



**Washington Gas Pipeline No.27 Main Relocation: Mandatory Referral No. MR 2014041**

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John Carter, Chief, Area 3

**Completed: 05/15/14**

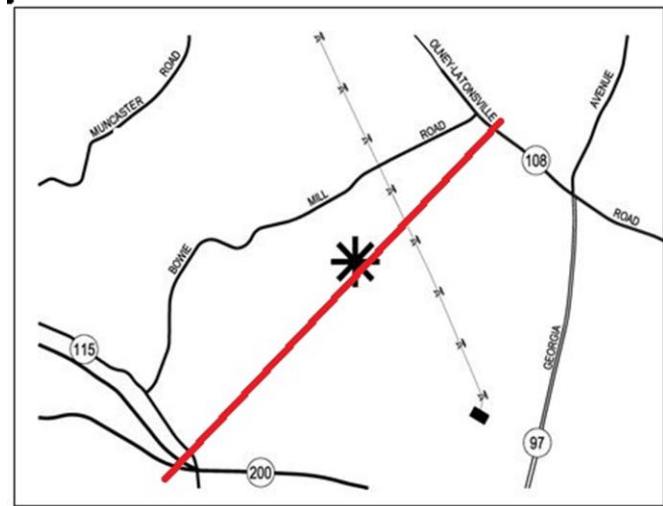
**Washington Gas Pipeline No.27 Main Relocation: Mandatory Referral No. MR 2014041**

Approximately 3.3 miles of new 12-inch gas distribution line within the existing Washington Gas easement; includes replacement of an existing pipeline, temporary access pathways and staging areas, clearing, and stream stabilization; located from 830 feet southwest of the ICC (Intercounty Connector) to MD 108 (Olney Laytonsville Road), Olney and Upper Rock Creek Master Plan Areas

**Staff Recommendation:** Approval to transmit comments to Washington Gas

**Applicant:** Washington Gas

**Submittal Date:** 04/15/14



**Summary**

- The project replaces an existing 20 inch main with a new 12 inch distribution line using horizontal directional drilling (HDD) technique and pipe insertion method.
- Construction will occur within a 3.3 mile section of an existing Washington Gas easement spanning private property, M-NCPPC Park property and within road rights-of-way.
- Construction impacts include temporary access roads, boring pits, and removal of existing abandoned infrastructure on parkland.
- The project includes restoration of four tributary crossings within Park property.
- The project will take approximately 4-6 months to complete; the new pipe must be operational by October for the winter heating season.

## **RECOMMENDATIONS**

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Staff recommends approval of the Mandatory Referral for the Washington Gas Strip 27 Main Replacement Project with the following comments:

1. The proposed pipeline must comply with the conditions of approval set forth in MR 2014041 - Final Forest Conservation Plan FCP.
2. The Applicant or representative contractor shall not perform any ground disturbance activities (vehicle accesses, tree removals, excavation, site clearing, removal of existing pipeline, etc.) within the Washington Gas easement and within the M-NCPPC properties without permission from M-NCPPC inspectors or representatives including the Parks Department.
3. Applicant must meet with all active homeowners association that intersects the pipeline alignment, as well as each individual resident who has an easement on their property or will be directly affected by construction.

## **DISCUSSION**

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### **Overview /General Information**

Washington Gas proposes to replace approximately 3.3 miles of existing 20-inch diameter gas main with a new 12-inch diameter gas distribution line. The entire pipe is located within a Washington Gas easement that ranges in width from 20-40 feet wide. This linear project (Attachment 1) begins in Rock Creek Park, near Lake Needwood, and generally travels northeast to its terminus just north of Olney - Laytonville Road (MD 108) between Brooke Meadow Lane and Queen Elizabeth Drive.

Given the population density of the service area for this distribution line, Washington Gas has identified this section of pipe, (Strip 27), as a “high consequence area.” A high consequence area is where a gas pipeline incident would have a severe impact on public safety. The infrastructure has a limited life span which requires it to be replaced from time to time under Federal law to ensure that safety and integrity of gas pipelines are met. The establishment of the easement and portions of the existing pipe date back to 1931.

The vast majority of the replacement project will occur within this easement except for modest areas of disturbance for access from local roads. Additional areas of public right-of-way will be needed to temporarily store material including a staging area south of Toboggan Lane in the Bowie Mill Estates subdivision.

Sections of the easement and construction activity will be within M-NCPPC Park property. As such, Washington Gas is subject to review by M-NCPPC Parks Department and the construction requires a park permit. Parks has provided the specifics related to the park permit and schedule in their letter dated, May 22, 2014. (Attachment 2).

### **Site Description**

The alignment of the existing Washington Gas easement is shown on Attachments 3, 4 and 5. The easement was negotiated with land owners in 1931 when much, if not all of this portion of Montgomery County was in agricultural production. That easement has been identified and in each subdivision plan

that has been approved since the easement and pipe line was established. While the easement crosses numerous recorded lots, residential structures have not been located within the easement and the easement is shown on the record plats for those subdivisions.

The easement crosses six established subdivisions and also crosses the following M-NCPPC Parks: Rock Creek Regional Park, North Branch Stream Valley Unit 3, Olney Acres Park and Olney Square Park. The topography of the pipeline easement is moderately rolling for its 3.3 mile length and crosses numerous stream valleys. There are some areas of steep slopes notably to the southwest of the terminus of Ridge Drive, near Cashell Road, and the area surrounding North Branch SVU 3 Park.

Currently, the easement corridor is maintained by Washington Gas but has generally been allowed to revert to natural conditions on Parkland and other areas outside of private residential lots. Where the easement traverses private properties, private landowners maintain much of the easement as yard and lawn area.

