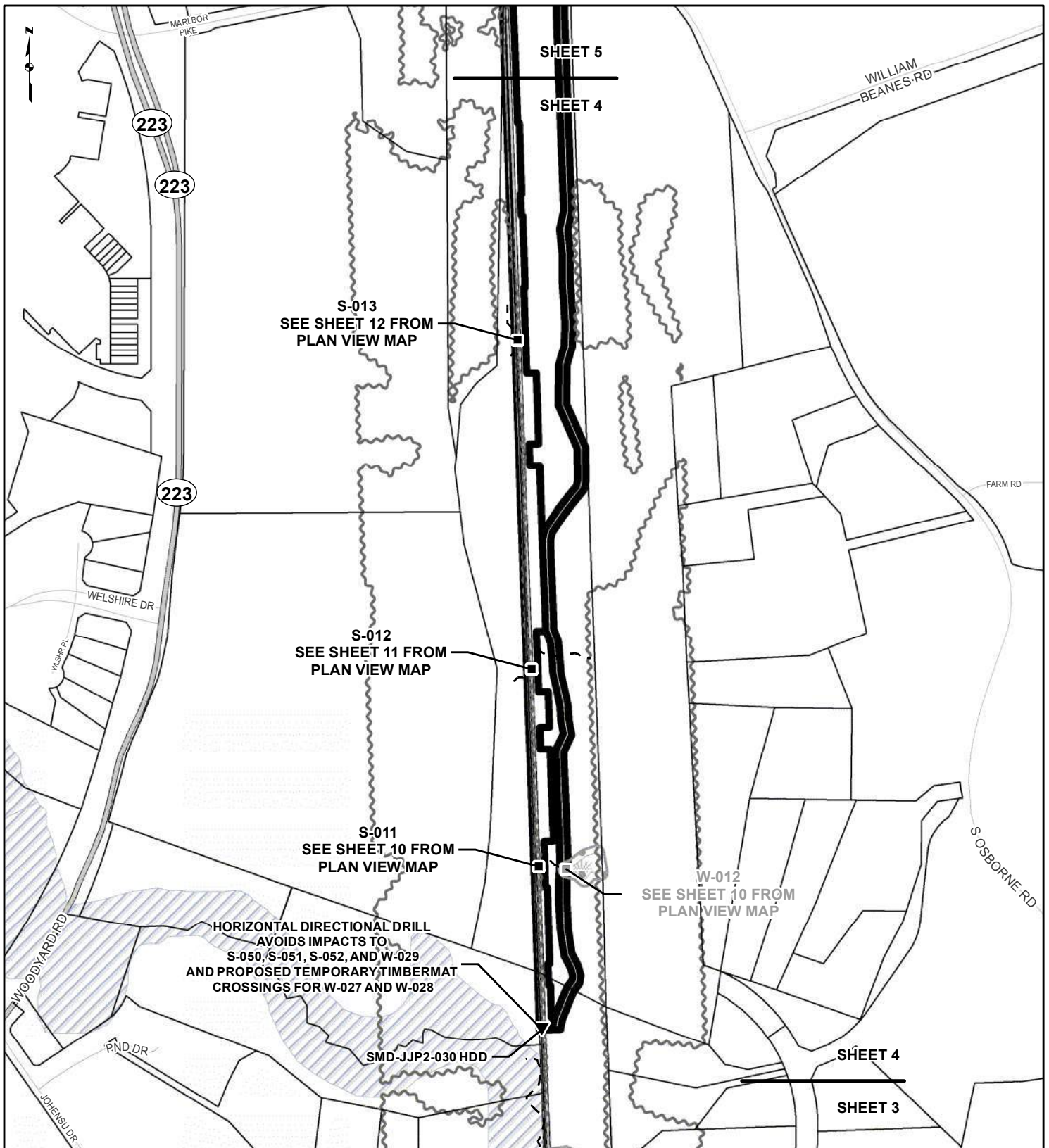
**FIGURE 2B**  
**IMPACT AREA OVERVIEW MAP**  
**SHEET 3 OF 13**

PRINCE GEORGE'S COUNTY AND  
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AND REINFORCEMENT PROJECT  
WASHINGTON GAS LIGHT COMPANY

DRAWN BY: BJM      DATE: 12/20/2017  
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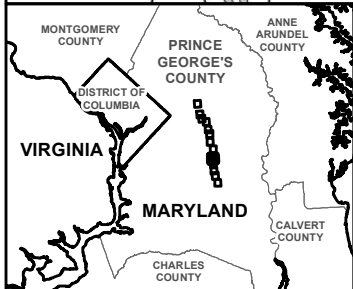
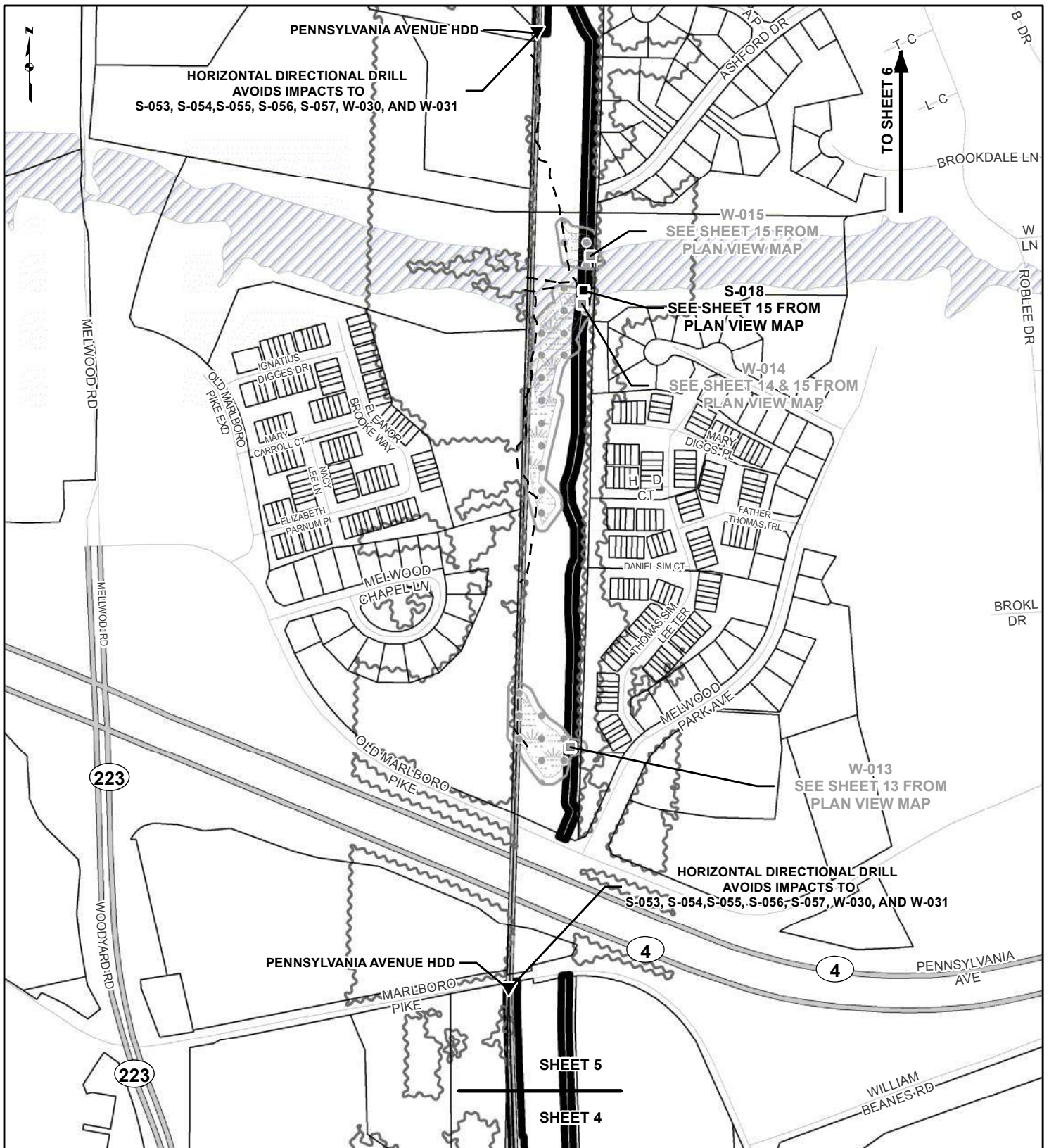


**FIGURE 2B**  
**IMPACT AREA OVERVIEW MAP**  
**SHEET 4 OF 13**

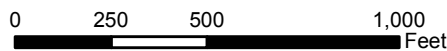
PRINCE GEORGE'S COUNTY AND  
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WASHINGTON GAS LIGHT COMPANY

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LEGEND		
▼ BORE LOCATION	— US HIGHWAY	▨ 100-YEAR FLOODPLAIN
■ HYDROLOGY CROSSING	— TOWNSHIP ROAD	▩ PERMANENT ROW
■ WETLAND CROSSING	— STATE ROAD	▩ LIMIT OF DISTURBANCE
▨ PROPOSED ROUTE	▨ WETLAND	▨ FOREST CANOPY
- - - STREAM	▨ POND	
▨ INTERSTATE ROAD	▨ WETLAND BUFFER	
	▨ PARCEL BOUNDARY	

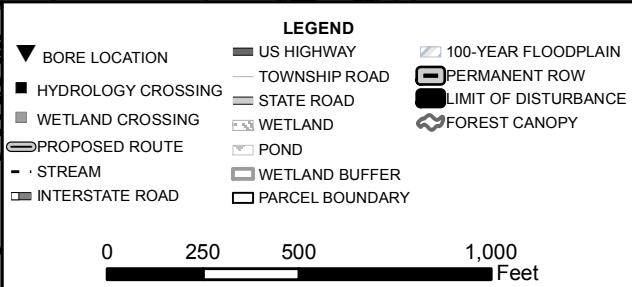
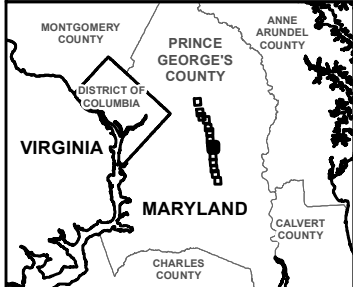
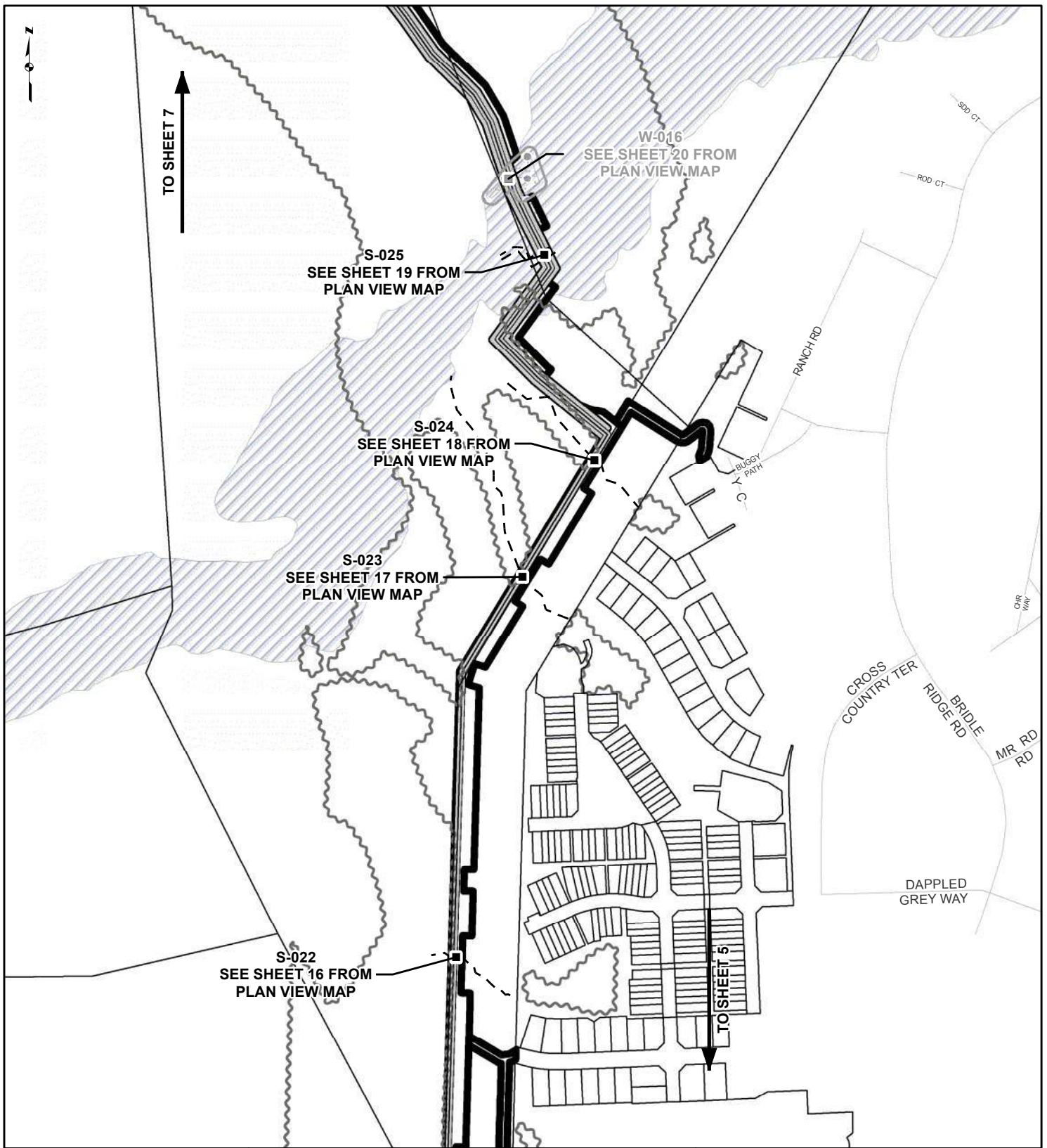


## FIGURE 2B IMPACT AREA OVERVIEW MAP SHEET 5 OF 13

PRINCE GEORGE'S COUNTY AND  
DISTRICT OF COLUMBIA RELIABILITY  
AND REINFORCEMENT PROJECT  
WASHINGTON GAS LIGHT COMPANY


DRAWN BY: BJM      DATE: 12/20/2017  
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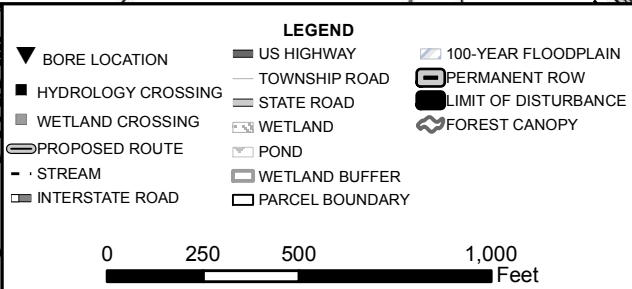
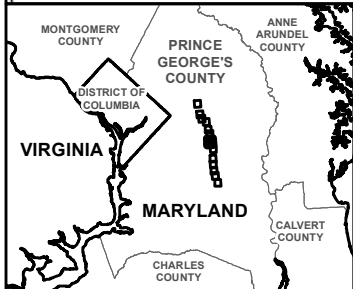
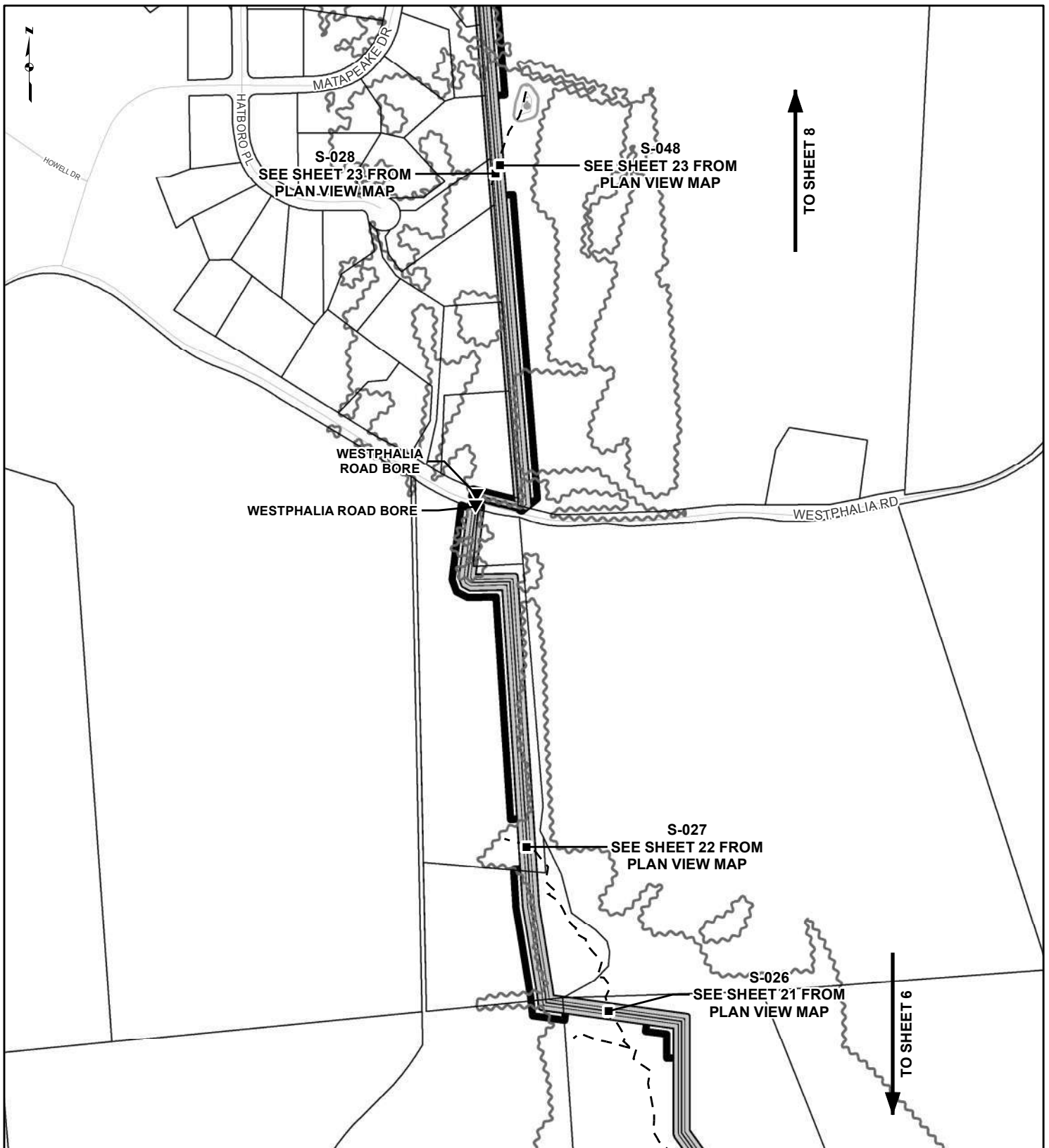
**FIGURE 2B**  
**IMPACT AREA OVERVIEW MAP**  
**SHEET 6 OF 13**

