

# Coordinating Utility and Transportation Work in County Rights-of-Way

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Rights-of-way are public land dedicated for roadways and for other transportation, electricity, natural gas, water, sewer, and telecommunication infrastructure. Both the County's Department of Transportation (DOT) and utility companies build and maintain infrastructure in County rights-of-way.

Utilities often cut through existing roadway pavement to install, repair, or improve underground lines. The County Government's Department of Permitting Services (DPS) regulates construction work in rights-of-way by issuing utility work permits. The vast majority of utility work in County rights-of-way involves water and sewer lines, followed second by gas lines. Major pavement cutting is less common for electricity and telecommunications lines.

## County Roadway Maintenance

DOT maintains County roads through systematic maintenance and rehabilitation. DOT periodically rates the condition of pavement of all County maintained roads based on criteria that include the level of (1) pavement distress, (2) pavement patching and utility cuts, (3) depressions and rutting, (4) pavement weathering, and (5) the volume and type of traffic using the road. DOT last rated the roadway pavement conditions in 2010 and plans to conduct a new survey beginning in the Spring of 2013. The table below summarizes the 2010 ratings.

**Pavement Condition of County-Maintained Roads – 2010**

Condition	Lane Miles	Percent of Total Lane Miles	Condition	Lane Miles	Percent of Total Lane Miles
<b>Residential/Rural Roads</b>			<b>Primary/Arterial Roads</b>		
Very Good	414 miles	10%	Very Good	174 miles	18%
Good	663 miles	16%	Good	232 miles	24%
Fair	2,486 miles	60%	Fair	454 miles	47%
Poor	414 miles	10%	Poor	58 miles	6%
Very Poor	166 miles	4%	Very Poor	48 miles	5%

The annual schedule for roadway preventative maintenance, repair, resurfacing, and rehabilitation projects is subject to funding availability – funding roadway maintenance through the annual operating budget and roadway resurfacing projects through the capital improvements program. Annual funding for Fiscal Years 2008 through 2013 is summarized in the table below.

**Pavement Management Program Funding History (\$ in millions)**

	FY08	FY09	FY10	FY11	FY12	FY13
Resurfacing (CIP)	\$8.2	\$11.0	\$25.7	\$23.7	\$8.0	19.3
Rehabilitation (CIP)	--	\$1.0	\$1.7	\$4.1	\$5.4	\$6.6
Permanent Patching (CIP)	--	--	--	\$3.0	\$3.0	\$6.5
Resurfacing (Operating Budget)	\$2.5	\$2.7	\$2.7	\$0.3	\$0.9	\$1.8
<b>TOTAL</b>	<b>\$10.7</b>	<b>\$14.7</b>	<b>\$30.1</b>	<b>\$31.1</b>	<b>\$17.3</b>	<b>\$34.2</b>

## Permitting

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Utilities must obtain a permit for construction projects in County rights-of-way. DPS issues permits only to utilities that register with “Miss Utility,” have a franchise agreement with the County, and that submit an application for each work location (applications identify whether a project will include pavement cuts). DPS issued the following number of permits to utilities between 2010 and 2012:

<b>2010:</b> 1,181 permits	<b>2011:</b> 1,596 permits	<b>2012:</b> 2,181 permits
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DPS permits require all utility right-of way construction to comply with the standards in DPS' *Montgomery County Specifications for Utility Construction Permit*. DPS permits are valid for 18 months with the option of a 12-month extension. Utilities must meet with DPS inspectors at least 48 hours before the start of work to review permit requirements for a project and DPS staff inspect a site during and after construction to ensure compliance with permit and regulatory requirements.

DPS does not routinely transmit utility permit information to DOT or the utilities. While DOT and WSSC both have access to DPS' database of permit data, WSSC representatives report that the system does not allow users to search the status of their own projects and others projects in a user friendly manner. WSSC staff primarily receive and exchange information with DPS staff about pending and/or existing permits via telephone communications.

## Effects of Pavement Cutting on County Roadways

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A review of research literature finds universal agreement that cutting roads has a measurable negative impact on road performance and maintenance costs. For example, a 2003 research report submitted to the Transportation Research Board of the National Academy of Sciences found that pavement cuts lead to structural deterioration (relating to pavement condition affecting load-carrying capacity) and functional deterioration (relating to the smoothness of the riding surface) of roads. The study found that cutting roads reduces the life of roads and increases repair and remediation costs.

In 1995, a San Francisco State University research team found that utility cuts accelerate the pavement aging process and estimated that cuts reduce the service life of pavement by 30% to 50%. A subsequent study commissioned by the City of San Francisco confirmed these findings.