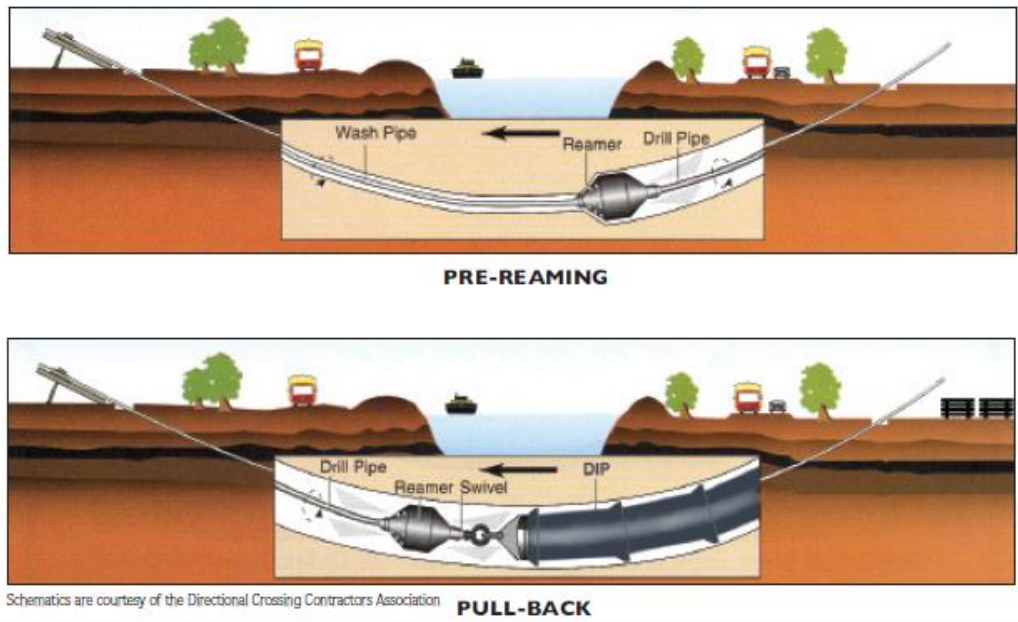
### **Project Description**

Two methods of installation will be used to replace the existing 20 inch main: 1) Pipe Insertion method, which inserts the new 12 inch pipe inside the existing 20 inch main (like a sleeve) and, 2) Horizontal Directional Drilling (HDD) technique which bores a tunnel under the earth surface (minimum 3 feet deep) and then pulls the new line through the opening, as shown on Figure 1.

The Pipe Insertion method is the least disruptive of the installation techniques because it uses the existing pipe to guide the insertion of the new pipe inside the old pipe. This is the preferred method of installation when upgrading/replacing low pressure, cast iron and steel main lines with a higher pressure line because it allows the use of a smaller diameter plastic pipe. This makes the insertion of the new, higher pressure, plastic pipe into an existing main line possible.

The HDD method uses soil boring equipment to directionally drill a new pipe alignment in or near the location of the existing pipe. In these instances, the old pipe is left in place; no excavation is necessary to remove the old pipe line. Disturbance to the surface is limited to specific locations (identified in detail on the Final Forest Conservation Plan) for machinery access and "pits" where the old pipe is accessed or where the soil borings can begin or end.

The project will take approximately 4-6 months to complete which will vary depending on weather conditions. Washington Gas has deemed it critical to get this project underway so that the new pipe line is operational in October of this year for the beginning of the heating season.



**Figure 1- Horizontal Directional Drilling (HDD)**

**Park Impacts**

The Washington Gas Easement runs through the following M-NCPPC Parks:

- Rock Creek Regional Park (approx. 0.4 acres temporary disturbance)
- North Branch Stream Valley Unit 3
- Olney Acres Park
- Olney Square Park

As part of this Application and in coordination with M-NCPPC Park Permit staff, Washington Gas has agreed to remove existing infrastructure where it has become exposed at the surface, most significantly in steeply sloped areas and near stream channels. As part of the park permit, Washington Gas will be required to restore sections of stream where pipe removal is necessary. Park staff has also carefully reviewed other construction access points through parkland to minimize disturbance. For purposes of an expedient review, the attached memo dated May 22, 2014 from Parks staff outlined the specific schedule and permit requirements.

**Conformance with the Master Plans**

The Washington Gas Pipeline No. 27 Mandatory Referral is consistent with the recommendations of the Olney and Upper Rock Creek Master Plans.

Upper Rock Creek Master Plan

The primary goals of the 2004 Upper Rock Creek Area Master Plan are to maintain the existing low-density residential character of the watershed as remaining large properties undergo development and to preserve sensitive natural resources by expanding and enhancing the watershed’s open space system. The Master Plan focuses on prospective residential development and therefore does not directly address institutional or public utility development.

Washington Gas Company's gas line easement traverses portions of the North Branch subwatershed and is within the Upper Rock Creek Special Protection Area. The Master Plan proposed to protect particularly sensitive biodiversity areas in the subwatershed by reducing imperviousness and retaining large and contiguous areas in a natural and undisturbed state. The Master Plan's recommendations have been implemented by creation of an Environmental Overlay Zone with an eight percent imperviousness limit to support the objectives of the Special Protection Area.

More broadly, the Master Plan recommends preservation of priority forest areas on developable properties and restoration of forest in stream buffers and forest gap areas. It also recommends minimizing impacts to biodiversity areas by reducing areas of disturbance and avoiding forest fragmentation.

The Application supports the goals and recommendations of the Master Plan by limiting disturbance to the watershed, using HDD, removing limited existing abandoned infrastructure and restoring a section of stream in the North Branch SVU. Further, the Application does not increase impervious surfaces, reforests parkland and maintains the existing cleared easement corridor.

#### Olney Master Plan

The 2005 Olney Master Plan recognizes that the portion of the planning area within the Upper Rock Creek watershed is almost entirely developed. It recommends inclusion of portions of the North Branch subwatershed in the Special Protection Area and the supporting Environmental Overlay Zone. Like the Upper Rock Creek plan, the Olney Master Plan does not focus on institutional or public utility development in the North Branch subwatershed.