PRINCE GEORGE'S COUNTY AND DISTRICT OF COLUMBIA RELIABILITY AND REINFORCEMENT PROJECT  
WASHINGTON GAS LIGHT COMPANY

 GSP CONSULTANTS

DRAWN BY: BJM      DATE: 12/20/2017  
CHECKED: JDP      APPROVED: CET

REFERENCE: 100 YEAR FLOODPLAIN, FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), 2015. FOREST TREE CANOPY, PRINCE GEORGE COUNTY PLANNING DEPARTMENT, 2014. ROADS, US CENSUS BUREAU, 2015. PARCELS DOWNLOADED FROM PRINCE GEORGE COUNTY'S PLANNING DEPARTMENT'S GIS PORTAL, 06/2016.

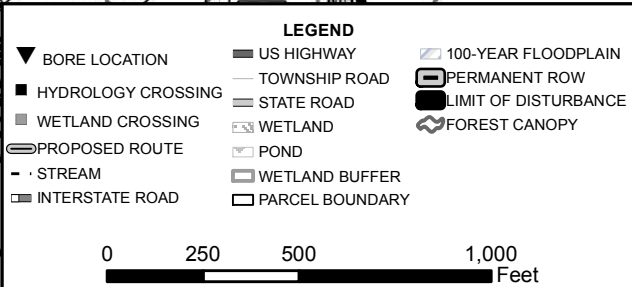
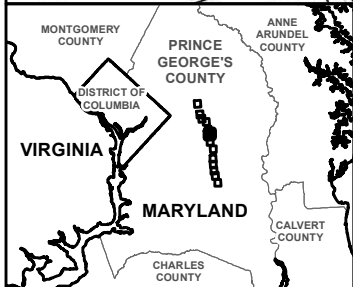
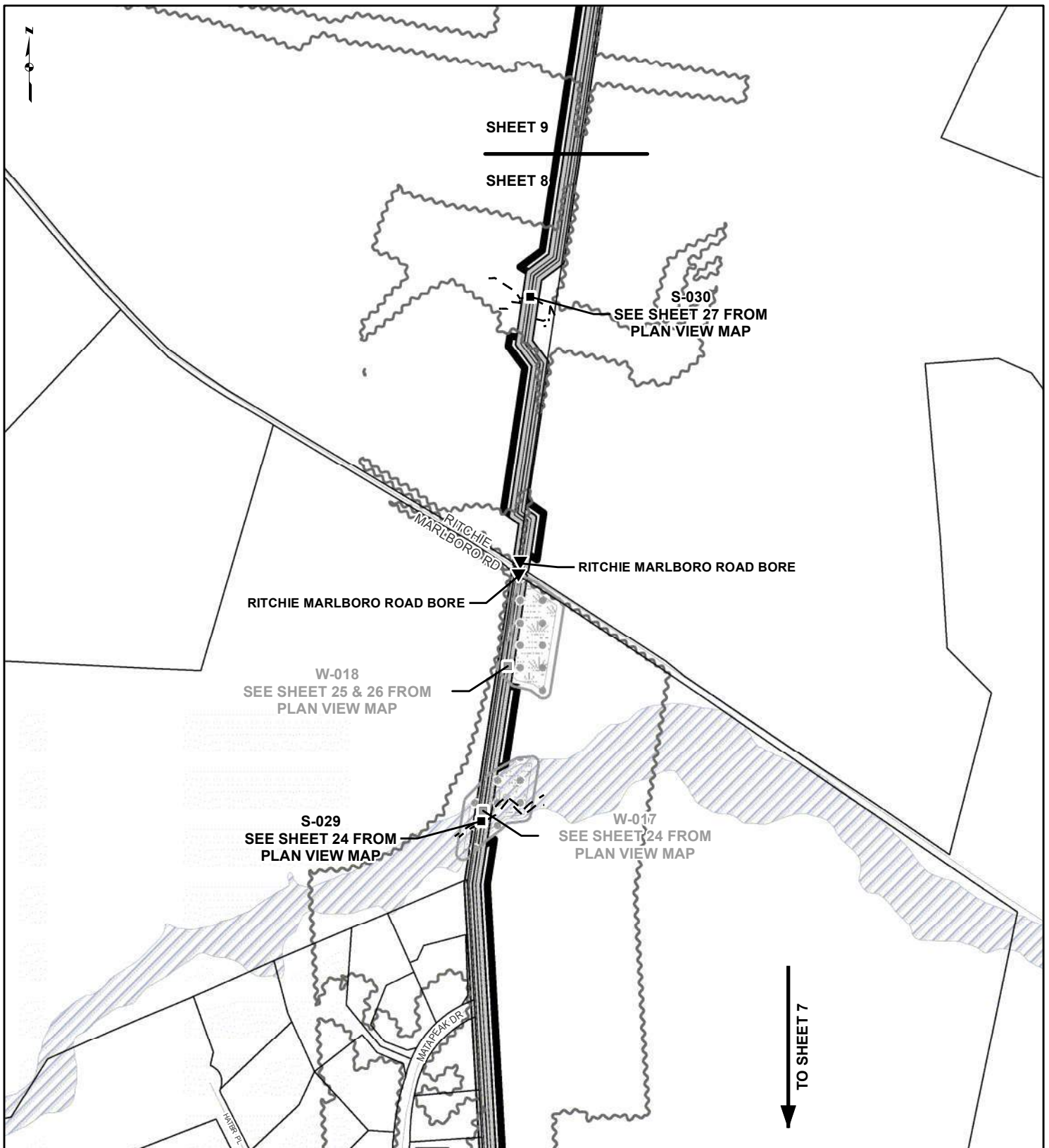


**FIGURE 2B**  
**IMPACT AREA OVERVIEW MAP**  
**SHEET 7 OF 13**

PRINCE GEORGE'S COUNTY AND  
DISTRICT OF COLUMBIA RELIABILITY  
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WASHINGTON GAS LIGHT COMPANY

DRAWN BY: BJM      DATE: 12/20/2017  
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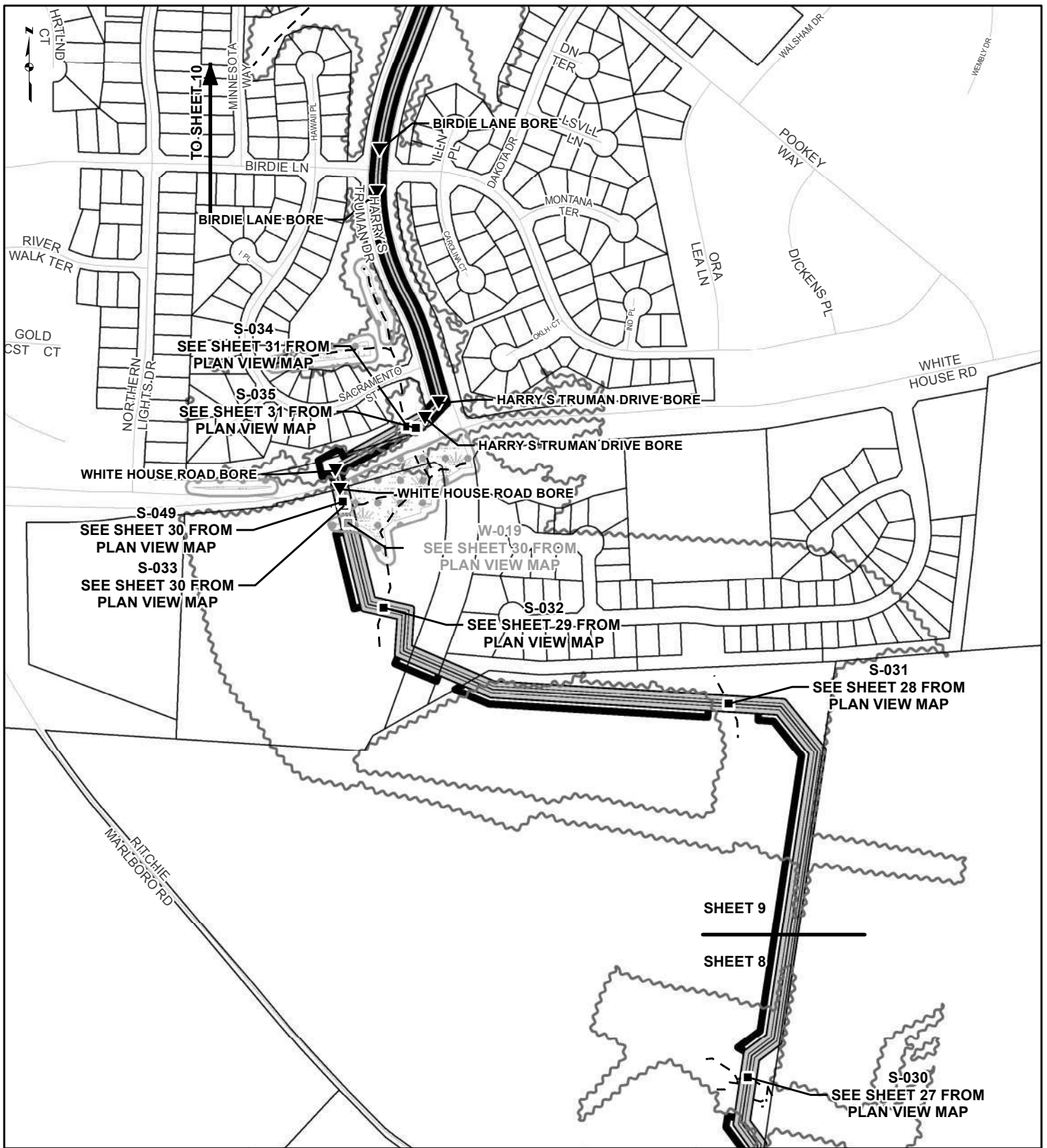


**FIGURE 2B**  
**IMPACT AREA OVERVIEW MAP**  
**SHEET 8 OF 13**

PRINCE GEORGE'S COUNTY AND  
DISTRICT OF COLUMBIA RELIABILITY  
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WASHINGTON GAS LIGHT COMPANY

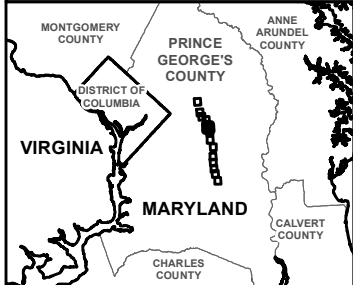
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SHEET 9

SHEET 8



LEGEND		
▼ BORE LOCATION	— US HIGHWAY	▨ 100-YEAR FLOODPLAIN
■ HYDROLOGY CROSSING	— TOWNSHIP ROAD	▩ PERMANENT ROW
■ WETLAND CROSSING	— STATE ROAD	▩ LIMIT OF DISTURBANCE
▨ PROPOSED ROUTE	▨ WETLAND	▨ FOREST CANOPY
- - - STREAM	▨ POND	
▨ INTERSTATE ROAD	▨ WETLAND BUFFER	
	▨ PARCEL BOUNDARY	

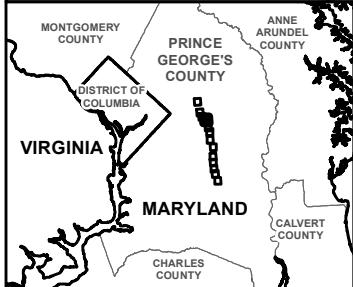
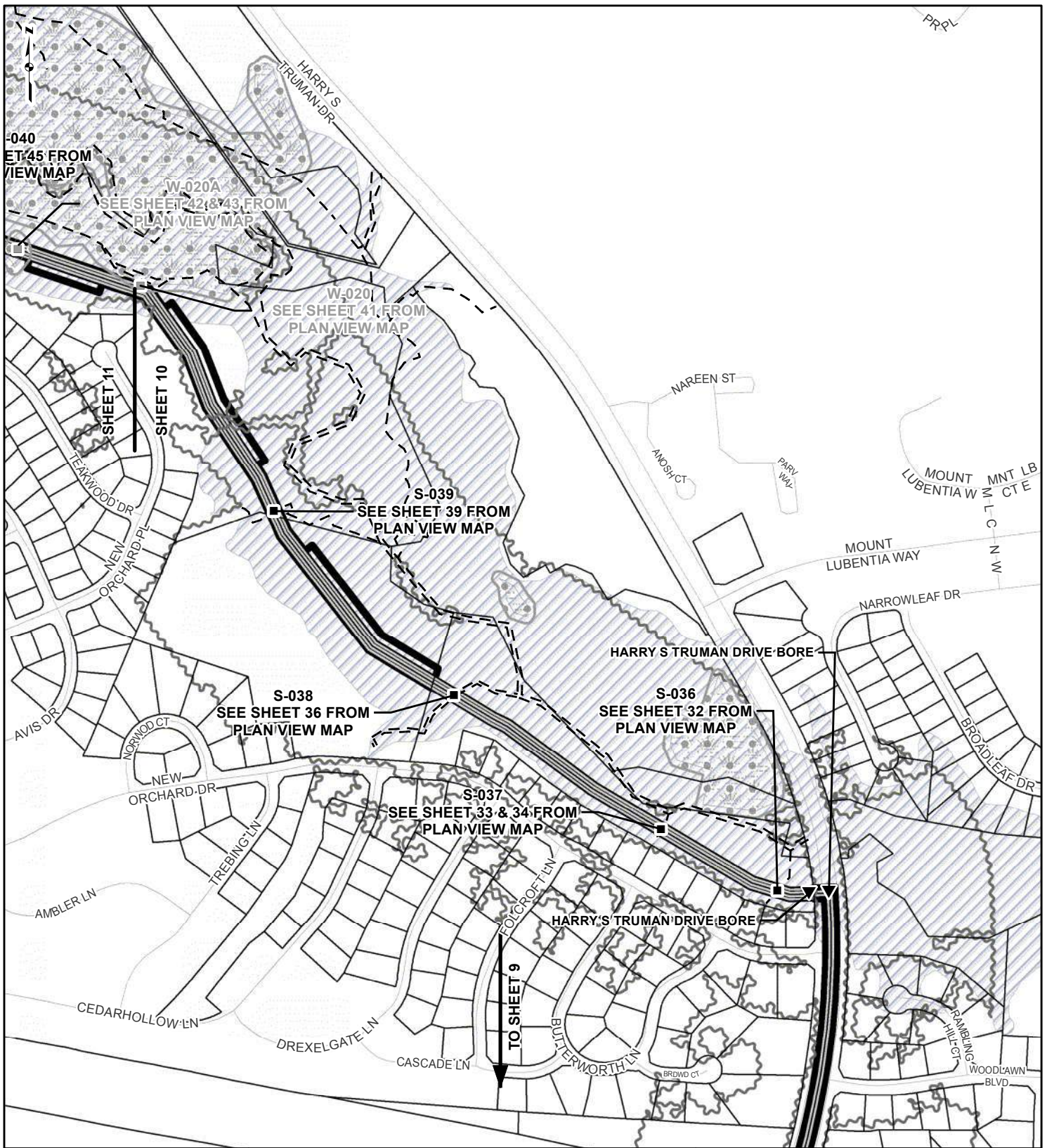
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**FIGURE 2B**  
**IMPACT AREA OVERVIEW MAP**  
**SHEET 9 OF 13**