## Road Moratoriums

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DPS' *Specifications for Utility Construction Permit* prohibits cutting a newly built road for five years or a newly reconstructed road for three years (except in emergency situations and new service connections). A road goes under moratorium once resurfacing is complete, and if a project includes multiple roads, DOT will restart the three-year moratorium period for all roads in the project when the entire project is complete. DOT sends a list of roads under moratorium to utilities quarterly, but does not GIS-code the information.

DPS reviews whether a road is under moratorium when issuing a permit, but does not routinely check the moratorium status of roads or DOT's project schedules before renewing permits. Currently, DPS does not notify utilities that hold valid permits to work on a road when a road goes into moratorium.

## Interagency Coordination

When DOT and a utility learn through exchanged information that both agencies have pavement work planned for the same road segment, the agencies attempt to sequence and time the projects to minimize the construction impact on the neighborhood and to assure that utility pavement cuts occur before DOT begins any roadway reconstruction or pavement resurfacing.

**Information Sharing.** To identify potential project conflicts, DOT shares information about right-of-way work with utilities that operate in the County. Although the Department has no written policies or standards for information sharing, DOT staff routinely exchange project information with utilities, including:

Exchange	Period	Description
Annual Project Schedules	Annually in May	A spreadsheet of County road rehabilitation, resurfacing, and patching projects planned for the next four fiscal years.
GIS Information	Quarterly	Electronically map-able current and planned road projects (County) and current and planned water and sewer projects (WSSC).
Electronic Documents	Ongoing	Project files, drawings, photographs, and other data shared through "e-Builder" – an electronic construction document management product.
Quarterly Project Status Meetings	Quarterly – in person	Roadway (County), water and sewer (WSSC), and gas (Washington Gas) project-specific status meetings to identify and resolve potential project conflicts. DOT meets separately with WSSC and Washington Gas staff.
Pavement Cut Moratorium Report	Quarterly	A list of newly built or reconstructed streets that utilities are prohibited from cutting for 3-5 years.
Bi-Weekly Project Status Reports	Updated every two weeks	A spreadsheet of current fiscal year pavement projects that includes: project location; the type of work; estimates of project costs; start and completion dates; the contractor performing the work; and a DOT inspector's contact information. Send to WSSC and Washington Gas.

Current information sharing practices help identify potential conflicts between County Government and utility construction plans. Nonetheless, utility representatives report that information currently received from the County Government is not in optimal form because much of the data is not GIS-coded, the County provides infrequent status updates, and data is not standardized.

**MOUs.** When possible, DOT will schedule a resurfacing project immediately following completion of a utility project on the same road segment, allowing the utility to put in a temporary patch over its work in anticipation of the imminent County resurfacing. In these instances, DOT and the utility enter into a memorandum of understanding (MOU) to share the cost of the pavement restoration – with the County's contractor performing road repair and the utility paying the County an amount equal to the cost of pavement restoration work that would have been required absent the DOT project.

**Case Studies.** DOT and utilities have developed practices to share information about current and planned project work that promote project coordination. In multiple cases, DOT and WSSC have identified potential conflicts in advance and adjusted project schedules to minimize both pavement degradation and community disruption (see Middlebrook Road case study in Chapter IV). Some limitations of current practices, however, came to light in the fall of 2012 when a WSSC contractor nearly trench cut a newly reconstructed road in the Forest Glen area of Silver Spring (see Chapter IV).

## Assessment of Current Practices and Opportunities for Improvement

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In the past five years, the Department of Transportation (DOT), the Department of Permitting Services (DPS), the Washington Suburban Sanitary Commission (WSSC), and others have improved interagency communication about right-of-way construction programs in order to minimize pavement cuts, reduce community disruption, and share costs. The system for sharing information, however, still has limitations, which include:

*Absence of central information repository.* No single, central repository exists to house and connect County Government and utility project level information such as maps, permits, design plans, construction status, contact information, or schedules – leading to gaps in information. For example, shared GIS data does not include data about project start dates or road moratoriums, and utilities have no way to learn of right-of-way permits issued by the County for other utilities.

*Non-standardized data.* No standards exist for data shared among DOT, DPS, and the utilities. For example, some agency data give non-standardized names to different sections of a road preventing other systems from identifying or mapping the location of the section.

*Uneven processes for updating project status.* Project schedules for road and utility work are unavoidably subject to change (e.g., funding changes, weather), affecting the timing and sequencing of pavement work. The County Government and the utilities do not have a practice for frequent mid-year updating of project schedules, leading to potential project delay and leaving staff unaware of important status changes, such as new road moratoriums.