Conformance with the conditions set forth in the Final Forest Conservation Plan review of the proposed project enable it to meet the recommendations of the Upper Rock Creek Area and Olney master plans for preservation of sensitive resources in the subwatershed.

#### **Residential Impacts**

Figure 2 below shows the subdivisions that intersect the Washington Gas pipeline easement. Olney Acres (zoned RE-1 and R-200), Olney Oaks (zoned R-200), Olney Square (zoned R-200), Olney Mill (zoned R-200) are subdivisions that are already built, while Olney Springs (zoned PD-3) and Bowie Mill Estates (zoned RNC) are currently in the construction phase. Washington Gas plans to use the insertion method starting at the southernmost corner of Olney Acres. The insertion method will be continued northeast via tie-in pits through Olney Acres, across the PEPCO ROW, pass through the northwest corner of Olney Oaks, through Olney Springs and Olney Square, and across Olney-Laytonsville Road to its terminus in Olney Mill.

The Applicant has preliminarily located the tie-in pits, which are necessary to connect each run of pipe, where construction will have the least effect on residents. Using the pipe insertion technique in these locations, the need for directional drilling within established neighborhoods is minimized. It is Staffs' understanding that directional drilling will only be used where absolutely necessary in these more dense subdivisions. Homeowners will be alerted to the dates of construction through outreach coordination by Washington Gas through contact with local Homeowners Associations and by contact with each property owner through which the easement runs

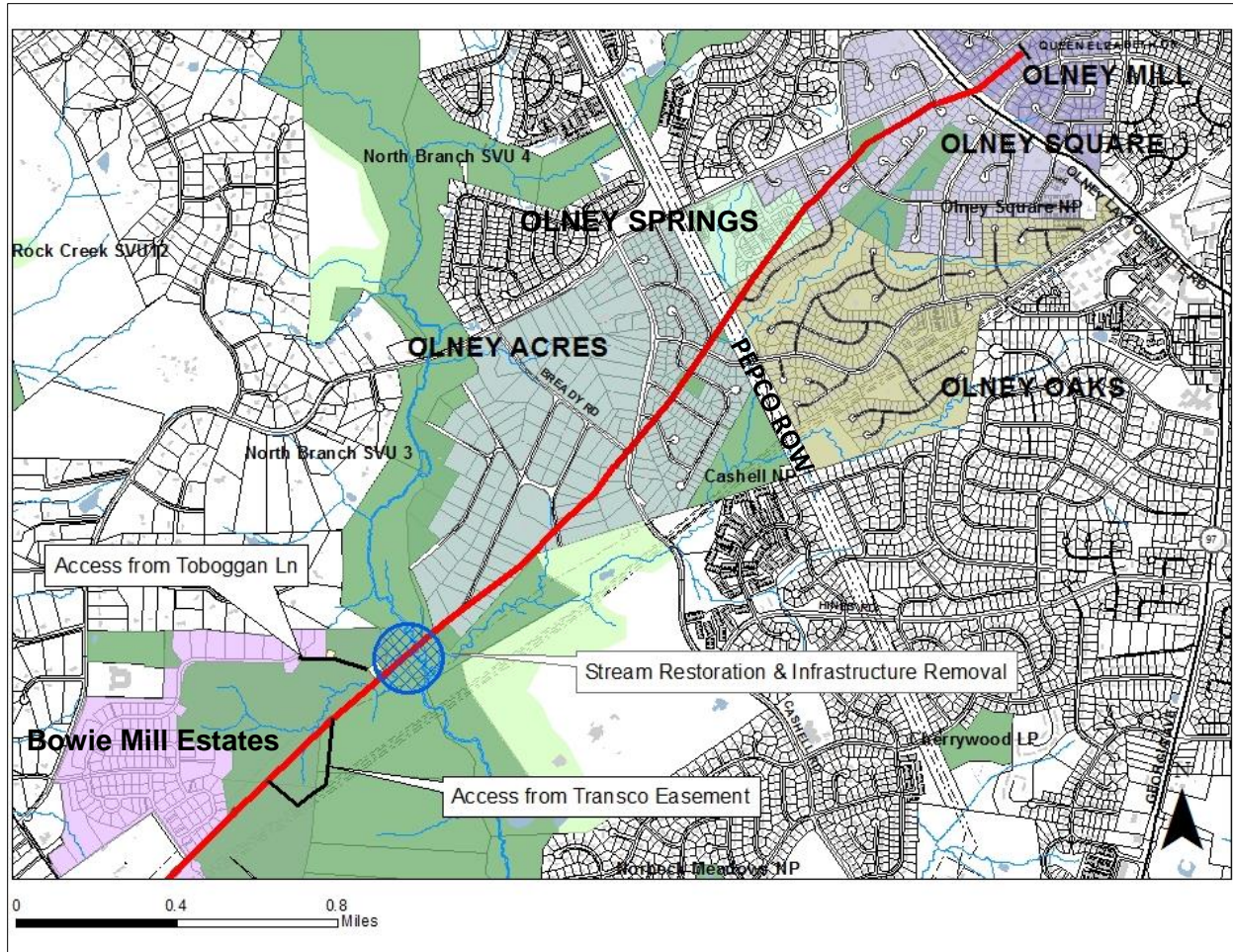


Figure 2- Area Subdivisions

### Environment

The 40 foot wide Limit of Disturbance (LOD) shown on the Final Forest Conservation Plan was conservatively established and represents a “worst case scenario” for access to the project from local roads and Parks. Within Park property, the actual construction access path will be well within the LOD shown. Washington Gas and/or their contractors will establish and mark the true 17 foot wide access path at a preconstruction meeting with M-NCPPC Park staff.

The project is subject to Chapter 22A of the Montgomery County Code (Forest Conservation Law). In an effort to minimize environmental impacts, Washington Gas does not envision using open trench construction and will rely on HDD and the pipe insertion method to the greatest extent possible. The 40 foot wide Limit of Disturbance (LOD) shown on the Final Forest Conservation Plan was conservatively established and represents a “worst case scenario” for access to the project from local roads and Parks. Within Park property, the actual construction access path will be well within the LOD shown. Washington Gas and/or their contractors will establish and mark the true 17 foot wide access path at a preconstruction meeting with M-NCPPC Park staff.