PRINCE GEORGE'S COUNTY AND  
DISTRICT OF COLUMBIA RELIABILITY  
AND REINFORCEMENT PROJECT  
WASHINGTON GAS LIGHT COMPANY

DRAWN BY: BJM      DATE: 12/20/2017  
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**LEGEND**

▼ BORE LOCATION	— US HIGHWAY	▨ 100-YEAR FLOODPLAIN
■ HYDROLOGY CROSSING	— TOWNSHIP ROAD	▩ PERMANENT ROW
■ WETLAND CROSSING	— STATE ROAD	■ LIMIT OF DISTURBANCE
▨ PROPOSED ROUTE	▨ WETLAND	▨ FOREST CANOPY
- - - STREAM	▨ POND	
▨ INTERSTATE ROAD	▨ WETLAND BUFFER	
	▨ PARCEL BOUNDARY	

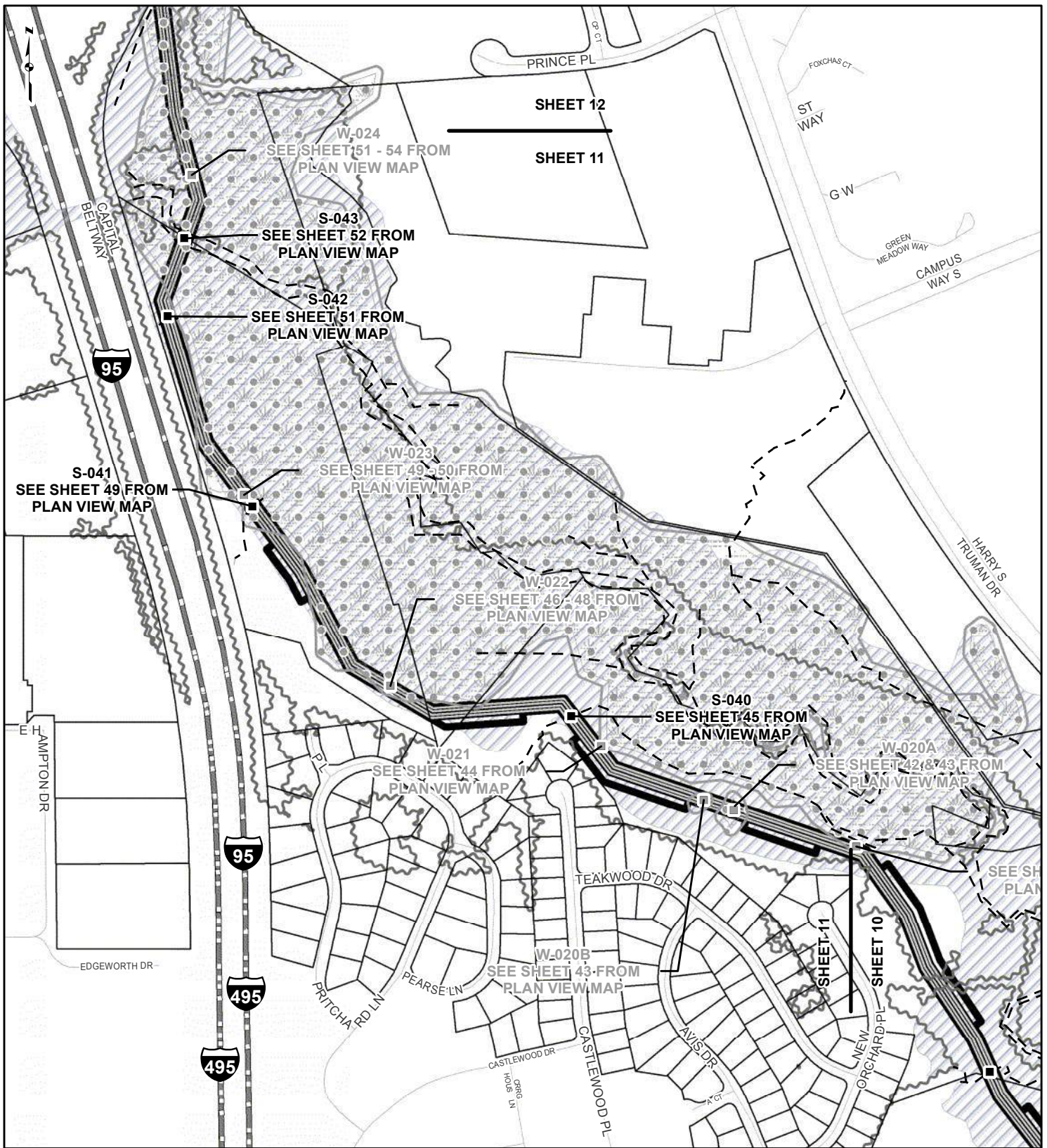
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**FIGURE 2B**  
**IMPACT AREA OVERVIEW MAP**  
**SHEET 10 OF 13**

PRINCE GEORGE'S COUNTY AND DISTRICT OF COLUMBIA RELIABILITY AND REINFORCEMENT PROJECT  
 WASHINGTON GAS LIGHT COMPANY

DRAWN BY: BJM      DATE: 12/20/2017  
 CHECKED: JDP      APPROVED: CET

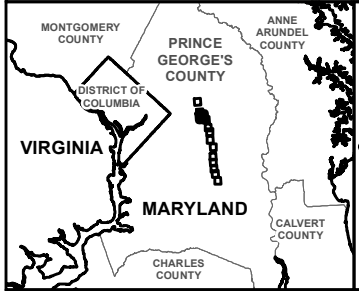
REFERENCE: 100 YEAR FLOODPLAIN, FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), 2015. FOREST TREE CANOPY, PRINCE GEORGE COUNTY PLANNING DEPARTMENT, 2014. ROADS, US CENSUS BUREAU, 2015. PARCELS DOWNLOADED FROM PRINCE GEORGE COUNTY'S PLANNING DEPARTMENT'S GIS PORTAL, 06/2016.



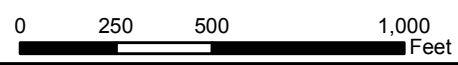
**FIGURE 2B**  
**IMPACT AREA OVERVIEW MAP**  
**SHEET 11 OF 13**

PRINCE GEORGE'S COUNTY AND DISTRICT OF COLUMBIA RELIABILITY AND REINFORCEMENT PROJECT  
 WASHINGTON GAS LIGHT COMPANY

DRAWN BY: BJM      DATE: 12/20/2017  
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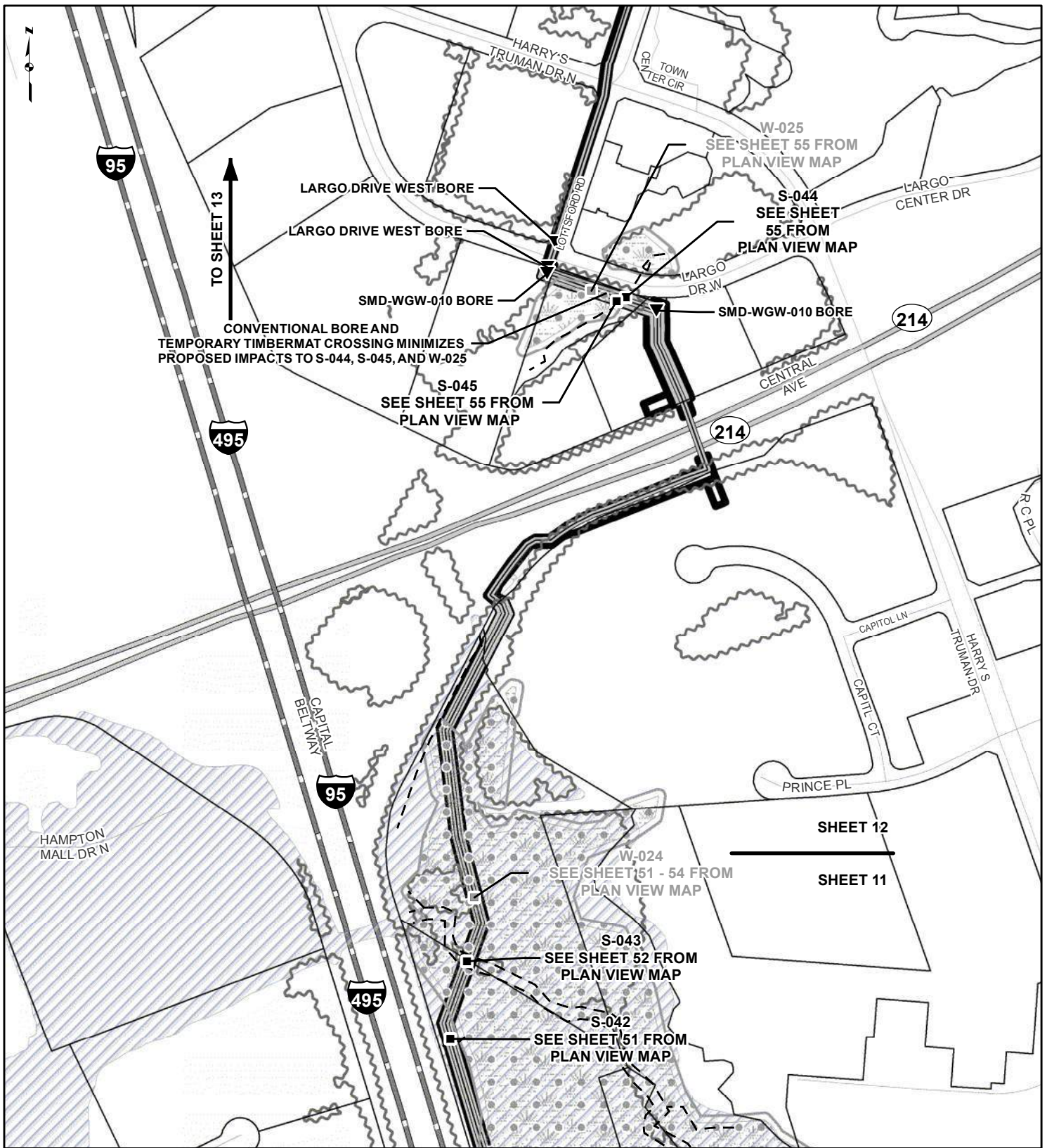


LEGEND		
▼ BORE LOCATION	— US HIGHWAY	▨ 100-YEAR FLOODPLAIN
■ HYDROLOGY CROSSING	— TOWNSHIP ROAD	▩ PERMANENT ROW
■ WETLAND CROSSING	— STATE ROAD	▩ LIMIT OF DISTURBANCE
▨ PROPOSED ROUTE	▨ WETLAND	▨ FOREST CANOPY
- - - STREAM	▨ POND	
▨ INTERSTATE ROAD	▨ WETLAND BUFFER	
	▨ PARCEL BOUNDARY	



REFERENCE: 100 YEAR FLOODPLAIN, FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), 2015. FOREST TREE CANOPY, PRINCE GEORGE COUNTY PLANNING DEPARTMENT, 2014. ROADS, US CENSUS BUREAU, 2015. PARCELS DOWNLOADED FROM PRINCE GEORGE COUNTY'S PLANNING DEPARTMENT'S GIS PORTAL, 06/2016.



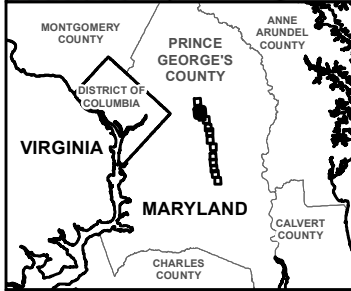


SHEET 12  
SHEET 11

**FIGURE 2B  
IMPACT AREA OVERVIEW MAP  
SHEET 12 OF 13**

PRINCE GEORGE'S COUNTY AND  
DISTRICT OF COLUMBIA RELIABILITY  
AND REINFORCEMENT PROJECT  
WASHINGTON GAS LIGHT COMPANY

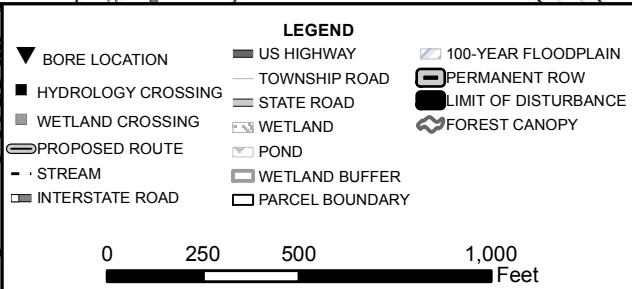
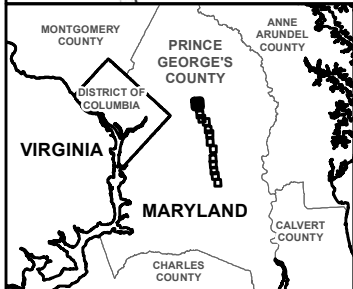
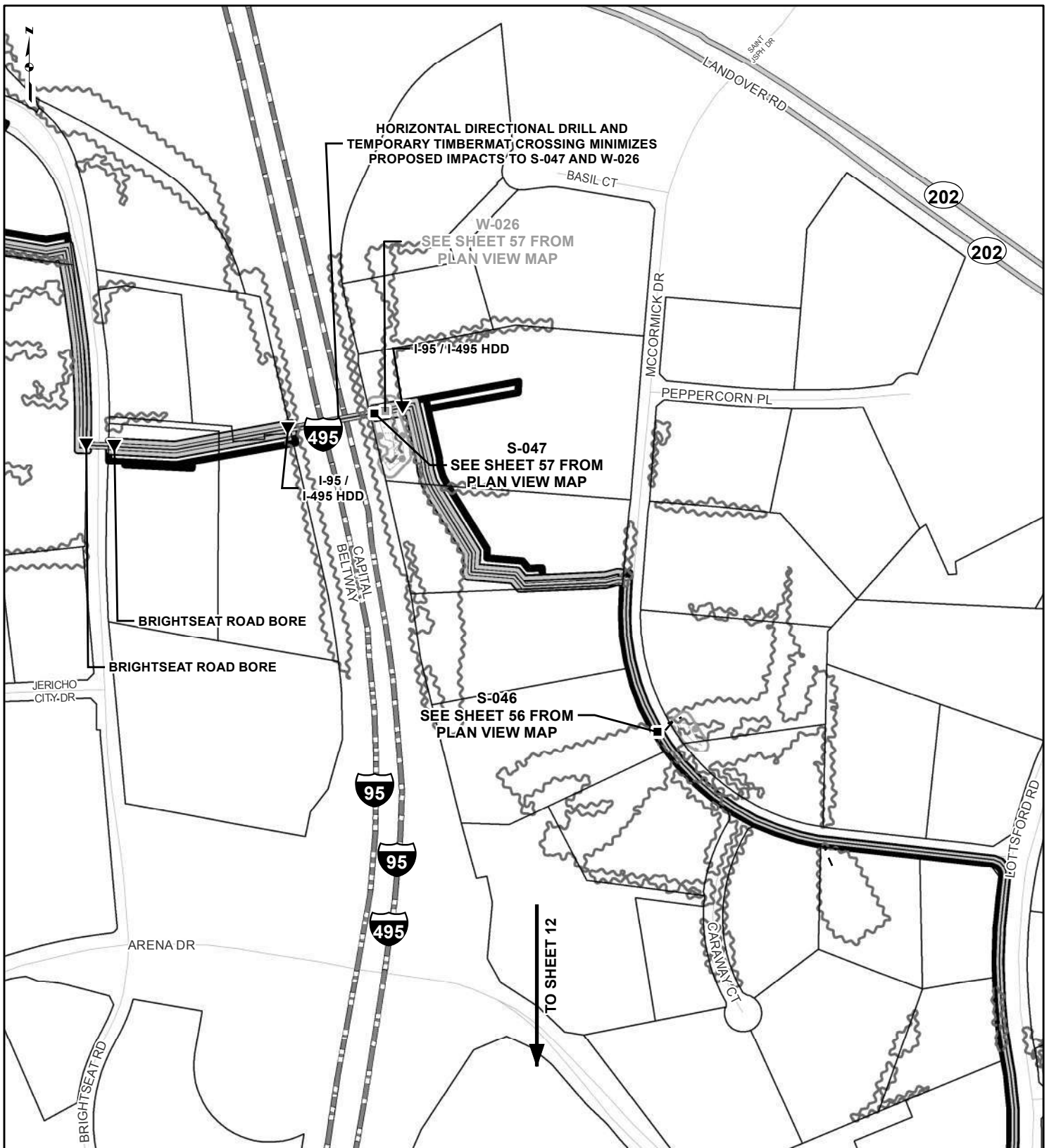
DRAWN BY: BJM      DATE: 12/20/2017  
CHECKED: JDP      APPROVED: CET



LEGEND		
▼ BORE LOCATION	— US HIGHWAY	▨ 100-YEAR FLOODPLAIN
■ HYDROLOGY CROSSING	— TOWNSHIP ROAD	▩ PERMANENT ROW
■ WETLAND CROSSING	— STATE ROAD	▩ LIMIT OF DISTURBANCE
▨ PROPOSED ROUTE	▨ WETLAND	▨ FOREST CANOPY
- - - STREAM	▨ POND	
▨ INTERSTATE ROAD	▨ WETLAND BUFFER	
	▨ PARCEL BOUNDARY	

0      250      500      1,000  
Feet

REFERENCE: 100 YEAR FLOODPLAIN, FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), 2015. FOREST TREE CANOPY, PRINCE GEORGE COUNTY PLANNING DEPARTMENT, 2014. ROADS, US CENSUS BUREAU, 2015. PARCELS DOWNLOADED FROM PRINCE GEORGE COUNTY'S PLANNING DEPARTMENT'S GIS PORTAL, 06/2016.