*Uncertainty regarding road moratorium status.* DOT does not provide GIS-coded data with the location of roads under moratorium and utilities cannot easily integrate moratorium data into their GIS-based project management systems. Additionally, no mechanism exists to notify utilities with existing permits that a road has gone into moratorium status.

*Inability to present consolidated information to the public.* The County Government and some utility websites provide the public with information about planned right-of-way work. However, no website or other source currently exists for members of the public to view consolidated information about all planned County and utility right-of-way work.

## Office of Legislative Oversight Recommendations

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### #1: Interagency Right-of-Way Project Tracking System

The County Government DOT, DPS and Department of Technology Services (DTS) should evaluate the feasibility and cost of creating a GIS-based standard data set stored in a single repository with an integrated application – for sharing right-of-way project data among DOT, DPS, and utilities. The Executive should report back to the Council by November 1, 2013 about the feasibility of developing a system, which should also include ways to provide the public with up-to-date information about pending rights-of-way construction projects.

### #2: Pavement Cutting Moratoriums

The effectiveness of the pavement cut moratorium policy is limited by several current conditions, such as the lack of GIS-coded data, lack of notification to permit holders when roads go under moratorium, and changing moratorium end dates. To address each of these conditions, OLO recommends that the County Government:

- a. Develop a protocol to routinely share GIS-coded moratorium data with utilities.
- b. Establish a mechanism to notify permit holders when a roadway goes into moratorium and include a permit condition that authorization to cut pavement automatically terminates (absent a waiver) when a road goes into moratorium.
- c. Refine the definition of the moratorium period for resurfaced and reconstructed roads.

**Office of Legislative Oversight Report 2013-5**

**COORDINATING UTILITY AND TRANSPORTATION WORK  
IN COUNTY RIGHTS-OF-WAY**

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## **CHAPTER I. AUTHORITY, SCOPE, AND ORGANIZATION**

### **A. Authority**

Council Resolution 17-517, *FY 2013 Work Program for Office of Legislative Oversight*, adopted July 31, 2012.

### **B. Scope, Purpose, and Methodology**

Rights-of-way are public land dedicated for roadways as well as for other transportation, electricity, natural gas, water, sewer, and telecommunication infrastructure. While some utility lines extend from poles above ground, many lines traverse rights of way underground, below paved roadways and sidewalks. Utilities often cut through existing pavement to install, repair, or improve underground lines.

In order to perform work on their infrastructure buried in rights-of-way, utilities must obtain a permit from the County Government's Department of Permitting Services (DPS), which regulates and issues permits for all utility construction, reconstruction, or maintenance activities performed in County Government rights-of-way. The County Government's Department of Transportation (DOT) Division of Highway Maintenance also works in County rights-of-way by building and maintaining County roadway infrastructure.

This report describes how the DOT, DPS, and utilities<sup>1</sup> exchange information about planned and on-going construction projects in County rights-of-way. The report also identifies opportunities to improve coordination of right-of-way projects among DOT, DPS, and the utilities. The report does not address emergency repair work in rights-of-way or work performed in rights-of-way maintained by the State of Maryland or municipalities. The report examines the County Government's processes for:

- Exchanging information about planned and on-going construction work in County rights-of-way,
- Granting County Government approval for utility work performed in County rights-of-way, and
- Coordinating the scheduling of right-of-way work.

The report also highlights specific examples of past coordination between the County Government and utilities for work in rights-of-way, identifies opportunities to improve coordination of future work, and examines practices found in other jurisdictions to coordinate rights-of-way work.

### **C. Organization of Report**

**Chapter II, Pavement Work in County Rights-of-Way**, describes the County's pavement management system, summarizes its recent funding history, identifies the utility infrastructure within County rights-of-way, and describes the effect of cutting pavement on the structural integrity of roads;

**Chapter III, Communication and Coordination: Current Practices**, describes how the County and utilities share information on current and planned road projects and their practices for coordinating work in County rights-of-way, and it describes how the County Government and utilities provide the public with information about right-of-way construction projects;

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<sup>1</sup> Utilities that maintain infrastructure within and perform work in County rights-of-way include Washington Suburban Sanitary Commission (WSSC), Washington Gas, Potomac Electric Power Company (PEPCO), Comcast, Verizon, and others.