The construction techniques and LOD's have been reviewed by Staff as part of the Final Forest Conservation Plan which is being presented to the Planning Board as a separate regulatory item for the Mandatory Referral project. The Staff Report for Final Forest Conservation Plan MR 20140410 examines in detail, the limits of disturbance, forest impacts and environmental protection measures associated with this project.

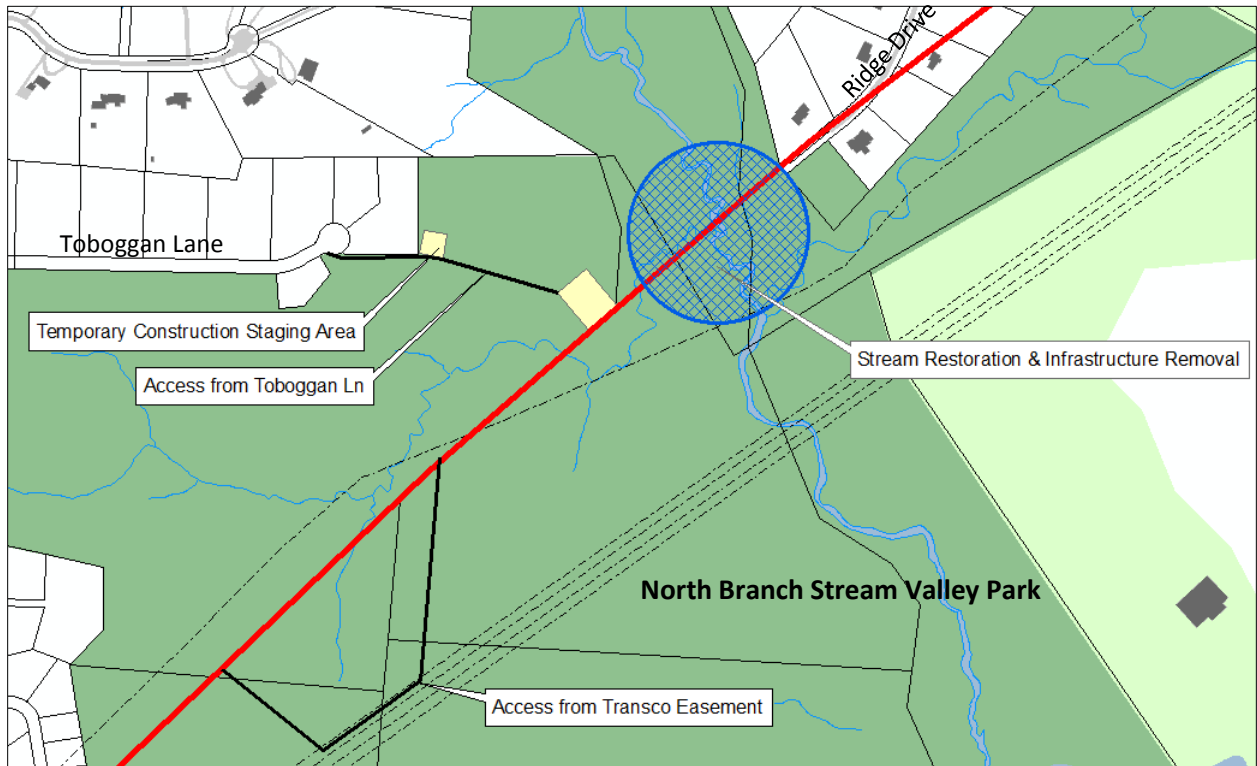


Figure 3 - North Branch Stream Valley

As shown in Figure 3 above the pipeline traverses through North Branch Stream Valley Park which was dedicated as part of the Bowie Mill Estates subdivision now under construction by Stanley Martin Homes. The Gas easement was identified on the record plats. Within Bowie Mill Estates, a construction staging area is required via Toboggan Lane and a wider construction area is shown so that contractors can work around a small segment of stream. This activity is detailed in the Parks staff report attached to this Staff Report.

### Zoning

The project crosses through multiple residential zones. "Underground pipeline" is a permitted use in all single-family residential zones and Washington Gas is also considered a government agency. Therefore, the Application is in conformance with the permitted uses in all zones through which it traverses.

## **COMMUNITY OUTREACH**

Washington Gas has designed a communications plan for this project and have met with the homeowners association representatives and notified all of the affected homeowners. Prior to construction, Washington Gas will provide additional information to homeowners in addition to holding a community meeting. Prior to construction in residential areas, Washington Gas will distribute “door hanger” information with contact information, project information, and estimated construction dates.

Given that the gas easement goes through existing subdivisions (both built and unbuilt), including individual residential lots, and neighborhood parks, staff recommends that Washington Gas meet with all residents and homeowners associations who intersect with the pipeline easement or may be potentially affected by the construction.

## **CONCLUSION**

Staff believes that this project is extremely important and that Washington Gas has utilized the least disruptive construction techniques that will minimize neighborhood and environmental impacts. Disruption to the environment within Parks will be addressed through the park permit process. Neighborhood impacts will be minimized by the use of pipe insertion and directional boring beneath residential properties. The project is in conformance with both the Olney Master Plan and the Upper Rock Creek Master Plan.