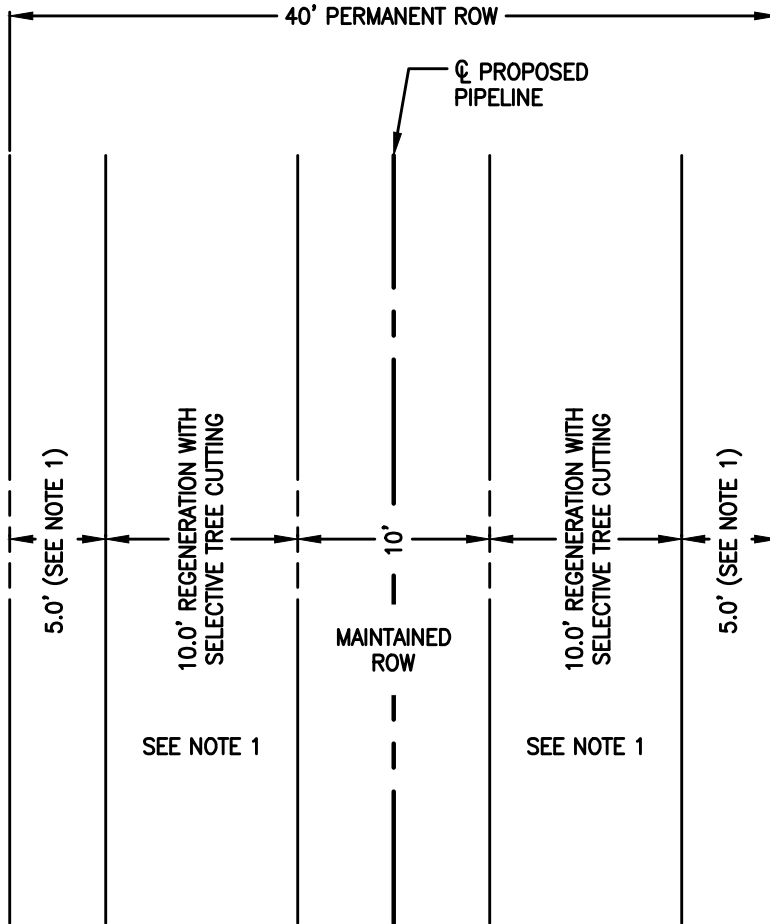
**FIGURE 2B  
IMPACT AREA OVERVIEW MAP  
SHEET 13 OF 13**

PRINCE GEORGE'S COUNTY AND DISTRICT OF COLUMBIA RELIABILITY AND REINFORCEMENT PROJECT  
WASHINGTON GAS LIGHT COMPANY

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REFERENCE: 100 YEAR FLOODPLAIN, FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), 2015. FOREST TREE CANOPY, PRINCE GEORGE COUNTY PLANNING DEPARTMENT, 2014. ROADS, US CENSUS BUREAU, 2015. PARCELS DOWNLOADED FROM PRINCE GEORGE COUNTY'S PLANNING DEPARTMENT'S GIS PORTAL, 06/2016.

GAI CAD FILE PATH: Z:\Energy\2013\C131838.00 - Strip - 12 Land Acqui\CAD\Production Drawings\NRI Plans\C131838-05-001-00-A2-FIG.dwg



**NOTES:**

1. AREA THAT WILL BE LEFT TO REGENERATE TO FORESTED WETLAND FOLLOWING CLEARING FOR PIPELINE CONSTRUCTION AND RESTORATION ACTIVITIES AS DESCRIBED IN THE EROSION AND SEDIMENT CONTROL PLAN.

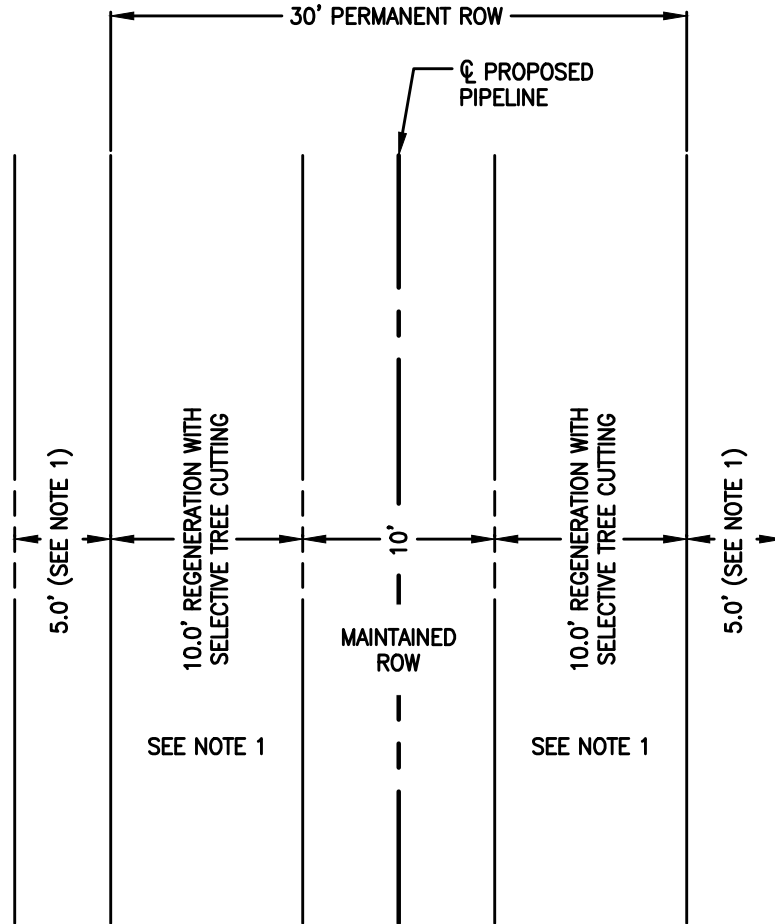
DRAWING TITLE		GAI DRAWING NUMBER:		
<b>FORESTED WETLAND REGENERATION - TYP. PIPELINE OPERATIONS ROW</b>		<b>JPA TYP. FIGURE 1</b>		
PROJECT		GAI FILE NUMBER:		
<b>PRINCE GEORGE'S COUNTY AND DISTRICT OF COLUMBIA RELIABILITY AND REINFORCEMENT PROJECT</b>		<b>C131838-05-001-00-A2-FIG</b>		
CLIENT		DRAWN BY:	CHECKED BY:	APPROVED BY:
<b>WASHINGTON GAS LIGHT COMPANY</b>		<b>DOYLEMP</b>	<b>NIKIFD</b>	<b>TRUECE</b>
		SHEET NO.:	SCALE:	ISSUE DATE:
		<b>1 OF 1</b>	<b>N.T.S.</b>	<b>11-21-2017</b>
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**NOTES:**

1. TEMPORARY WORKSPACE THAT WILL BE LEFT TO REGENERATE TO FORESTED WETLAND FOLLOWING CLEARING FOR PIPELINE CONSTRUCTION AND RESTORATION ACTIVITIES AS DESCRIBED IN THE EROSION AND SEDIMENT CONTROL PLAN.

DRAWING TITLE		GAI DRAWING NUMBER:		
FORESTED WETLAND REGENERATION - TYP. PIPELINE OPERATIONS ROW WITHIN SOUTHWEST BRANCH STREAM ALLEY PARK		<b>JPA TYP. FIGURE 2</b>		
PROJECT		GAI FILE NUMBER:		
<b>PRINCE GEORGE'S COUNTY AND DISTRICT OF COLUMBIA RELIABILITY AND REINFORCEMENT PROJECT</b>		<b>C131838-05-001-00-A2-FIG</b>		
CLIENT		DRAWN BY:	CHECKED BY:	APPROVED BY:
<b>WASHINGTON GAS LIGHT COMPANY</b>		<b>DOYLEMP</b>	<b>NIKIFD</b>	<b>TRUECE</b>
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**A SUMMARY OF RECOMMENDED BEST MANAGEMENT PRACTICES (BMPS) FOR RESTORATION OF WETLANDS AFTER TEMPORARY IMPACTS**

1. STOCKPILE AND HEAVY USE AREAS MAY NOT BE LOCATED IN WETLANDS.
2. A WETLAND-SPECIFIC MIX SUITABLE FOR THE REGION WILL BE USED.
3. PRECONSTRUCTION SURFACE CONTOURS WILL BE RESTORED UPON COMPLETION OF CONSTRUCTION.
4. VEGETATION WILL BE CUT TO GROUND LEVEL AS NEEDED. ROOT SYSTEMS WILL BE LEFT INTACT IN WETLANDS WHERE FEASIBLE
5. TREE STUMP REMOVAL WILL BE LIMITED TO THE TRENCH AREA. STUMPS OR ROOT SYSTEMS WILL ONLY BE REMOVED FROM THE ROW FOR SAFETY-RELATED CONSTRUCTION CONSTRAINTS
6. STABILIZATION WILL OCCUR ACCORDING TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN (E&SCP).
7. EXCAVATED MATERIAL WILL BE SORTED INTO TOPSOIL AND SUBSOIL.
8. TOPSOIL SHALL BE STOCKPILED SEPARATELY FROM SUBSOIL.
9. AN APPROPRIATE COVERING WILL BE USED TO COVER STOCKPILES TO PREVENT ESCAPE OF MATERIAL.
10. SUBSOIL WILL BE PLACED IN THE TRENCH AFTER THE APPROPRIATE PIPE BEDDING AND PADDING MATERIAL HAVE BEEN INSTALLED PER O&M 5288. APPROXIMATELY SIX TO EIGHT INCHES OF TRENCH DEPTH WILL BE LEFT TO ACCOMMODATE THE PLACEMENT OF TOPSOIL.
11. UNLESS REQUIRED TO PROTECT THE UNDERGROUND LINE, AGGREGATE USED DURING CONSTRUCTION SHALL BE REMOVED.
12. EXISTING ROADS TO BE USED WHERE PRACTICABLE FOR ACCESS AND OPERATION OF HEAVY EQUIPMENT. MATS AND HIGH FLOTATION EQUIPMENT TO BE USED AT LOCATIONS WHERE EQUIPMENT MUST BE OPERATED WITHIN A WETLAND AREA.

DRAWING TITLE		GAI DRAWING NUMBER:		
<b>SUMMARY OF WETLAND REFORESTATION BMP'S AFTER TEMPORARY IMPACTS</b>		<b>JPA TYP. BMP NOTES</b>		
PROJECT		GAI FILE NUMBER:		
<b>PRINCE GEORGE'S COUNTY AND DISTRICT OF COLUMBIA RELIABILITY AND REINFORCEMENT PROJECT</b>		<b>C131838-05-001-00-A2-FIG</b>		
CLIENT		DRAWN BY:	CHECKED BY:	APPROVED BY:
<b>WASHINGTON GAS LIGHT COMPANY</b>		<b>DOYLEMP</b>	<b>NIKIFD</b>	<b>TRUECE</b>
		SHEET NO.:	SCALE:	ISSUE DATE:
		<b>1 OF 1</b>	<b>N.T.S.</b>	<b>11-30-2017</b>
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**Table 1**  
**Project Activities in Nontidal Waterbodies**

Resource Crossing	GAI I.D. <sup>1</sup>	Impact Type <sup>2</sup>	Crossing Method <sup>2</sup>	Location		Waterbody Name	Watershed		Stream Water Quality Classification		Width of Waterbody Crossing (feet)	Linear Disturbance (feet)	Area of Temporary Disturbance		Area of Permanent Disturbance		Area of Temporary Timbermat Disturbance <sup>6</sup>		Stream Type	Figure 3b Plan View Map (Impact Plates) Sheet Number
				Latitude <sup>3</sup>	Longitude <sup>3</sup>		MD 8-Digit Hydrologic Unit Code and State Watershed Name	Federal Hydrologic Unit Code and Basin Name	Designated Use <sup>4</sup>	Anti-Degradation <sup>5</sup>			Square Feet	Acres	Square Feet	Acres	Square Feet	Acres		
S-001	SMD-JJP2-037	Pipeline, Access	Conventional Bore, Timbermat	38.767926	-76.808532	Unnamed Tributary (UNT) to Charles Branch	Western Branch	Patuxent	I	Tier I	4	46	184	< 0.01	0	0.00	56	< 0.01	Perennial	1
S-002	SMD-JJP2-036	Pipeline, Access	Conventional Bore, Timbermat	38.773549	-76.811228	UNT to Charles Branch	Western Branch	Patuxent	I	Tier I	4	42	168	< 0.01	0	0.00	50	< 0.01	Intermittent	3
S-003	SMD-JJP2-033	Pipeline, Access	Conventional Bore, Timbermat	38.783788	-76.816134	UNT to Charles Branch	Western Branch	Patuxent	I	Tier I	12	42	504	0.01	0	0.00	150	< 0.01	Perennial	7
<del>S-004</del> <del>S-050</del>	SMD-JJP2-031	None	HDD	<del>38.793872</del>	<del>-76.81884</del>	UNT to Charles Branch	Western Branch	Patuxent	I	Tier I	Impacts Eliminated via HDD									
<del>S-005</del> <del>S-051</del>	SMD-JJP2-030	None	HDD	<del>38.794964</del>	<del>-76.818753</del>	Charles Branch	Western Branch	Patuxent	I	Tier I	Impacts Eliminated via HDD									
<del>S-006</del> <del>S-052</del>	SMD-JJP2-030	None	HDD	<del>38.799363</del>	<del>-76.819109</del>	Charles Branch	Western Branch	Patuxent	I	Tier I	Impacts Eliminated via HDD									
<del>S-007</del>	<del>SMD-JJP2-030</del>	<del>None</del>	<del>HDD</del>	<del>38.796203</del>	<del>-76.818949</del>	<del>Charles Branch</del>	<del>Western Branch</del>	<del>Patuxent</del>	<del>I</del>	<del>Tier I</del>	<del>Impacts Eliminated via HDD</del>									
<del>S-008</del>	<del>SMD-JJP2-030</del>	<del>None</del>	<del>HDD</del>	<del>38.798337</del>	<del>-76.819063</del>	<del>Charles Branch</del>	<del>Western Branch</del>	<del>Patuxent</del>	<del>I</del>	<del>Tier I</del>	<del>Impacts Eliminated via HDD</del>									
<del>S-009</del>	<del>SMD-JJP2-030</del>	<del>None</del>	<del>HDD</del>	<del>38.799369</del>	<del>-76.81911</del>	<del>Charles Branch</del>	<del>Western Branch</del>	<del>Patuxent</del>	<del>I</del>	<del>Tier I</del>	<del>Impacts Eliminated via HDD</del>									
<del>S-010</del>	<del>SMD-JJP2-030</del>	<del>None</del>	<del>HDD</del>	<del>38.799866</del>	<del>-76.819145</del>	<del>Charles Branch</del>	<del>Western Branch</del>	<del>Patuxent</del>	<del>I</del>	<del>Tier I</del>	<del>Impacts Eliminated via HDD</del>									
S-011	SMD-JJP2-029	Pipeline, Access	OCDC, Timbermat	38.801953	-76.819167	UNT to Charles Branch	Western Branch	Patuxent	I	Tier I	6	67	402	0.01	0	0.00	154	< 0.01	Intermittent	10
S-012	SMD-JJP2-028	Pipeline, Access	OCDC, Timbermat	38.803957	-76.819254	UNT to Charles Branch	Western Branch	Patuxent	I	Tier I	8	93	744	0.02	0	0.00	213	< 0.01	Intermittent	11
S-013	SMD-JJP2-027	Pipeline	OCDC	38.807298	-76.819429	UNT to Charles Branch	Western Branch	Patuxent	I	Tier I	3	92	276	0.01	0	0.00	0	0.00	Intermittent	12
<del>S-014</del> <del>S-053</del>	SMD-JJP2-026A	None	HDD	<del>38.813586</del>	<del>-76.819467</del>	UNT to Back Branch	Western Branch	Patuxent	I	Tier I	Impacts Eliminated via HDD									
<del>S-015</del> <del>S-054</del>	SMD-JJP2-026	None	HDD	<del>38.816678</del>	<del>-76.819356</del>	UNT to Back Branch	Western Branch	Patuxent	I	Tier I	Impacts Eliminated via HDD									
<del>S-016</del>	<del>SMD-JJP2-026</del>	<del>None</del>	<del>HDD</del>	<del>38.816207</del>	<del>-76.819382</del>	<del>UNT to Back Branch</del>	<del>Western Branch</del>	<del>Patuxent</del>	<del>I</del>	<del>Tier I</del>	<del>Impacts Eliminated via HDD</del>									
<del>S-017</del>	<del>SMD-JJP2-026</del>	<del>None</del>	<del>HDD</del>	<del>38.816936</del>	<del>-76.819368</del>	<del>UNT to Back Branch</del>	<del>Western Branch</del>	<del>Patuxent</del>	<del>I</del>	<del>Tier I</del>	<del>Impacts Eliminated via HDD</del>									
S-018	SMD-JJP2-024	Access	Timbermat	38.818087	-76.818599	Back Branch	Western Branch	Patuxent	I	Tier I	9	34	306	0.01	0	0.00	118	< 0.01	Perennial	15