**Chapter IV, Local Case Studies**, describes recent cases where the County and local utilities planned right-of-way infrastructure construction projects for the same roads;

**Chapter V, Practices in Other Jurisdictions**, summarizes practices employed in other jurisdictions by the local government and public utilities to exchange information about construction projects in rights-of-way, to coordinate work in rights-of-way, and to inform the public of on-going and planned projects;

**Chapters VI and VII** summarize the report's key **Findings** and **Recommendations** for Council action; and

**Chapter VIII** includes the Executive Branch's and agency comments on the final draft of the report.

#### **D. Acknowledgements**

OLO received a high level of cooperation from the many individuals who helped compile this report. OLO appreciates the information shared and insights provided by all who participated. In particular, OLO would like to acknowledge the time and expertise of the following individuals:

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## CHAPTER II. PAVEMENT WORK IN COUNTY RIGHTS-OF-WAY

Rights-of-way<sup>1</sup> are crowded spaces. In addition to being public land dedicated for roadways and other transportation infrastructure, rights-of-way house multiple utility lines including those for electricity, natural gas, water, sewer, and telecommunication services. While some utility lines extend from poles above ground, many lines traverse rights-of-way underground, below paved roadways and sidewalks. Utilities often cut through existing pavement to install, repair, or improve underground lines.

### A. County's Pavement Management System

The Department of Transportation (DOT) Division of Highway Maintenance is responsible for the maintenance of the roadway infrastructure within County rights-of-way. As part of its management of roadway infrastructure, DOT administers a "pavement management system." According to the Federal Highway Administration, pavement management is "a system which involves the identification of optimum strategies ... and maintains pavements at an adequate level of serviceability. These include, but are not limited to, systematic procedures for scheduling maintenance and rehabilitation activities based on optimization of benefits and minimization of costs."<sup>2</sup>

Through the County's pavement management system, DOT periodically inspects and evaluates the condition of pavement of all County maintained roads and rates roads' condition based on criteria that include:

- the severity and extent of pavement distress (potholes, cracks);
- the presence of pavement patching and utility cuts;
- the presence of depressions and rutting;
- pavement weathering; and
- the volume and type of traffic that uses the road.

DOT rates road segments as falling into one of five pavement condition categories: Very Good, Good, Fair, Poor, or Very Poor. Tables 2-1 and 2-2 on the following page shows the pavement condition ratings for the 4,143 lane miles of residential/rural and 966 lane miles of primary/arterial road pavement maintained by the County (as of the 2010 survey of pavement conditions).<sup>3</sup>

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<sup>1</sup> The County Code, Chapter 50, § 50-1 defines a right-of-way as "a strip of land occupied or intended to be occupied by a road, pedestrian path, railroad, electric transmission line, oil or gas pipeline, water main, sanitary or storm sewer main, or for other special use."

<sup>2</sup> Federal Highway Administration, *Public Roads*, Volume 62, Number 1, July/August 1998; <http://www.fhwa.dot.gov/publications/publicroads/98julaug/pavement.cfm>.

<sup>3</sup> DOT plans to conduct a new survey of pavement road conditions beginning in the Spring of 2013.

**Table 2-1: Pavement Condition of County-Maintained Residential/Rural Roads**

Condition	Lane Miles	Percent of Total Lane Miles
Very Good	414 miles	10%
Good	663 miles	16%
Fair	2,486 miles	60%
Poor	414 miles	10%
Very Poor	166 miles	4%

**Table 2-2: Pavement Condition of County-Maintained Primary/Arterial Roads**

Condition	Lane Miles	Percent of Total Lane Miles
Very Good	174 miles	18%
Good	232 miles	24%
Fair	454 miles	47%
Poor	58 miles	6%
Very Poor	48 miles	5%

Based on the findings of the pavement inspections, DOT establishes preventative maintenance, repair, resurfacing, and rehabilitation priorities. The extent of pavement improvements performed each year is subject to funding availability. As described in the next section, the County Government’s annual operating budget includes funding for roadway maintenance and the capital improvements program includes roadway resurfacing projects.

**B. County Government Roadway Maintenance and Resurfacing Programs**

The County Government capital and operating budgets include millions of dollars annually for roadway maintenance and resurfacing.

**1. Program Descriptions**

The County funds roadway maintenance and resurfacing both in the capital improvements program (CIP) and in the annual operating budget.

**Roadway Resurfacing (CIP).** Two CIP projects fund the resurfacing of County maintained roads. Project #500511 funds the resurfacing work for the more than 4,000 lane miles of residential and rural roads maintained by the County; Project #508527 funds the resurfacing for the nearly 1,000 lane miles of County-maintained primary and arterial roads. DOT sequences the repaving of specific road segments based on the pavement condition ratings determined through the pavement management system (see previous section).