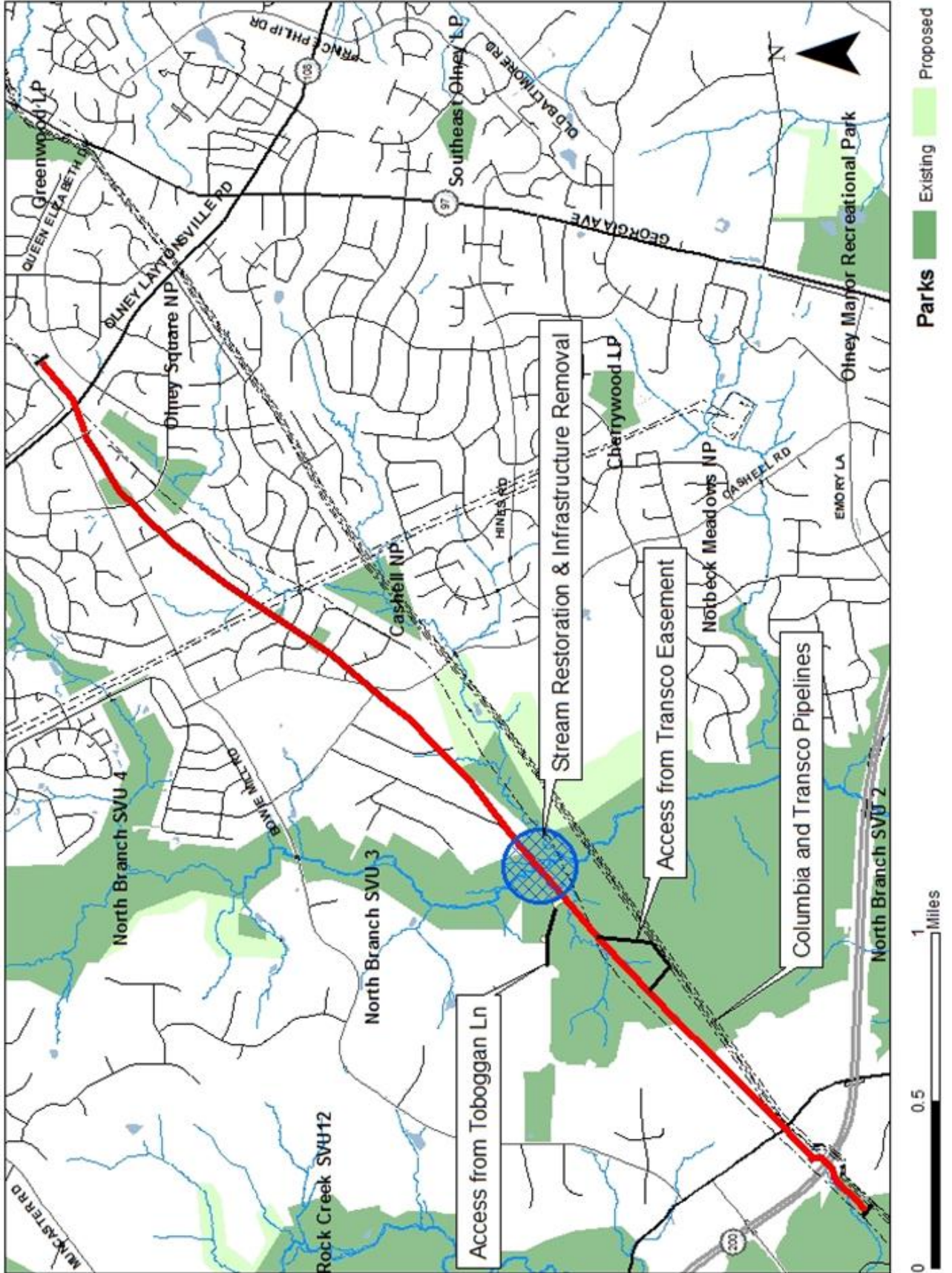
## **Attachments**

Attachment 1- Alignment Map

Attachment 2- Parks Letter

Attachment 3-5- Easement Documents







## MEMORANDUM

May 22, 2014

**TO:** John Carter, Chief, Area 3 Division

**VIA:** John E. Hench, Ph.D., Chief, Park Planning and Stewardship Division  
Mitra Pedoeem, Chief, Park Development Division

**FROM:** Jai Cole, Principal Natural Resources Manager, Park Planning and Stewardship Division  
Andrew Frank, Environmental Engineering Supervisor, Park Development Division

**PROJECT:** Washington Gas Maryland Strip 27

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Maryland Strip 27 is a Washington Gas project to replace a 12 inch gas line along a 3.3 mile corridor from Rt. 108 Olney Laytonsville Rd. south to Beach Dr. in Rock Creek Regional Park (Figure 1.). Although Washington Gas has maintained a cleared corridor through the area of the existing pipeline, the nature of the proposed work includes access roads, boring pits and the removal of existing abandoned infrastructure that will impact parkland.

In order to expedite the review process for this project, the Department of Parks coordinated with Washington Gas to develop an LOD (Limits of Disturbance) on Parkland, for Forest Conservation Plan purposes, that is larger than what will eventually be approved in the Park Construction Permit for the project.

There are two general impacts from this project that will occur on Parkland:

1. The first are disturbances that are necessary to access the pipe alignment, to stage construction, and to excavate the boring pits needed for the trenchless pipe installation. Washington Gas has committed to reducing the actual LOD and providing tree protection measures based on detailed field review by the Parks' Urban Forester during the Park Permit Technical Review process. Since there will be some unavoidable tree clearing, Parks will require tree planting and/or fee-in-lieu for actual tree loss as a condition of the Park Permit for this project.
2. The second disturbance involves the existing Washington Gas pipeline where it crosses multiple tributaries to, and the main stem of, the North Branch of Rock Creek (see Figure 1). When the original pipeline was built many decades ago, rock aprons and a culvert were built across these channels to provide access and protect their infrastructure. In the time since the installation, the stream channels have adjusted to upstream development, which has now created conditions of exposed pipe and unstable conditions around the crossings. Washington Gas has agreed to restore the four tributary crossings as part of this project, and the plan submission

includes an LOD to conduct this work. Given the intended construction schedule of the pipe replacement this summer, there is no time to properly design, build, and construct the restoration projects. Therefore, the Department of Parks has agreed to make this restoration work a condition of the future Park Construction Permit. Specifically, the Department of Parks will require full stream restoration of the four crossings within the LOD included in the Forest Conservation Plan (i.e., 50' upstream and 300' downstream of each crossing). The required timing for Washington Gas to fulfill the stream restoration condition is as follows:

- 30% design plans to be submitted to Parks for review by September 1, 2014
- Obtain all required permits for construction by July 1, 2015
- Complete all construction by June 1, 2016

The Department of Parks supports Washington Gas replacing their aging infrastructure and commits to working with them to bring this project through construction in a timely manner.