Table 1 (Continued)

Resource Crossing	GAI I.D. <sup>1</sup>	Impact Type <sup>2</sup>	Crossing Method <sup>2</sup>	Location		Waterbody Name	Watershed		Stream Water Quality Classification		Width of Water-body Crossing (feet)	Linear Disturbance (feet)	Area of Temporary Disturbance		Area of Permanent Disturbance		Area of Temporary Timbermat Disturbance <sup>6</sup>		Stream Type	Figure 3b Plan View Map (Impact Plates) Sheet Number
				Latitude <sup>3</sup>	Longitude <sup>3</sup>		MD 8-Digit Hydrologic Unit Code and State Watershed Name	Federal Hydrologic Unit Code and Basin Name	Designated Use <sup>4</sup>	Anti-Degradation <sup>5</sup>			Square Feet	Acres	Square Feet	Acres	Square Feet	Acres		
S-055	SMD-JJP2-024	None	HDD	38.818086	-76.819293	UNT to Back Branch	Western Branch	Patuxent	I	Tier I			Impacts Eliminated via HDD							
S-019 S-056	SMD-JJP2-025	None	HDD	38.818216	-76.819281	UNT to Back Branch	Western Branch 2131103	Patuxent 2060006	I	Tier I			Impacts Eliminated via HDD							
S-020 S-057	SMD-JJP2-023	None	HDD	38.819859	-76.819179	UNT to Back Branch	Western Branch 2131103	Patuxent 2060006	I	Tier I			Impacts Eliminated via HDD							
S-021	SMD-JJP2-023	None	HDD	38.820351	-76.819205	UNT to Back Branch	Western Branch 2131103	Patuxent 2060006	I	Tier I			Impacts Eliminated via HDD							
S-022	SMD-WGW-037	Pipeline, Access	OCDC, Timbermat	38.827591	-76.818881	UNT to Cabin Branch	Western Branch 2131103	Patuxent 2060006	I	Tier I	3	42	126	< 0.01	0	0.00	37	< 0.01	Intermittent	16
S-023	SMD-JJP2-013	Pipeline, Access	OCDC, Timbermat	38.831456	-76.818004	UNT to Cabin Branch	Western Branch 2131103	Patuxent 2060006	I	Tier I	5	46	230	0.01	0	0.00	67	< 0.01	Perennial	17
S-024	SMD-WGW-036	Pipeline, Access	OCDC, Timbermat	38.832641	-76.81707	UNT to Cabin Branch	Western Branch 2131103	Patuxent 2060006	I	Tier I	3	41	123	< 0.01	0	0.00	37	< 0.01	Ephemeral	18
S-025	SMD-JJP2-010	Pipeline, Access	OCDC, Timbermat	38.834733	-76.817716	Cabin Branch	Western Branch 2131103	Patuxent 2060006	I	Tier I	30	40	1185	0.03	0	0.00	349	0.01	Perennial	19
S-026	SMD-JJP2-007	Pipeline, Access	OCDC, Timbermat	38.840047	-76.822715	UNT to Cabin Branch	Western Branch 2131103	Patuxent 2060006	I	Tier I	8	43	344	0.01	0	0.00	103	< 0.01	Perennial	21
S-027	SMD-JJP2-007	Pipeline, Access	OCDC, Timbermat	38.841719	-76.823779	UNT to Cabin Branch	Western Branch 2131103	Patuxent 2060006	I	Tier I	8	47	376	0.01	0	0.00	111	< 0.01	Perennial	22
S-028	SMD-JJP2-014	Pipeline, Access	OCDC, Timbermat	38.848559	-76.824164	UNT to Turkey Branch	Western Branch 2131103	Patuxent 2060006	I	Tier I*	4	95	380	0.01	0	0.00	115	< 0.01	Intermittent	23
S-029	SMD-WGW-035	Pipeline, Access	OCDC, Timbermat	38.855242	-76.824535	Turkey Branch	Western Branch 2131103	Patuxent 2060006	I	Tier II	13	50	532	0.01	0	0.00	161	< 0.01	Perennial	24
S-030	SMD-WGW-027	Pipeline, Access	OCDC, Timbermat	38.860568	-76.823884	UNT to Southwest Branch	Western Branch 2131103	Patuxent 2060006	I	Tier I	8	43	344	0.01	0	0.00	103	< 0.01	Perennial	27
S-031	SMD-WGW-030	Pipeline, Access	OCDC, Timbermat	38.86437	-76.824126	UNT to Southwest Branch	Western Branch 2131103	Patuxent 2060006	I	Tier I	3	46	138	< 0.01	0	0.00	42	< 0.01	Intermittent	28
S-032	SMD-WGW-038	Pipeline, Access	OCDC, Timbermat	38.865355	-76.828614	UNT to Southwest Branch	Western Branch 2131103	Patuxent 2060006	I	Tier I	4	40	160	< 0.01	0	0.00	48	< 0.01	Intermittent	29
S-033	SMD-WGW-026	Pipeline, Access	OCDC, Timbermat	38.866394	-76.829124	UNT to Southwest Branch	Western Branch 2131103	Patuxent 2060006	I	Tier I	8	41	328	0.01	0	0.00	97	< 0.01	Perennial	30
S-034	SMD-WGW-013	Pipeline, Access	OCDC, Timbermat	38.867195	-76.828302	UNT to Southwest Branch	Western Branch 2131103	Patuxent 2060006	I	Tier I	3	29	87	< 0.01	0	0.00	37	< 0.01	Ephemeral	31
S-035	PMD-WGW-003	LOD	N/A	38.867179	-76.828186	Pond	Western Branch 2131103	Patuxent 2060006	I	Tier I	10	75	545	0.01	0	0.00	0	0.00	Pond	31

Table 1 (Continued)

Resource Crossing	GAI I.D. <sup>1</sup>	Impact Type <sup>2</sup>	Crossing Method <sup>2</sup>	Location		Waterbody Name	Watershed		Stream Water Quality Classification		Width of Water-body Crossing (feet)	Linear Disturbance (feet)	Area of Temporary Disturbance		Area of Permanent Disturbance		Area of Temporary Timbermat Disturbance <sup>6</sup>		Stream Type	Figure 3b Plan View Map (Impact Plates) Sheet Number
				Latitude <sup>3</sup>	Longitude <sup>3</sup>		MD 8-Digit Hydrologic Unit Code and State Watershed Name	Federal Hydrologic Unit Code and Basin Name	Designated Use <sup>4</sup>	Anti-Degradation <sup>5</sup>			Square Feet	Acres	Square Feet	Acres	Square Feet	Acres		
S-036	SMD-MGS-015	Pipeline, Access	OCDC, Timbermat	38.876133	-76.827457	UNT to SW Branch W Branch Patuxent River	Western Branch 2131103	Patuxent 2060006	I	Tier I	9	33	297	< 0.01	0	0.00	119	< 0.01	Perennial	32
S-037	SMD-MGS-008	Pipeline, Access	OCDC, Timbermat	38.876764	-76.828969	UNT to SW Branch W Branch Patuxent River	Western Branch 2131103	Patuxent 2060006	I	Tier I	6	30	180	< 0.01	0	0.00	72	< 0.01	Intermittent	33-34
S-038	SMD-MGS-009	Pipeline, Access	OCDC, Timbermat	38.878127	-76.831666	UNT to SW Branch W Branch Patuxent River	Western Branch 2131103	Patuxent 2060006	I	Tier I	14	33	398	0.01	0	0.00	152	< 0.01	Perennial	36
S-039	SMD-MGS-010	Pipeline, Access	OCDC, Timbermat	38.880005	-76.834004	UNT to SW Branch W Branch Patuxent River	Western Branch 2131103	Patuxent 2060006	I	Tier I	9	40	360	0.01	0	0.00	108	< 0.01	Perennial	39
S-040	SMD-JJP2-005	Pipeline, Access	OCDC, Timbermat	38.88363	-76.839445	UNT to SW Branch W Branch Patuxent River	Western Branch 2131103	Patuxent 2060006	I	Tier I	5	42	210	< 0.01	0	0.00	62	< 0.01	Perennial	45
S-041	SMD-WGW-015	Pipeline, Access	OCDC, Timbermat	38.885773	-76.84359	UNT to SW Branch W Branch Patuxent River	Western Branch 2131103	Patuxent 2060006	I	Tier I	4	40	160	< 0.01	0	0.00	48	< 0.01	Ephemeral	49
S-042	SMD-WGW-016	Pipeline, Access	OCDC, Timbermat	38.887707	-76.844689	UNT to SW Branch W Branch Patuxent River	Western Branch 2131103	Patuxent 2060006	I	Tier I	6	49	294	< 0.01	0	0.00	81	< 0.01	Ephemeral	51
S-043	SMD-WGW-017	Pipeline, Access	OCDC, Timbermat	38.888498	-76.844469	SW Branch W Branch Patuxent River	Western Branch 2131103	Patuxent 2060006	I	Tier I	46	40	1831	0.04	0	0.00	549	0.01	Perennial	52
S-044	SMD-WGW-010	Pipeline	Conventional Bore, Timbermat	38.895245	-76.842385	UNT to Southwest Branch	Western Branch 2131103	Patuxent 2060006	I	Tier I	8	22	176	< 0.01	0	0.00	3	< 0.01	Perennial	55
S-045	PMD-MGS-001	Pipeline	Conventional Bore, Timbermat	38.89521	-76.842507	Pond	Western Branch 2131103	Patuxent 2060006	I	Tier I	20	74	1,387	0.03	0	0.00	745	0.02	Pond	55
S-046	SMD-JJP2-002	Pipeline, Access	OCDC, Timbermat	38.909429	-76.846061	UNT to Southwest Branch	Western Branch 2131103	Patuxent 2060006	I	Tier I	31	22	728	0.02	0	0.00	0	0.00	Perennial	56
S-047	PMD-JJP2-002	Pipeline, Access	HDD, Timbermat	38.912672	-76.849732	Pond	Western Branch 2131103	Patuxent 2060006	I	Tier I	40	12	427	0.01	0	0.00	103	< 0.01	Pond	57
S-048	SMD-WGW-100	Pipeline, Access	OCDC, Timbermat	38.848644	-76.824107	UNT to Turkey Branch	Western Branch 2131103	Patuxent 2060006	I	Tier II	7	5	35	< 0.01	0	0.00	3	< 0.01	Ephemeral	23
S-049	SMD-WGW-103	Pipeline, Access	OCDC, Timbermat	38.866434	-76.829141	UNT to Southwest Branch	Western Branch 2131103	Patuxent 2060006	I	Tier I	5	38	190	< 0.01	0	0.00	66	< 0.01	Ephemeral	30
<b>Totals<sup>8</sup></b>												<b>1,574</b>	<b>14,155</b>	<b>0.34</b>	<b>0</b>	<b>0.00</b>	<b>4,159</b>	<b>0.12</b>		

Notes:

- GAI map designation.
- Pipeline construction within waterbodies will typically be completed using open-cut dry-crossing (OCDC) methods. Equipment access across waterbodies will be completed using temporary timbermats.
- North American Datum, 1983.
- Designated Uses of MD waters: I - Water Contact Recreation, and Protection of Non-tidal Warm Water Aquatic Life. **No waters within the Project area are designated for the use of Public Water Supply.** Accessed January 2017 at: <http://www.mde.maryland.gov/programs/Water/TMDL/WaterQualityStandards/Pages/DesignatedUsesMaps.aspx>.
- As indicated in the COMAR 26.08.02.04-1 Anti-degradation Policy Implementation Procedures; Tier I specifies the minimum standard that must be met - support of balanced indigenous populations and support of contact recreation - this is often referred to as "fishable-swimmable," and Tier II specifies that the waters are "high quality waters.". An (\*) indicates the stream was identified as a Tier I channel but is located within the Tier II catchment area. Accessed January 2017 at: <http://www.mde.state.md.us/programs/Water/TMDL/Water%20Quality%20Standards/Pages/Programs/WaterPrograms/TMDL/wqstandards/index.aspx>
- Reported as the approximate area of temporary timbermat to be used at each crossing. Area may vary during construction to address site specific constraints. This is not an additional impact. Refer to Impact and Conversion columns for total proposed impacts per crossing.
- Jurisdictional status of wetlands and waterbodies located during this survey is the opinion of GAI and an official Jurisdictional Determination has not been completed.
- Total stream impacts listed in this Table include temporary impacts to three ponds. The temporary disturbance associated with stream segments classified as ephemeral, intermittent, and perennial stream channels include the following: Ephemeral streams (202 linear feet, 889 square feet); Intermittent streams (547 linear feet, 2,574 square feet); Perennial streams (664 linear feet, 8,333 square feet). No permanent disturbance is proposed to streams or ponds.**