Both CIP projects are on-going with expenditures expected to continue indefinitely. The FY13-18 approved CIP shows a six-year funding schedule totaling \$32.8 million (with \$9.3 million appropriated for FY13) for residential and rural road resurfacing and a six-year total of \$40.0 million (with \$10.0 million appropriated for FY13) for primary and arterial road resurfacing. Project description forms for the two roadway resurfacing projects appear in Appendix A.

**Residential/Rural Road Rehabilitation (CIP).** This CIP project (#500914) funds the rehabilitation and reconstruction of older residential and rural roadways. Work performed under this project includes pavement replacement and reconstruction of curbs, drains, and gutters. DOT identifies road segments suitable for the rehabilitation work based on the pavement condition ratings. The FY13-18 approved CIP shows a six-year funding schedule totaling \$42.6 million (with \$6.6 million appropriated for FY13) for residential and rural road permanent patching. A copy of the residential/rural road rehabilitation project description form appears in Appendix A.

**Residential/Rural Road Permanent Patching (CIP).** This CIP project (#501106) provides for patching of residential and rural roads to restore the structural integrity and prolong pavement performance. DOT identifies roads for inclusion in the project based on the pavement management system’s pavement condition ratings. The FY13-18 approved CIP shows a six-year funding schedule totaling \$20.0 million (with \$6.5 million appropriated for FY13) for residential and rural road permanent patching. The permanent patching project description form appears in Appendix A.

**Roadway Maintenance (Operating Budget).** The annual operating budget for DOT includes funding for road patching, shoulder maintenance, storm drain maintenance, and other roadway repair and maintenance activities. DOT expends a portion of the roadway maintenance operating budget for pavement preservation, that is, preventative maintenance intended to keep roads in good condition. In addition, this budget category funds related right-of-way maintenance activities such as sidewalk repair, mowing and vegetation removal, traffic barrier repair, and street cleaning. The FY13 approved operating budget for County road maintenance includes \$1.8 million designated for residential and rural road resurfacing.

## 2. Funding History

The Council annually appropriates capital and operating budget resources for the roadway maintenance and resurfacing. A summary of pavement management funding by program for Fiscal Years 2008 through 2013 appears in Table 2-3 below.

**Table 2-3: Pavement Management Program Funding History by Project**  
(\$ millions)

	FY08	FY09	FY10	FY11	FY12	FY13
Primary/Arterial Roads						
Resurfacing (CIP)	\$5.8	\$6.0	\$10.5	\$13.2 <sup>4</sup>	\$7.5	\$10.0
Residential /Rural Roads						
Resurfacing (CIP)	\$2.4	\$5.0	\$15.2	\$10.5	\$0.5	\$9.3
Rehabilitation (CIP) <sup>5</sup>	--	\$1.0	\$1.7	\$4.1	\$5.4	\$6.6
Permanent Patching (CIP) <sup>6</sup>	--	--	--	\$3.0	\$3.0	\$6.5
Resurfacing (Operating Budget)	\$2.5	\$2.7	\$2.7	\$0.3	\$0.9	\$1.8
<b>TOTAL</b>	<b>\$10.7</b>	<b>\$14.7</b>	<b>\$30.1</b>	<b>\$31.1<sup>4</sup></b>	<b>\$17.3</b>	<b>\$34.2</b>

Source: OMB

<sup>4</sup> FY11 funding for primary/arterial road resurfacing includes \$6.5 million of County resources and \$6.7 million of Federal American Recovery and Reinvestment Act (ARRA) resources.

<sup>5</sup> The Residential/Rural Roads Rehabilitation CIP Project was first funded in FY09.

<sup>6</sup> The Residential/Rural Roads Permanent Patching CIP Project was first funded in FY11.

As with other County programs, the pavement management program must compete for finite operating and capital budget resources. DOT annually adjusts its schedule of future pavement projects to accommodate variations in program funding. As a result, future year project schedules (which are dependent on yet-to-be determined funding levels) have an inherent degree of uncertainty and susceptibility to change.

## **C. Ongoing Utility Infrastructure Projects**

### **1. Water Lines**

WSSC maintains a network of about 5,500 miles of underground water lines. Approximately one-quarter (about 1,380 miles) of WSSC's water lines are 50 or more years old. As the infrastructure ages, water lines deteriorate and occasionally leak or break. The WSSC capital improvements program includes multiple major water line replacement projects in Montgomery County. In addition, the WSSC Water Reconstruction Program is intended to extend the useful life of aging water mains. This project includes the selected replacement of water lines as necessary to supply water in sufficient quantity, quality and pressure for domestic and fire fighting use.