PC:

Mary Bradford, Direction, Department of Parks

Mike Riley, Deputy Director, Department of Parks

John Nissel, Deputy Director, Department of Parks

Colter Burkes, Urban Forester, Department of Parks

Mike Horrigan, Chief, Northern Region, Department of Parks

Doug Ludwig, Acting Operations Manager, Northern Region, Department of Parks

Figure 1: Washington Gas Maryland Strip 27 Alignment

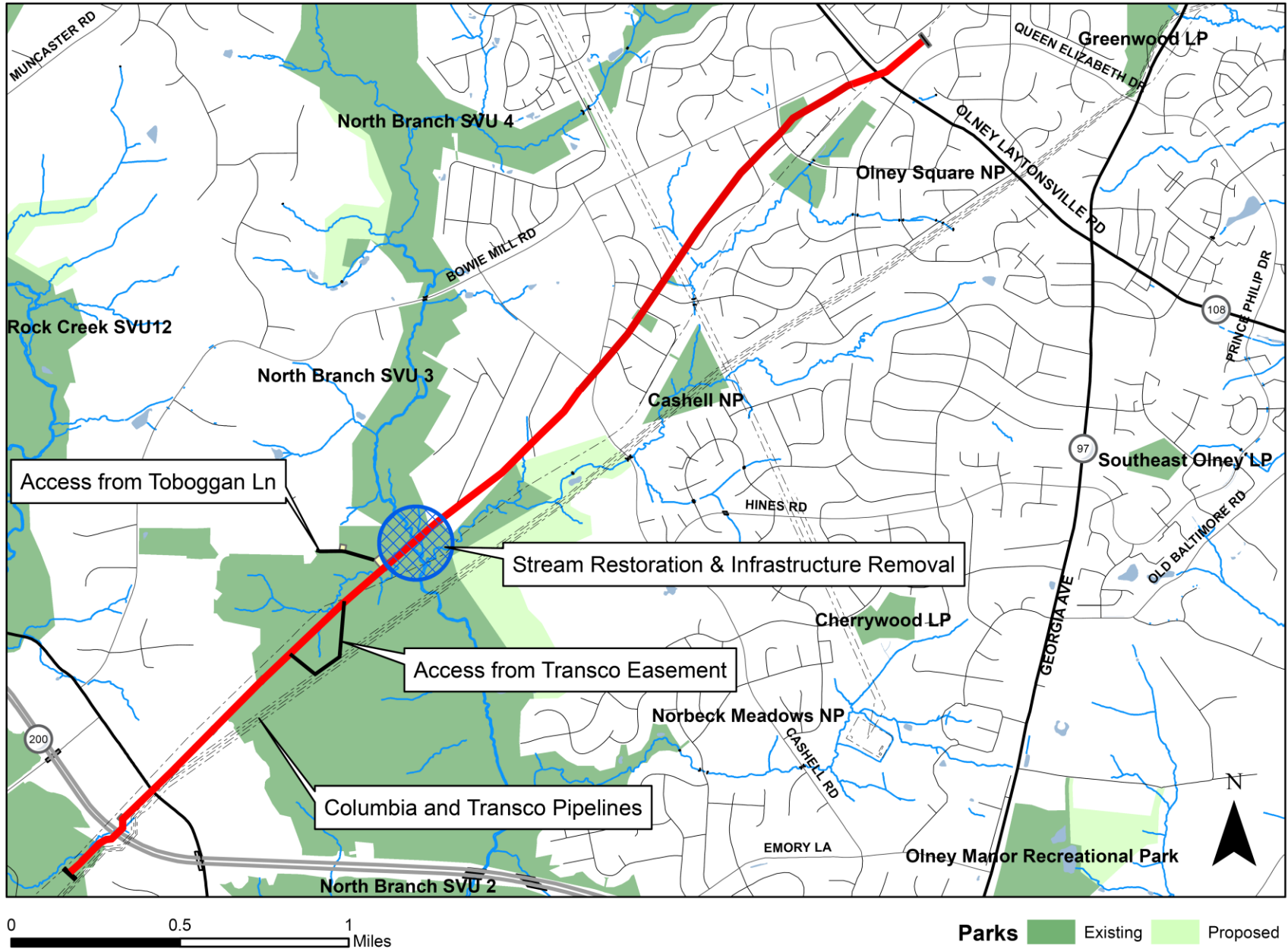


Figure 1: Easements between MD Rt. 200 and Colonel Zadok Magruder High School

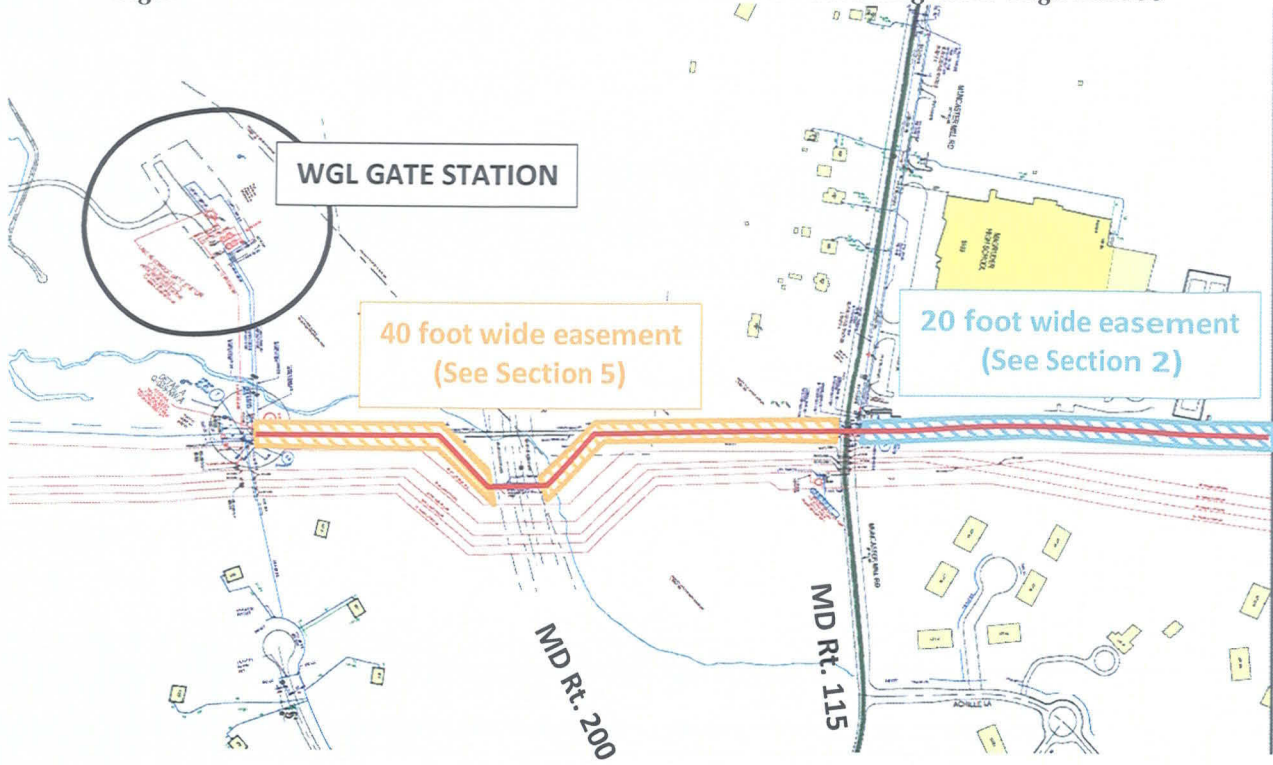


Figure 2: Easements between Colonel Zadok Magruder High School and Ridge Road

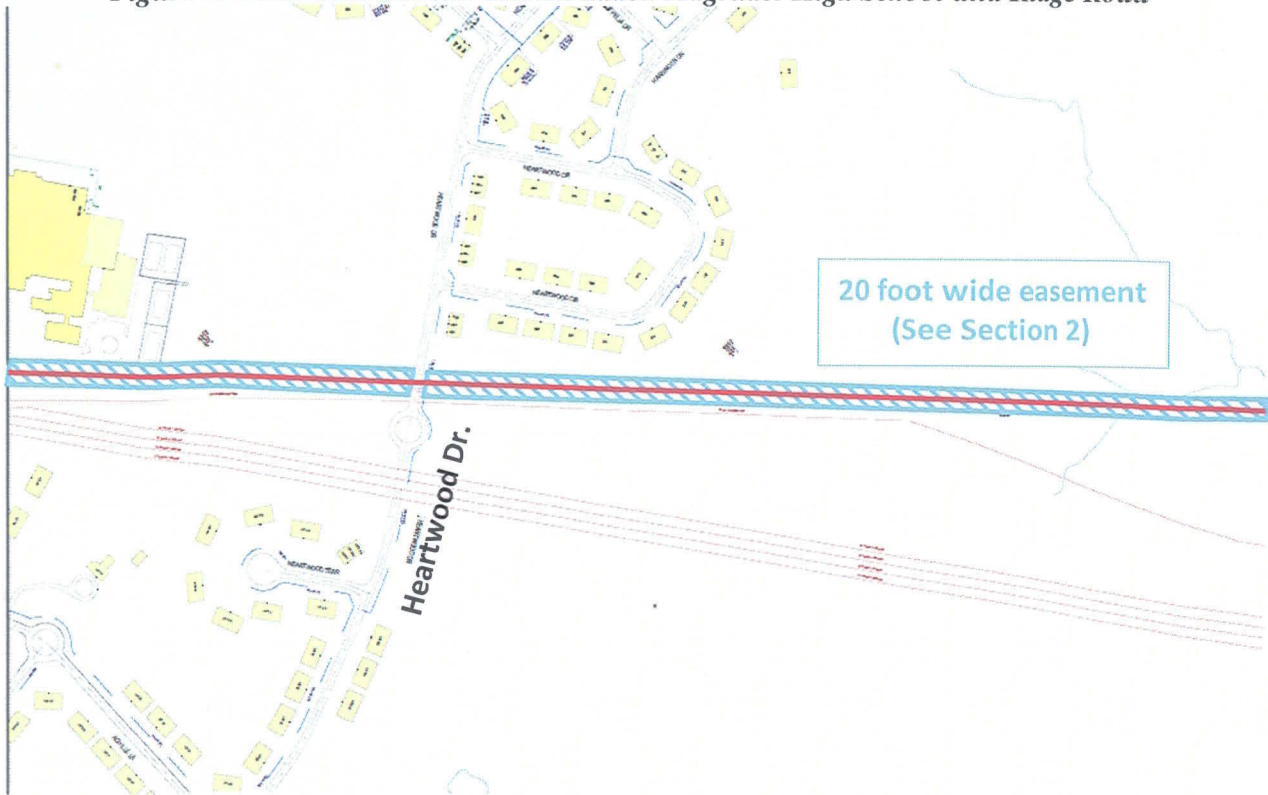
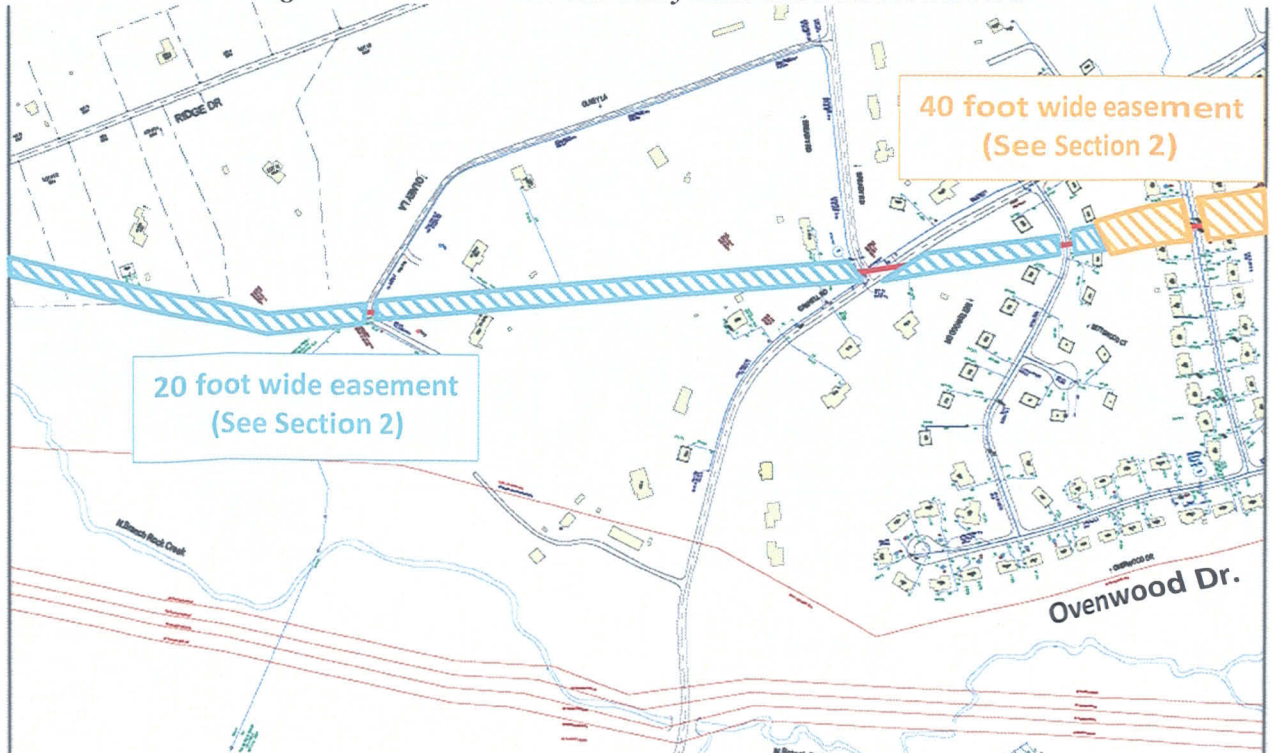