**Table 2**  
**Project Activities in Nontidal Wetlands**

Resource Crossing	GAI I.D. <sup>1</sup>	Impacted by	Crossing Method	Location		Watershed		National Wetlands Inventory (NWI) Classification /Stream Type	Total Wetland Impact Area		Wetland Buffer Impact Area (Perm Impact)		Wetland Buffer Impact Area (Temp Impact)		Area of Temporary PEM Wetland Impact		Approximate Area of Temporary Timbermat Disturbance		Area of Temporary PFO Wetland Impact <sup>3</sup>		Area of Permanent Conversion		Permanent Loss of Wetlands		Figure 3b Plan View Map (Impact Plates) Sheet Number		
				Latitude <sup>2</sup>	Longitude <sup>2</sup>	MD 8-Digit Hydrologic Unit Code and State Watershed Name	Federal Hydrologic Unit Code and Basin Name		Square Feet (S.F.)	Acres	S.F.	Acres	S.F.	Acres	S.F.	Acres	S.F.	Acres	S.F.	Acres	S.F.	Acres	S.F.	Acres		S.F.	Acres
W-001	WMD-JJP2-031	Pipeline, Access	<b>Conventional Bore,</b> Timbermat	38.76791	-76.808525	Western Branch 2131103	Patuxent 2060006	PEM	3,660	0.08	0	0.00	3,662	0.08	3,660	0.08	2,202	0.05	0	0.00	0	0.00	0	0.00	1		
W-002	WMD-JJP2-030	Pipeline, Access	OC, Timbermat	38.769444	-76.809259	Western Branch 2131103	Patuxent 2060006	PEM	1,392	0.03	566	0.01	2,121	0.05	1,392	0.03	1,244	0.03	0	0.00	0	0.00	0	0.00	2		
W-003	WMD-JJP2-029	Pipeline, Access	<b>Conventional Bore,</b> Timbermat	38.773528	-76.811217	Western Branch 2131103	Patuxent 2060006	PEM	889	0.02	0	0.00	2,129	0.05	889	0.02	907	0.02	0	0.00	0	0.00	0	0.00	3		
W-004	WMD-JJP2-028	Pipeline, Access	OC, Timbermat	38.775022	-76.811934	Western Branch 2131103	Patuxent 2060006	PEM	733	0.02	0	0.00	2,186	0.05	733	0.02	885	0.02	0	0.00	0	0.00	0	0.00	4		
W-005	WMD-JJP2-027	Pipeline, Access	OC, Timbermat	38.777798	-76.813233	Western Branch 2131103	Patuxent 2060006	PEM	1,708	0.04	1,143	0.03	2,600	0.06	1,708	0.04	1,684	0.04	0	0.00	0	0.00	0	0.00	5		
W-006	WMD-JJP2-026	Pipeline, Access	OC, Timbermat	38.781965	-76.815218	Western Branch 2131103	Patuxent 2060006	PEM	76	< 0.01	177	< 0.01	2,215	0.05	76	< 0.01	680	0.02	0	0.00	0	0.00	0	0.00	6		
W-007	WMD-JJP2-025	Access	Timbermat	38.786093	-76.817187	Western Branch 2131103	Patuxent 2060006	PEM	0	0.00	0	0.00	461	0.01	0	0.00	159	0.00	0	0.00	0	0.00	0	0.00	8		
W-008	WMD-JJP2-024	Pipeline, Access	OC, Timbermat	38.787527	-76.817926	Western Branch 2131103	Patuxent 2060006	PEM	1,346	0.03	0	0.00	4,795	0.11	1,346	0.03	1,678	0.04	0	0.00	0	0.00	0	0.00	9		
<del>W-009</del> <b>W-027</b>	WMD-JJP2-023	None	<b>Temporary Timbermats</b>	<b>38.793641</b>	<b>-76.818189</b>	Western Branch 2131103	Patuxent 2060006	PEM	Impacts Eliminated via HDD																		
<del>W-010</del> <b>W-028</b>	WMD-JJP2-022	None	<b>Temporary Timbermats</b>	<b>38.79574</b>	<b>-76.818203</b>	Western Branch 2131103	Patuxent 2060006	PEM	Impacts Eliminated via HDD																		
<del>W-011</del> <b>W-029</b>	WMD-JJP2-021	None	HDD	<b>38.799007</b>	<b>-76.818897</b>	Western Branch 2131103	Patuxent 2060006	PEM	Impacts Eliminated via HDD																		
W-012	WMD-JJP2-020	Access	Timbermat	38.801924	-76.818811	Western Branch 2131103	Patuxent 2060006	PEM	39	< 0.01	0	0.00	1,277	0.03	39	< 0.01	551	0.01	0	0.00	0	0.00	0	0.00	<b>10</b>		
W-013	WMD-JJP2-019	Access	Timbermat	38.813451	-76.818783	Western Branch 2131103	Patuxent 2060006	PEM	556	0.01	0	0.00	2,195	0.05	556	0.01	969	0.02	0	0.00	0	0.00	0	0.00	<b>13</b>		
<b>W-030</b>	WMD-JJP2-019	<b>None</b>	<b>HDD</b>	<b>38.813761</b>	<b>-76.819455</b>	<b>Western Branch</b> <b>2131103</b>	<b>Patuxent</b> <b>2060006</b>	<b>PEM</b>	<b>Impacts Eliminated via HDD</b>																		
W-014	WMD-JJP2-018	Access	Timbermat	38.817952	-76.818623	Western Branch 2131103	Patuxent 2060006	PEM	2,449	0.06	0	0.00	2,920	0.07	2,449	0.06	0	0.00	0	0.00	0	0.00	0	0.00	<b>14-15</b>		
<b>W-031</b>	<b>WMD-JJP2-018</b>	<b>None</b>	<b>HDD</b>	<b>38.816541</b>	<b>-76.819331</b>	<b>Western Branch</b> <b>2131103</b>	<b>Patuxent</b> <b>2060006</b>	<b>PEM</b>	<b>Impacts Eliminated via HDD</b>																		

**Table 2 (Continued)**

Resource Crossing	GAI I.D. <sup>1</sup>	Impacted by	Crossing Method	Location		Watershed		National Wetlands Inventory (NWI) Classification /Stream Type	Total Wetland Impact Area		Wetland Buffer Impact Area (Perm Impact)		Wetland Buffer Impact Area (Temp Impact)		Area of Temporary PEM Wetland Impact		Approximate Area of Temporary Timbermat Disturbance		Area of Temporary PFO Wetland Impact <sup>3</sup>		Area of Permanent Conversion		Permanent Loss of Wetlands		Figure 3b Plan View Map (Impact Plates) Sheet Number
				Latitude <sup>2</sup>	Longitude <sup>2</sup>	MD 8-Digit Hydrologic Unit Code and State Watershed Name	Federal Hydrologic Unit Code and Basin Name		Square Feet (S.F.)	Acres	S.F.	Acres	S.F.	Acres	S.F.	Acres	S.F.	Acres	S.F.	Acres	S.F.	Acres	S.F.	Acres	
W-015	WMD-JJP2-017	Access	Timbermat	38.818439	-76.818513	Western Branch	Patuxent	<b>PEM</b>	2,872	0.07	0	0.00	1,589	0.04	2,872	0.07	1,777	0.04	0	0.00	0	0.00	0	0.00	<b>15</b>
						2131103	2060006																		
W-016	WMD-JJP2-009	Pipeline, Access, ROW	OC, Timbermat	38.835509	-76.818178	Western Branch	Patuxent	PFO	1,486	0.03	2,445	0.06	782	0.02	0	0.00	1,786	0.04	400	0.01	1,086	0.02	0	0.00	<b>20</b>
						2131103	2060006																		
W-017	WMD-MGS-020	Pipeline, Access, ROW	OC, Timbermat	38.855347	-76.824513	Western Branch	Patuxent	PFO	7,296	0.17	2,455	0.06	776	0.02	0	0.00	3,147	0.07	1,833	0.04	5,463	0.13	0	0.00	<b>24</b>
						2131103	2060006																		
W-018	WMD-MGS-019	Pipeline, Access, ROW	OC, Timbermat	38.856816	-76.824187	Western Branch	Patuxent	PFO	1,304	0.03	7,083	0.16	1,573	0.04	0	0.00	4,435	0.10	629	0.01	675	0.02	0	0.00	<b>25-26</b>
						2131103	2060006																		
W-019	WMD-MGS-005	Pipeline, Access, ROW	OC, Timbermat	38.866219	-76.829074	Western Branch	Patuxent	PFO	711	0.02	1,569	0.04	650	0.01	0	0.00	783	0.02	190	< 0.01	521	0.01	0	0.00	<b>30</b>
						2131103	2060006																		
W-020	WMD-JJP2-006	Pipeline, Access, ROW	OC, Timbermat <sup>5</sup>	38.8823	-76.835737	Western Branch	Patuxent	PFO	0	0.00	1,166	0.03	619	0.01	0	0.00	1,017	0.02	0	0.00	0	0.00	0	0.00	<b>41</b>
						2131103	2060006																		
<b>W-020A</b>	<b>WMD-WGW-101</b>	<b>Pipeline, Access, ROW</b>	<b>OC, Timbermat</b>	<b>38.882659</b>	<b>-76.837338</b>	<b>Western Branch</b>	<b>Patuxent</b>	<b>PFO</b>	<b>1,836</b>	<b>0.04</b>	<b>1,578</b>	<b>0.04</b>	<b>532</b>	<b>0.01</b>	<b>0</b>	<b>0.00</b>	<b>611</b>	<b>0.1</b>	<b>449</b>	<b>0.01</b>	<b>1,387</b>	<b>0.03</b>	<b>0</b>	<b>0.00</b>	<b>42-43</b>
						<b>2131103</b>	<b>2060006</b>																		
<b>W-020B</b>	<b>WMD-WGW-102</b>	<b>Pipeline, Access, ROW</b>	<b>OC, Timbermat</b>	<b>38.882763</b>	<b>-76.837762</b>	<b>Western Branch</b>	<b>Patuxent</b>	<b>PFO</b>	<b>324</b>	<b>&lt; 0.01</b>	<b>1,921</b>	<b>0.04</b>	<b>531</b>	<b>0.01</b>	<b>0</b>	<b>0.00</b>	<b>193</b>	<b>&lt; 0.01</b>	<b>96</b>	<b>&lt; 0.01</b>	<b>228</b>	<b>0.01</b>	<b>0</b>	<b>0.00</b>	<b>43</b>
						<b>2131103</b>	<b>2060006</b>																		
W-021	WMD-JJP2-006	Access	Timbermat	38.883327	-76.839056	Western Branch	Patuxent	PFO	0	< 0.01	0	0.00	3	< 0.01	0	0.00	3	< 0.01	0	0.00	0	0.00	0	0.00	<b>44</b>
						2131103	2060006																		
W-022	WMD-JJP2-006	Pipeline, Access, ROW	OC, Timbermat	38.883945	-76.841798	Western Branch	Patuxent	PFO	12,838	0.29	8,735	0.20	2,529	0.06	0	0.00	6,239	0.14	3,403	0.08	9,435	0.22	0	0.00	<b>46-48</b>
						2131103	2060006																		
W-023	WMD-JJP2-006	Pipeline, Access, ROW	OC, Timbermat	38.88589	-76.843701	Western Branch	Patuxent	PFO	13,820	0.32	5,232	0.12	1,676	0.04	0	0.00	5,849	0.13	3,450	0.08	10,370	0.24	0	0.00	<b>49-50</b>
						2131103	2060006																		
W-024	WMD-JJP2-006	Pipeline, Access, ROW	OC, Timbermat	38.895317	-76.844374	Western Branch	Patuxent	PFO	<b>39,884</b>	<b>0.92</b>	<b>1,932</b>	0.04	<b>641</b>	0.01	0	0.00	<b>11,961</b>	<b>0.27</b>	<b>9,978</b>	0.23	<b>29,906</b>	0.69	0	0.00	<b>51-54</b>
						2131103	2060006																		
W-025	WMD-MGS-006	Pipeline, Access, ROW	<b>Conventional Bore, Timbermat</b>	38.895301	-76.842835	Western Branch	Patuxent	PFO	2,062	0.05	4,476	0.10	1,076	0.02	0	0.00	2,772	0.06	691	0.02	1,371	0.03	0	0.00	<b>55</b>
						2131103	2060006																		
W-026	WMD-JJP2-002	Access, ROW	HDD, Timbermat	38.912696	-76.849597	Western Branch	Patuxent	PFO	846	0.02	752	0.02	250	< 0.01	0	0.00	568	0.01	211	< 0.01	635	0.01	0	0.00	<b>57</b>
		Access, ROW	HDD, Timbermat	38.912696	-76.849597	Western Branch	Patuxent		PEM	1,500	0.03	0	0.00	427	0.01	1,500	0.03	544	0.01	0	0.00	0	0.00	0	0.00
<b>Totals</b>									<b>99,627</b>	<b>2.32</b>	<b>41,230</b>	<b>0.96</b>	<b>40,215</b>	<b>0.93</b>	<b>17,220</b>	<b>0.41</b>	<b>52,644</b>	<b>1.28</b>	<b>21,330</b>	<b>0.51</b>	<b>61,077</b>	<b>1.40</b>	<b>0</b>	<b>0.00</b>	

Notes:  
<sup>1</sup> GAI map designation.  
<sup>2</sup> North American Datum, 1983  
<sup>3</sup> Reported as the approximate area of temporary timbermat to be used at each crossing. Area may vary during construction to address site specific constraints. This is not an additional impact. Refer to Impact and Conversion columns for total proposed impacts per crossing.  
<sup>4</sup> Jurisdictional status of wetlands and waterbodies located during this survey is the opinion of GAI and an official Jurisdictional Determination has not been completed.

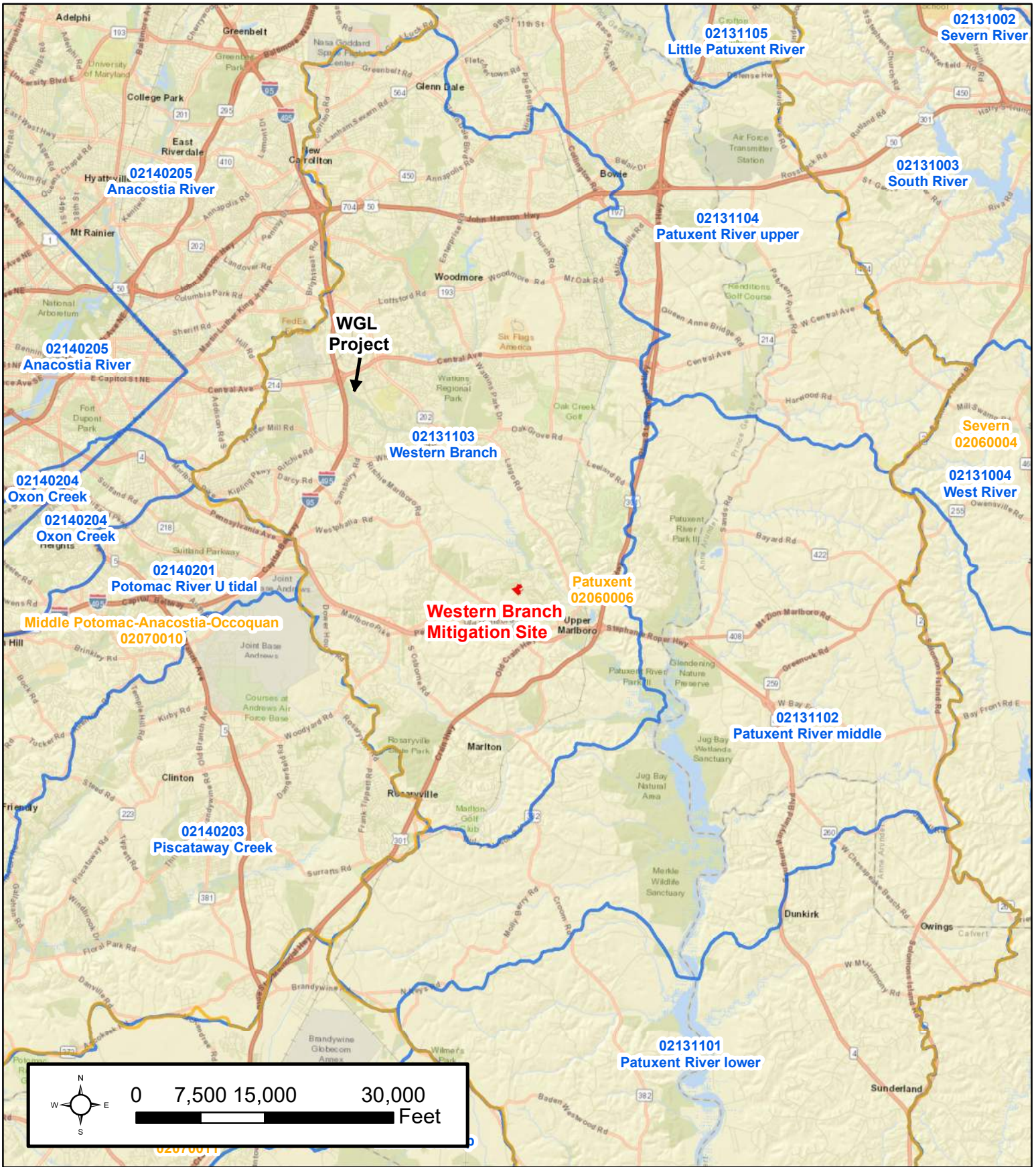
**Table 3**  
**Project Activities in Floodplains**

Resource Crossing	Impact Type	Location		Watershed		Area of Temporary Disturbance		Area of Permanent Disturbance		Figure 3b Plan View Map (Impact Plates) Sheet Number
		Latitude <sup>1</sup>	Longitude <sup>1</sup>	MD 8-Digit Hydrologic Unit Code and State Watershed Name	Federal Hydrologic Unit Code and Basin Name	Square Feet	Acres	Square Feet	Acres	
F-001	None	38.79448	-76.8187	Western Branch 2131103	Patuxent 2060006	Impacts Eliminated via HDD				
F-002	None	38.79903	-76.8191	Western Branch 2131103	Patuxent 2060006	Impacts Eliminated via HDD				
F-003	Access	38.81804	-76.8189	Western Branch 2131103	Patuxent 2060006	8,471	0.19	0	0	<b>14-15</b>
F-004	Pipeline, Access, ROW	38.83478	-76.8179	Western Branch 2131103	Patuxent 2060006	35,184	0.81	0	0	<b>19-20</b>
F-005	Pipeline, Access, ROW	38.85531	-76.8245	Western Branch 2131103	Patuxent 2060006	7,983	0.18	0	0	<b>24</b>
F-006	Pipeline, Access, ROW	38.88242	-76.8373	Western Branch 2131103	Patuxent 2060006	<b>387,644</b>	<b>8.90</b>	0	0	<b>32-54</b>
<b>F-007</b>	<b>None</b>	<b>38.79558</b>	<b>-76.81877</b>	<b>Western Branch 2131103</b>	<b>Patuxent 2060006</b>	<b>Impacts Eliminated via HDD</b>				
<b>F-008</b>	<b>None</b>	<b>38.81791</b>	<b>-76.81929</b>	<b>Western Branch 2131103</b>	<b>Patuxent 2060006</b>	<b>Impacts Eliminated via HDD</b>				
<b>Totals</b>						<b>439,282</b>	<b>10.08</b>	<b>0</b>	<b>0</b>	

Notes:

- <sup>1</sup> GAI map designation.
- <sup>2</sup> North American Datum, 1983.