Water line reconstruction projects undergo regulatory and permitting processes, including review of erosion, sediment control and other environmental impacts. A water pipeline replacement project can include up to five miles of pipeline replacement in a single neighborhood and can take up to 18 months to design and permit followed by six months to award the bid for construction. One construction crew can typically complete up to a mile of water main replacement work per construction year. The FY13-18 approved WSSC CIP shows a six-year funding schedule totaling \$641.3 million (with \$77.4 million appropriated for FY13) for the water line reconstruction. A copy of the WSSC Water Reconstruction Program project description form appears in Appendix B.

### **2. Sewer Lines**

The WSSC sewerage network contains more than 5,400 miles of pipeline, most of which is located underground. The aging sewer system has experienced overflows in many lines during recent years. Sewer overflows can cause damage to environmentally sensitive areas (such as streams) and can pollute the water supply. In 2005, WSSC entered into a Consent Decree with the United States Environmental Protection Agency, the Maryland Department of the Environment, and four citizens' groups to implement a multi-year plan to minimize sewage overflows and to reduce groundwater infiltration into cracked sewer lines. Under the Consent Decree plan, WSSC is systematically working to identify and repair infrastructure problems within the system. Through this effort, WSSC is replacing and re-lining sewer lines throughout Montgomery and Prince George's Counties.

The WSSC capital improvements program includes multiple major sewer system infrastructure improvement projects in Montgomery County. In addition, the Sewer Reconstruction capital project funds the systematic repair, rehabilitation, and replacement of sewer mains and house connections. The FY13-18 approved WSSC CIP shows a six-year funding schedule totaling \$628.9 million (with \$136.4 million appropriated for FY13) for the sewer reconstruction project. A copy of the WSSC Sewer Reconstruction Program project description form appears in Appendix B.

WSSC reports that it expends \$5 million annually for pavement restoration following water and sewer line repair and replacement work.

### **3. Gas Lines**

Earlier this year, the Maryland General Assembly approved Senate Bill 8, “Gas Companies - Rate Regulation - Infrastructure Replacement Surcharge.” This legislation authorizes Washington Gas, Baltimore Gas & Electric, and other gas companies in the State to request Public Service Commission (PSC) approval to assess a surcharge on customers’ bills to recover the costs of certain infrastructure replacement projects. Under the new law, the surcharge could raise revenue to defray the cost of replacement of existing gas lines as needed to improve public safety or infrastructure reliability or reduce greenhouse gas emissions. As the legislation takes effect June 1, 2013, gas companies may soon petition the PSC to authorize surcharges for gas line replacement projects.

### **4. Other Utility Lines**

From conversations with DOT and utility representatives, OLO learned that the vast majority of trench pavement cuts are performed to replace or repair water, sewer, and gas lines. Major pavement cutting is uncommon for electricity and telecommunications lines. OLO is not aware of any systematic infrastructure replacement or relocation involving significant pavement cutting planned by electricity and telecommunications utilities in the County.

#### **D. Effects of Pavement Cutting**

Several communities and research organizations have studied the impact of pavement cuts on the structural integrity and functionality of roads. While there has not been a study of this sort conducted in Montgomery County, a review of the literature finds universal agreement that cutting roads has a measurable negative impact on road performance and maintenance costs. Summaries of two representative studies follow:

- A 2003 research report submitted to the Transportation Research Board of the National Academy of Sciences reviewed multiple studies of the effect of pavement cuts on roads.<sup>7</sup> The report identified two types of roadway degradation that may result from pavement cuts: structural deterioration and functional deterioration. Structural deterioration relates to “pavement condition, or level of distress, which would affect its load-carrying capacity or would require maintenance or rehabilitation.” Functional deterioration occurs “when the pavement no longer provides a smooth riding surface for vehicles and passengers.”<sup>8</sup> The report concluded that “street cuts not only cause damage to the life of the streets but also costs millions of dollars to agencies in premature repair and street remediation expenses. Other financial impacts from utility cuts and poor repairs include traffic delays, increased congestion ... and damage to both public and private vehicles.”<sup>9</sup>
- In 1995, a research team at San Francisco State University presented a study to the City of San Francisco addressing whether utility cuts shortened the life of roadway pavement. The study found that increased levels of utility cuts accelerate the pavement aging process. The study authors estimated that utility cuts reduce the service life of pavement by 30% to 50%.<sup>10</sup> A subsequent study commissioned by the City of San Francisco

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<sup>7</sup> “Controlling and Reducing the Pavement Utility Cuts.” Wilde, W. James, Grant, Carolyn, and White, George T.; submission to 2003 Annual Meeting of the Transportation Research Board, [http://www.ltrc.lsu.edu/TRB\\_82/TRB2003-000534.pdf](http://www.ltrc.lsu.edu/TRB_82/TRB2003-000534.pdf).