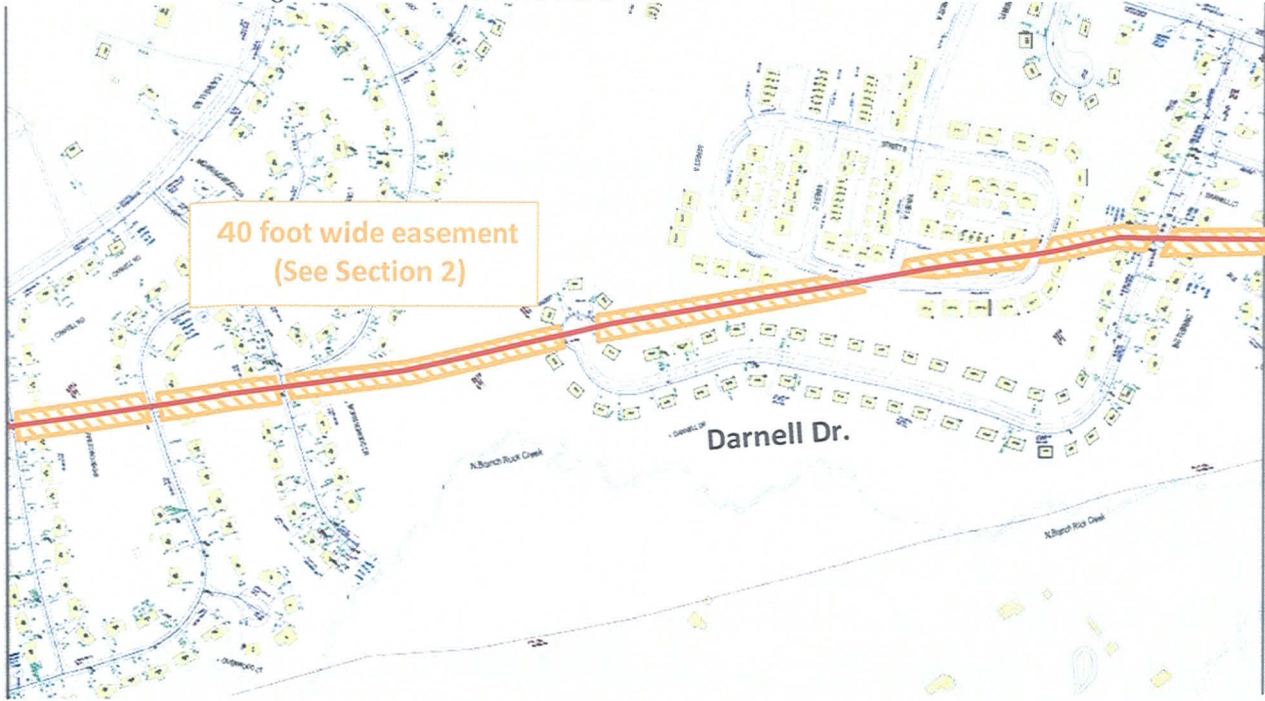
Figure 3: Easements between Ridge Road and Olney Lane



Figure 4: Easements between Olney Lane and Bettswood Drive



*Figure 5: Easements between Bettswood Drive and Darnell Drive*



*Figure 6: Easements between Darnell Drive and MD Rt. 108*