**APPENDIX A – CONCEPTUAL MITIGATION PLAN**



**Legend**

- Federal HUC8 Watershed
- Maryland 8-Digit Watershed
- Western Branch Mitigation Site

**Figure 1**  
**State and Federal Watershed Map**  
*Western Branch*  
*Wetland Mitigation Project*

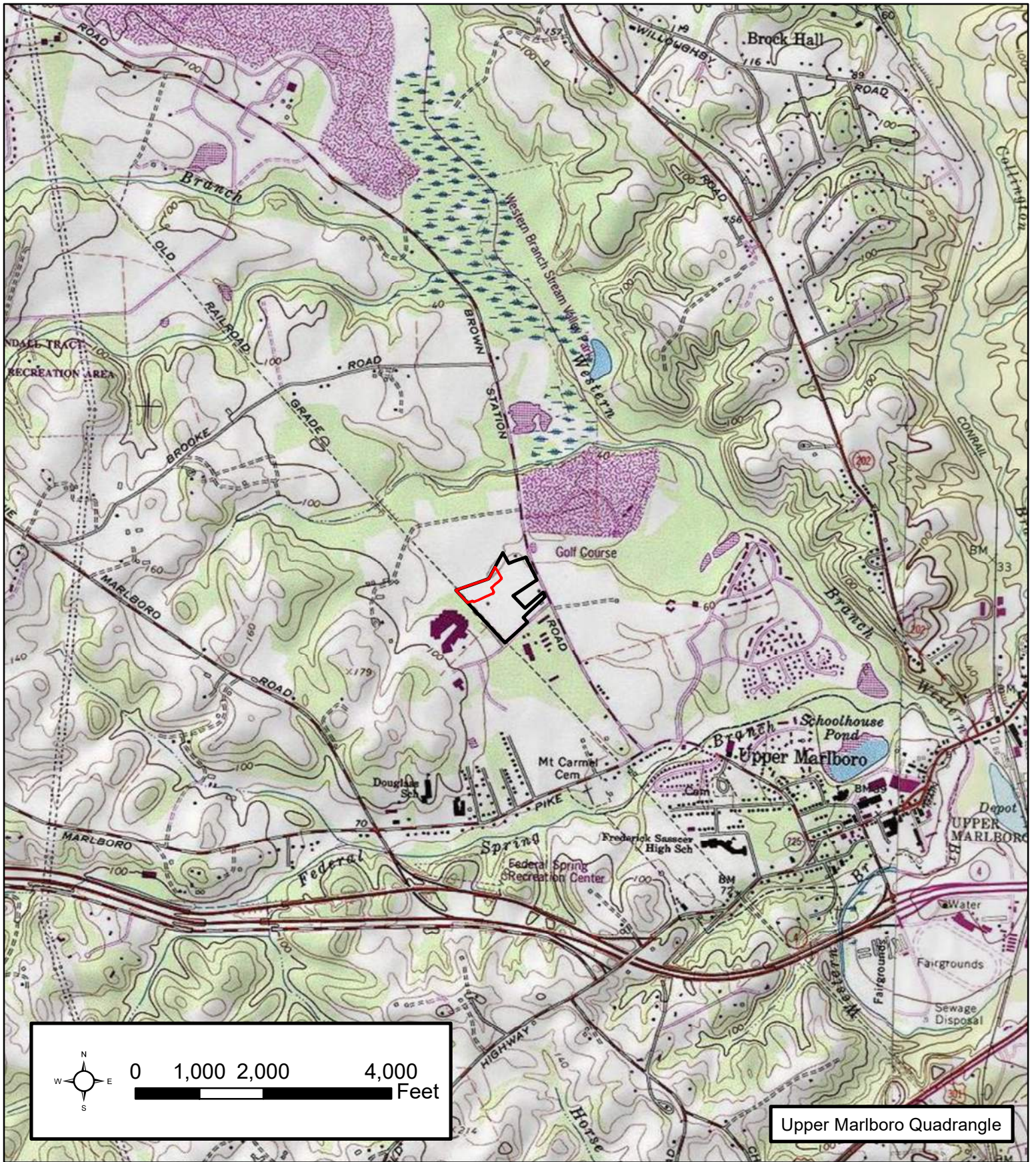
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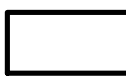

MARYLAND	NEW JERSEY	NORTH CAROLINA
2200 Somerville Road Suite 300 Annapolis, MD 21401 410.987.5500 (p) 410.987.5501 (f)	3175 Route 10 Suite 100 Denville, NJ 07834 732.902.6644 (p) 732.902.6643 (f)	4405 Dewees Court Raleigh, NC 27612 919.787.5829 (p) 410.987.5501 (f)

Scale: 1 in = 15,000 ft at 8.5" x 11"



Upper Marlboro Quadrangle

## Legend

-  Property Limits
-  Mitigation Limits

**Figure 2**  
**USGS 7.5 Minute**  
**Topographic Quadrangle Map**

*Western Branch*  
*Wetland Mitigation Project*

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Scale: 1 in = 2,000 ft at 8.5" x 11"



**Legend**

- Mitigation Limits
- Property Limits
- 2 Foot Contour Lines
- ▶▶▶▶ Stream Flow

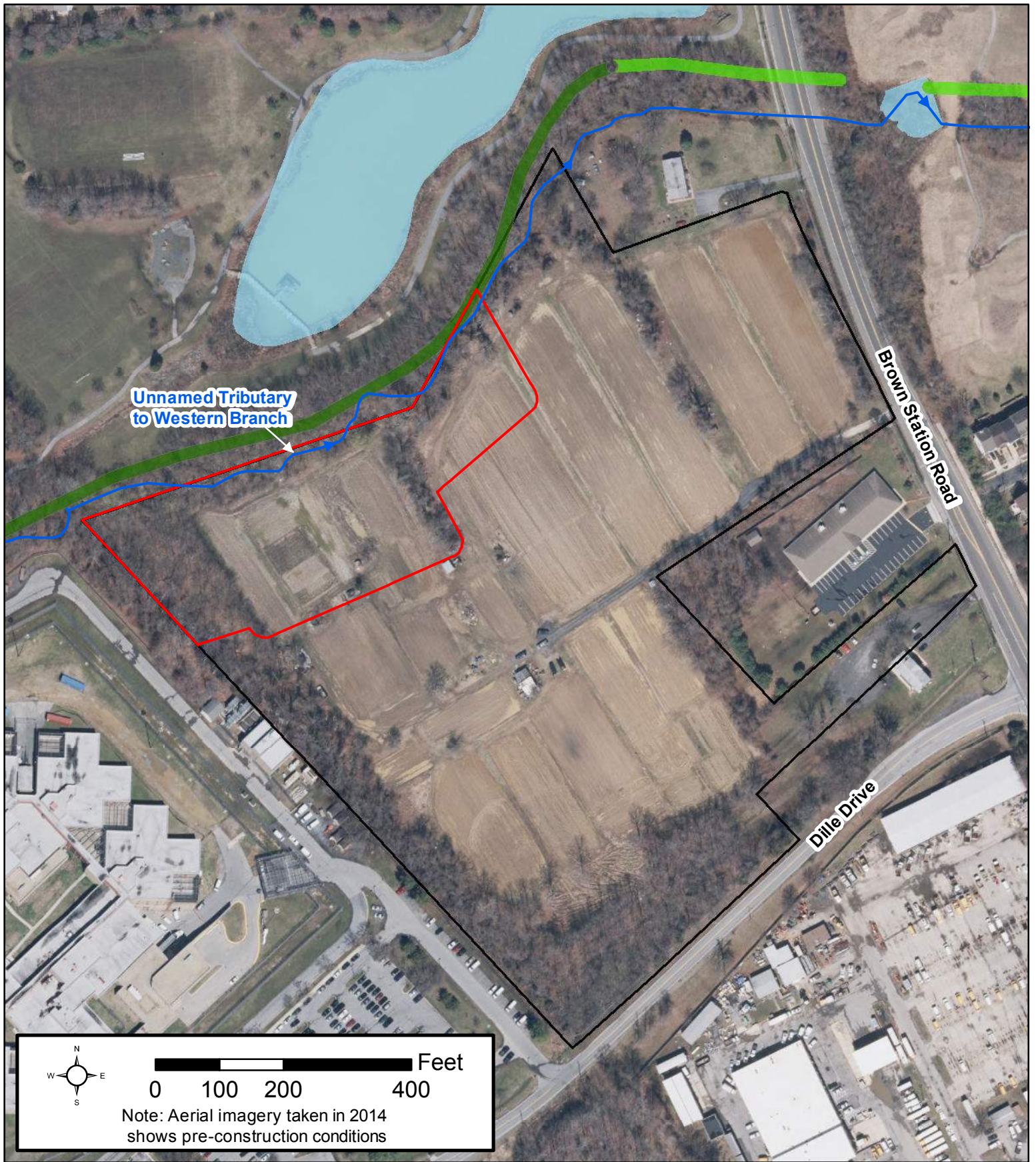
**Figure 3**  
**Site Location Map:**  
**Aerial Photograph**  
*Western Branch*  
**Wetland Mitigation Project**

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Scale: 1 in = 300 ft at 8.5" x 11"



**Legend**

- Mitigation Limits
- Property Limits
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Stream Flow

**Figure 4**  
**USFWS National Wetlands**  
**Inventory (NWI) Map**

**Western Branch**  
**Wetland Mitigation Project**

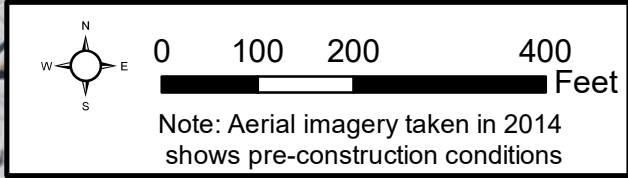
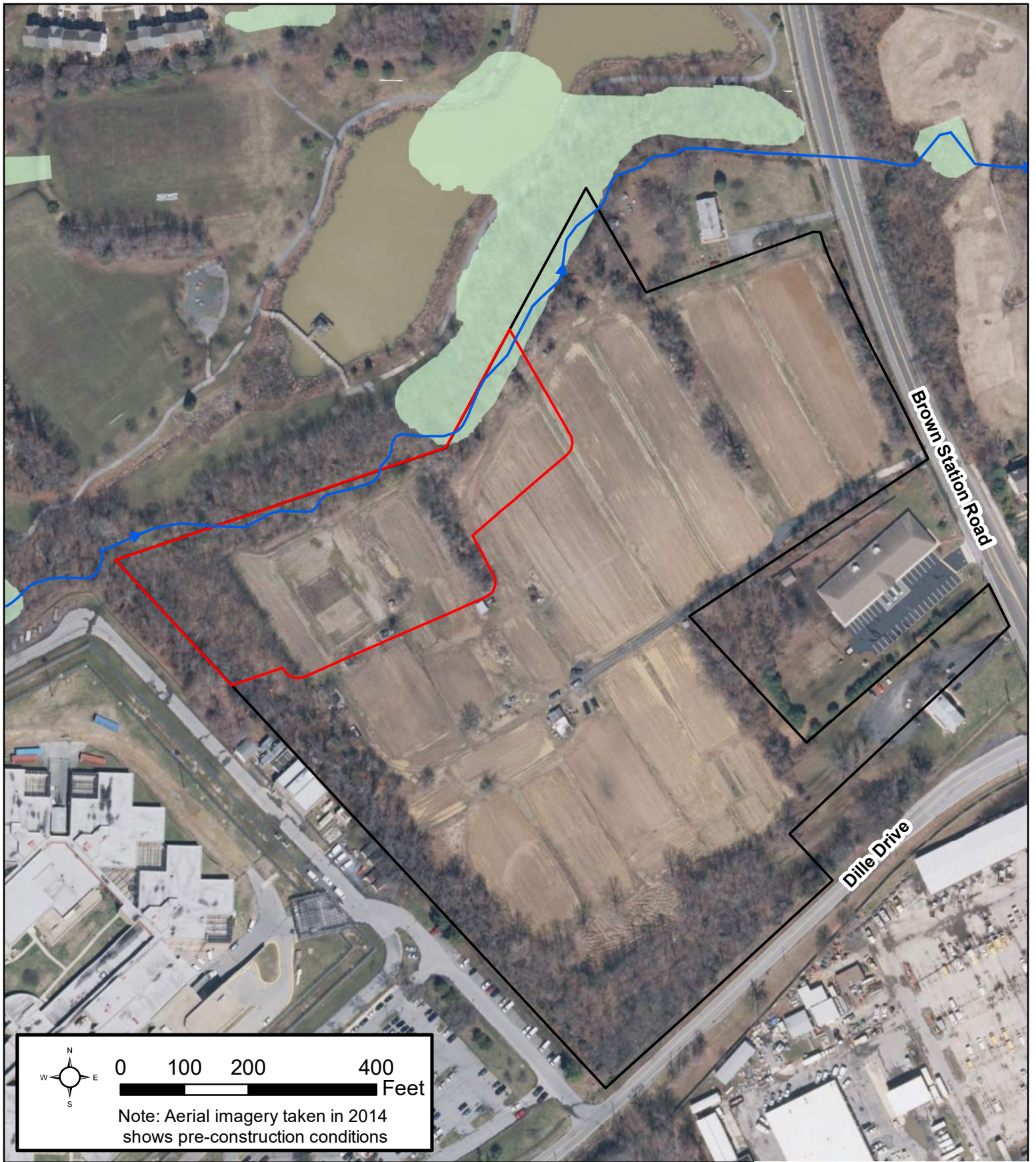
Brown Station Road  
 Upper Marlboro, MD 20772



MARYLAND	NEW JERSEY	NORTH CAROLINA
2200 Somerville Road Suite 300 Annapolis, MD 21401 410.987.5500 (p) 410.987.5501 (f)	3175 Route 10 Suite 100 Denville, NJ 07834 732.902.6644 (p) 732.902.6643 (f)	4405 Dewees Court Raleigh, NC 27612 919.787.5829 (p) 410.987.5501 (f)

Scale: 1 in = 200 ft at 8.5" x 11"





**Legend**

- Mitigation Limits
- Property Limits
- MDNR Mapped Wetlands
- ▶▶▶▶ Stream Flow

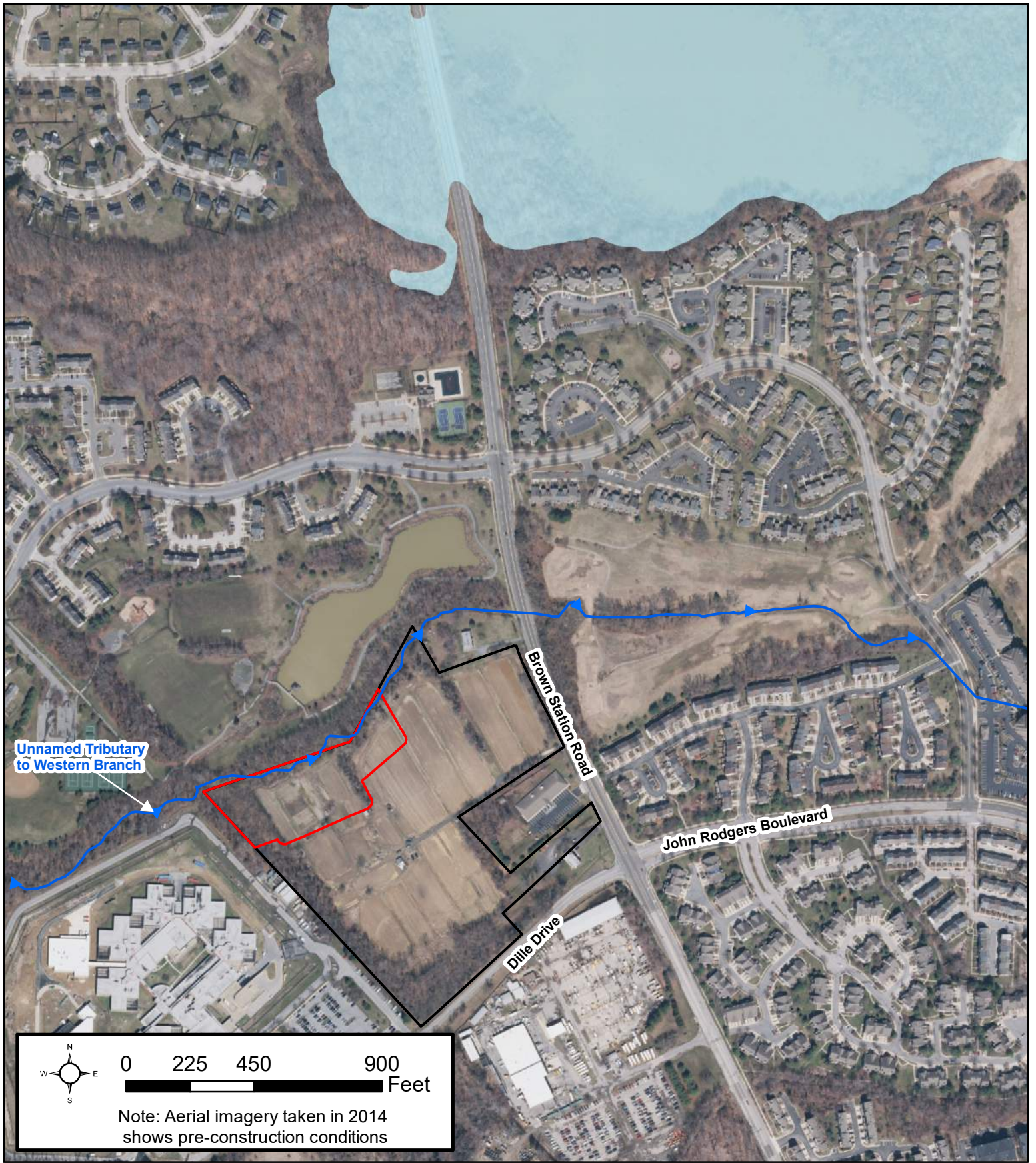
**Figure 5**  
**MDNR**  
**Mapped Wetlands Map**  
*Western Branch*  
**Wetland Mitigation Project**