<sup>8</sup> Ibid., page 4.

<sup>9</sup> Ibid., page 3.

<sup>10</sup> “The Effect of Utility Cuts on the Service Life of Pavements in San Francisco”, Tarakji, Ghassan Report, May 1995 as reported in “Pavement Degradation, How Other Cities Are Dealing With It.” American Public Works Association, 2002, [http://www2.apwa.net/documents/About/TechSvcs/ROW/Products/Pavement\\_Degradation-9-02.pdf](http://www2.apwa.net/documents/About/TechSvcs/ROW/Products/Pavement_Degradation-9-02.pdf).

confirmed these findings and further concluded that “utility cuts inevitably and irreparably disrupt the subsurface of a street, and that this damage extends beyond the perimeter of the trench.”<sup>11</sup>

In many cases, DPS requires utilities to use a “mill and overlay” process to repair road cuts. The mill and overlay process involves removal (through milling) of the top two-inch layer of roadway pavement followed by the placement of a new layer of hot mix asphalt. This process prevents road degradation caused by the infiltration of water through the edges of a pavement cut patch. Nonetheless, resurfacing pavement does not restore the structural degradation caused by the trench cutting of roadways.<sup>12</sup>

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<sup>11</sup> “The Impact of Excavation on San Francisco Streets,” San Francisco Department of Public Works and the Blue Ribbon Panel on Pavement Damage, September 1998 as reported in <http://www.scribd.com/doc/121338692/pavement-Management-System-text-book>.

<sup>12</sup> “Impact of Utility Trenching and Appurtenances of Pavement Performance,” Stephen Q. S. Lee and Katherine A. Lauter, Environment and Transportation Department, Regional Municipality of Ottawa-Carleton, 1999, [http://www2.apwa.net/documents/organization/Lee\\_Lauter2\\_Apr00.pdf](http://www2.apwa.net/documents/organization/Lee_Lauter2_Apr00.pdf).

## **CHAPTER III. COMMUNICATION AND COORDINATION: CURRENT PRACTICES**

This chapter describes current practices employed by the County Government and local utilities to exchange information about planned and on-going construction work in County rights-of-way. In addition, this chapter discusses how agencies coordinate the scheduling of right-of-way work. The final section of this chapter provides an overview of how the County Government and utilities provide the public with information about right-of-way construction projects.

### **A. Communication between DOT and Utilities**

During the past several years, DOT has adopted a series of practices to share information about right-of-way work with utilities that operate in the County. Although the Department has no written policies, standards, or requirements for this information sharing, DOT staff routinely exchange information with utilities regarding the pavement management program and specific pavement projects. Information sharing practices include:

1. Distribution of Annual Project Schedules
2. Exchange of GIS Information
3. Electronic Document Sharing
4. Quarterly Project Status Meetings
5. Distribution of Bi-Weekly Project Status Reports

Each of these practices is detailed below.

#### **1. Distribution of Annual Project Schedules**

In May of each year, DOT notifies WSSC and Washington Gas of all road rehabilitation, resurfacing, and patching projects planned for each of the four upcoming fiscal years.<sup>1</sup> This notification names the specific road segments scheduled for pavement improvement by type of work (e.g., hot mix asphalt paving, double-shot micro resurfacing, patching), but is not presented in a geographic information system (GIS) map-able format. The project work schedule is subject to change based on variations in program funding, changes in pavement conditions, utility work schedules, and other factors. Nonetheless, this annual notification alerts WSSC and Washington Gas of County maintained roads that are likely to undergo pavement work in the next four years. Pepco reports that it does not regularly receive right-of-way project scheduling information from the County Government. Sample pages from the FY13 road rehabilitation, resurfacing, and patching project schedule sent to WSSC and Washington Gas appear in Appendix C.

#### **2. Exchange of GIS Information**

Until earlier this year, project data sent by DOT to WSSC was not coded for mapping by means of GIS. As a result, WSSC was unable to incorporate DOT project information into its GIS system without investing many hours of staff time converting the data. Recently, DOT began to maintain GIS generated maps showing the location of County right-of-way projects planned through FY14. DOT began sharing this GIS data with WSSC in January 2013.

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<sup>1</sup> DOT sends WSSC and Washington Gas preliminary notification of planned rehabilitation and resurfacing projects in March of each year. DOT updates the list in May to reflect final County Council budget action.