Brown Station Road  
 Upper Marlboro, MD 20772



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Scale: 1 in = 200 ft at 8.5" x 11"



**Legend**

- Mitigation Limits
- Property Limits
- FEMA 100-Year Floodplain
- ▶▶▶▶▶ Stream Flow

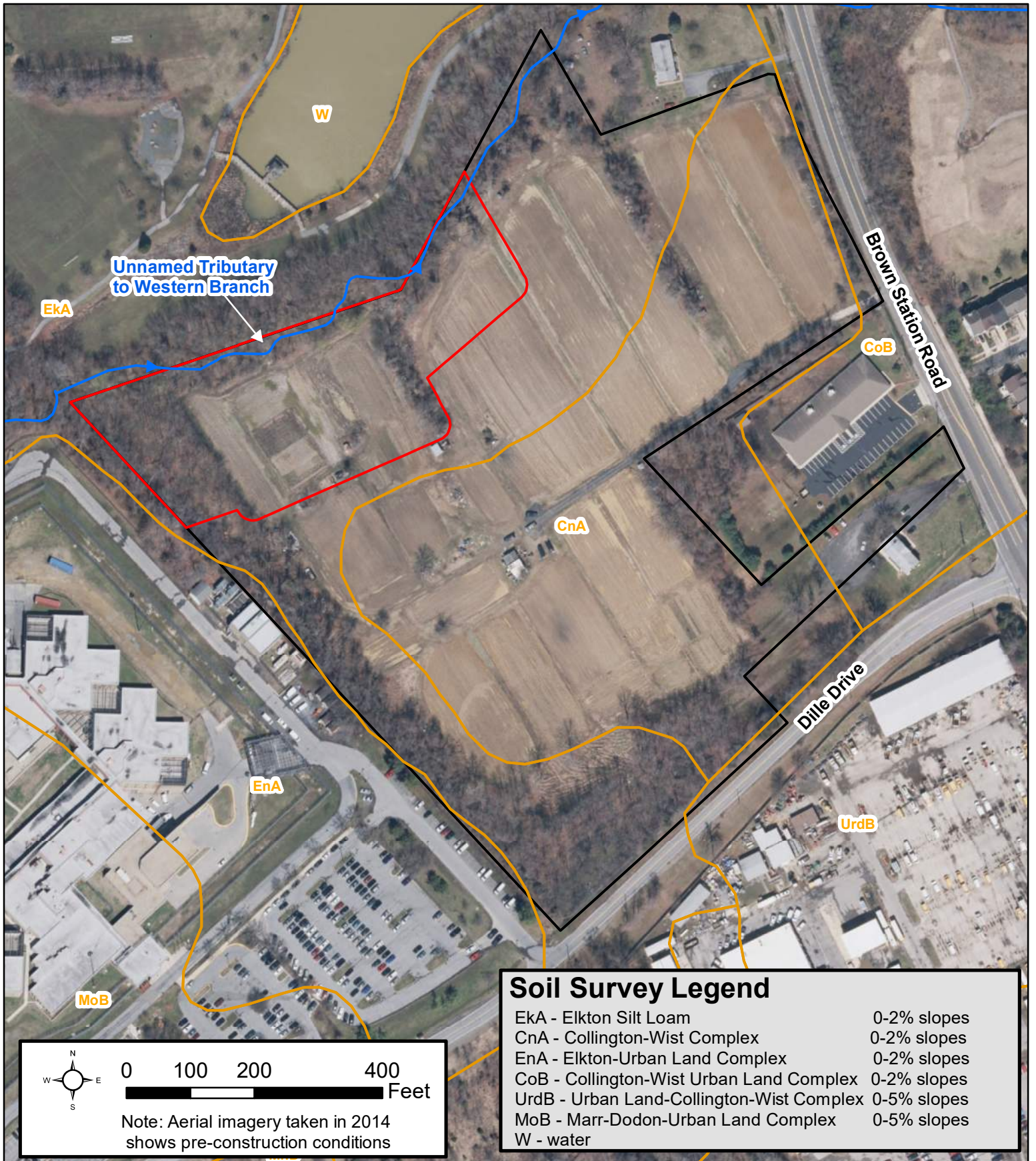
**Figure 6**  
**FEMA**  
**100-Year Floodplain Map**  
**Western Branch**  
**Wetland Mitigation Project**

Brown Station Road  
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Scale: 1 in = 450 ft at 8.5" x 11"



Soil Survey Legend	
EKA - Elkton Silt Loam	0-2% slopes
CnA - Collington-Wist Complex	0-2% slopes
EnA - Elkton-Urban Land Complex	0-2% slopes
CoB - Collington-Wist Urban Land Complex	0-2% slopes
UrdB - Urban Land-Collington-Wist Complex	0-5% slopes
MoB - Marr-Dodon-Urban Land Complex	0-5% slopes
W - water	

Note: Aerial imagery taken in 2014 shows pre-construction conditions

**Legend**

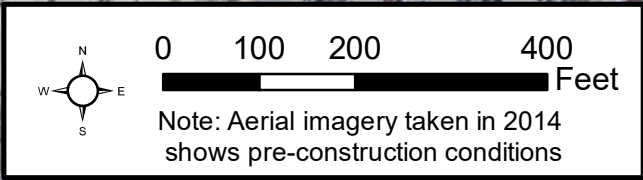
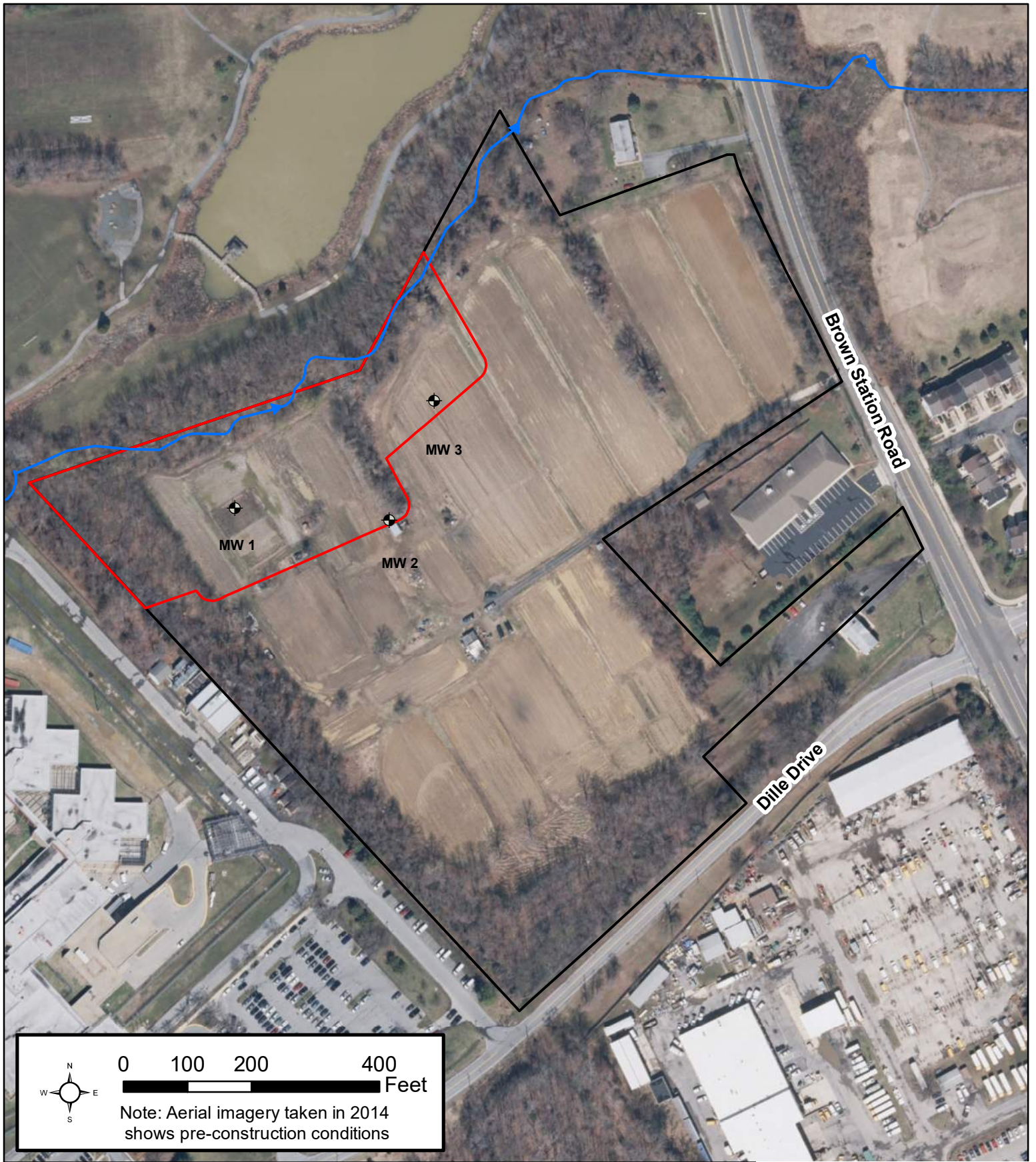
- Property Limits
- NRCS Soils
- Mitigation Limits
- Streamline

**Figure 7**  
**USDA NRCS**  
**Soil Survey Map**  
**Western Branch**  
**Wetland Mitigation Project**  
 Brown Station Road  
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Scale: 1 in = 200 ft at 8.5" x 11"



**Legend**

- Monitoring Wells
- Stream Flow
- Mitigation Limits
- Property Limits

**Figure 8  
Monitoring Well  
Location Map**

**Western Branch  
Wetland Mitigation Project**

Brown Station Road  
Upper Marlboro, MD 20772

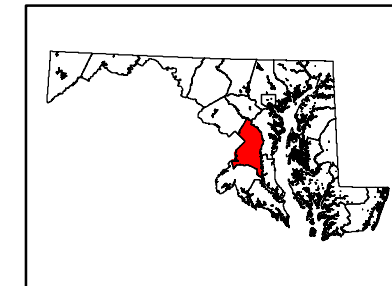


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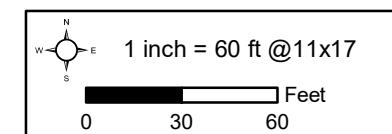
Scale: 1 in = 200 ft at 8.5" x 11"

Proposed Mitigation Type	Wetland Mitigation Area		Type to Credit Ratio	Wetland Mitigation Units	
	Square Feet (sf)	Acres (ac)		Square Feet (sf)	Acres (ac)
Wetland Creation	6,739.534	0.16	1:1	6,739.534	0.16
Wetland Restoration	72,437.12	1.66	1.5:1	48,291.41	1.10
Wetland Preservation	30,056.4	0.69	10:1	3,005.64	0.07
Upland Preservation	7,405.2	0.17	10:1	740.52	0.02
Wetland Buffer Restoration	18,295.2	0.42	15:1	1,219.68	0.03
Wetland Buffer Preservation	21,604.33	0.50	20:1	1,080.216	0.02
<b>Total Area/Units</b>	<b>156,537.8 sf</b>	<b>3.60 ac</b>		<b>61,077 units</b>	<b>1.40 units</b>

### Regional Context



**GreenVest LLC\***  
 2200 Somerville Road  
 Suite 300  
 Annapolis, MD 21401  
 410.987.5500 (p)  
 \*with offices in NJ, NY, and NC



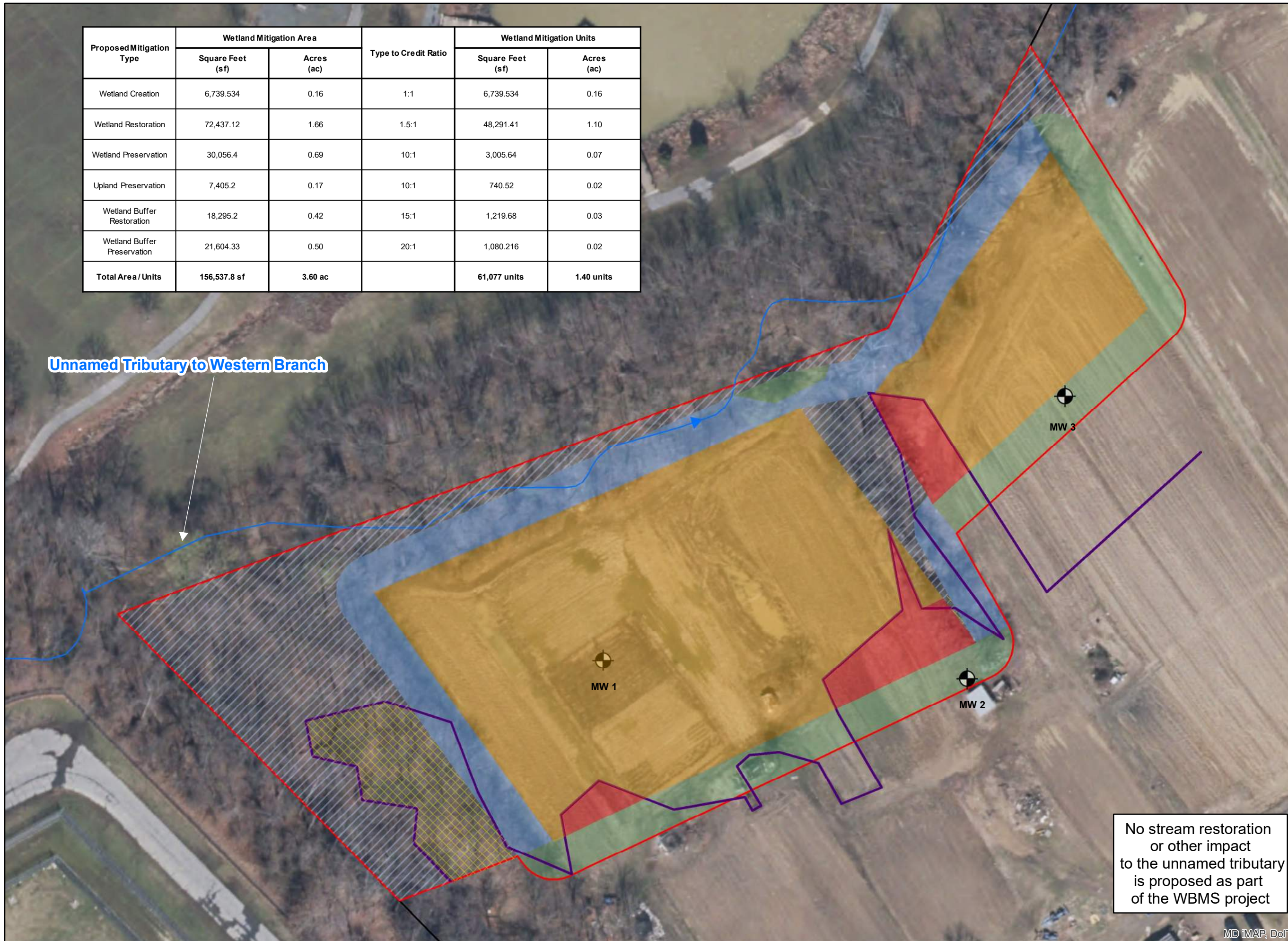
### Conceptual Mitigation Plan

Western Branch  
 Wetland Mitigation Project  
 Brown Station Road  
 Upper Marlboro, MD 20772

### Legend

- Stream Flow
- Monitoring Wells
- Wetland Delineation
- Mitigation Area Limits
- Property Limits
- Wetland Creation
- Wetland Restoration
- Wetland Preservation
- Upland Preservation
- 25ft Wetland Buffer Restoration
- 25ft Wetland Buffer Preservation

Unnamed Tributary to Western Branch



No stream restoration or other impact to the unnamed tributary is proposed as part of the WBMS project