Conversely, WSSC transmits GIS data to DOT to indicate the locations of current and planned water and sewer projects. Although the agencies maintain separate GIS platforms, the two GIS systems are sufficiently compatible to allow each agency to produce maps that display road, water, and sewer projects. These maps provide an additional tool to identify potential conflicts between County and WSSC right-of-way work.

Nonetheless, WSSC staff indicate that project coordination could be improved if the County provided GIS data for projects planned for up to the next five years (rather than the current practice of sharing GIS data only for projects planned for the upcoming fiscal year). WSSC works on the design of water main projects three to five years before construction, and so, would benefit from receiving GIS information for County projects over a similar time frame. In addition, WSSC staff report that current GIS analysis tools are not developed sufficiently to allow for optimum coordination and notification.

DOT also provides a third-party company, Envista, with GIS-coded information about the County's planned pavement work schedule. Envista is a private vendor that has developed a web-based application that maps and provides project details for infrastructure projects managed by different agencies in public rights-of-way.<sup>2</sup> Agencies that subscribe to this service can access a clickable map showing real-time project information. WSSC and Washington Gas currently subscribe to the Envista service. At present, the County Government and Pepco do not subscribe.

WSSC reports that County data in the Envista system is often out of date and is inconsistent with the most recent moratorium data provided by DOT. As the County does not subscribe to use Envista software, the vendor's support services are unable to assure WSSC of the quality and accuracy of data received from the County.

### **3. Electronic Document Sharing**

DOT and WSSC share right-of-way project files using construction program management software known as "e-Builder." e-Builder is an electronic document management product that provides a central repository for construction project files, including drawings, photographs, and other large files that are not easily attached or exchanged through email. Electronic document sharing offers DOT and WSSC project teams immediate access to current project files, thereby allowing for better coordination and collaboration of right-of-way work.

### **4. Quarterly Project Status Meetings**

DOT holds quarterly meetings with WSSC construction and design staff to exchange information about current and planned right-of-way projects. At these meetings, DOT presents project-specific status reports on roadway rehabilitation and resurfacing projects. WSSC shares similar information about on-going and planned water and sewer projects. The purpose of these quarterly meetings is to identify and resolve potential conflicts between the right-of-way work of the two agencies. In addition, DOT sends WSSC quarterly updates of the list of roads under a pavement cut moratorium (see page 13 below).

DOT holds similar quarterly meetings with Washington Gas construction and design personnel.

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<sup>2</sup> The Federal Highway Administration cites Baltimore City's use of Envista as a "best practice" (see Chapter V).

## **5. Distribution of Bi-Weekly Project Status Reports**

DOT maintains a spreadsheet that summarizes the status of each pavement project scheduled for the current fiscal year. The spreadsheet includes:

- the project location (road segment or subdivision);
- the type of work to be performed;
- an estimate of project costs;
- project start and completion dates;
- the name of the contractor performing the work; and
- the name and phone number of the DOT inspector overseeing the work.

DOT updates this information every two weeks and sends copies of the spreadsheet to WSSC and Washington Gas. WSSC reports that the information in the bi-weekly status reports would be more useful if it were GIS-coded.

### **B. Right-of-Way Permitting Process**

Montgomery County requires a permit for construction projects on roads, sidewalks, bikeways, curbs, gutters, and drainage systems in County rights-of-way.

#### **1. Permit Application Process**

Utilities apply to the Department of Permitting Services (DPS) for a permit to perform any construction, relocation, and maintenance activities on infrastructure located within a right-of-way. DPS will issue a utility construction permit only to companies that have registered with “Miss Utility” and have entered into a franchise agreement with the County. To obtain a right-of-way work permit, a utility must submit an application indicating the location of the planned work. In addition, the application must specify:

- the anticipated construction start date;
- the planned duration of work;
- a description of the number and type of pavement cuts;
- field staff contact information; and
- a traffic control plan.

A utility must apply for a separate permit for each work location. DPS does not issue blanket permits covering multiple work sites. A copy of a utility construction permit appears in Appendix D. The data in the table below show the number of permits that DPS issued to utilities in the past three years. The data show that the number of permits issued by DPS rose approximately 35 percent from year to year.

**Table 3-1: Number of Utility Permits Issued by the Department of Permitting Services, 2010-2012**

Year	Number of Permits Issued to Utilities
2010	1,181
2011	1,596
2012	2,181

Source: DPS

The County charges a fee for a utility construction permit. The fee schedule for rights-of-way permits are established through regulation. Current permit fees are included in Executive Regulation 6-11 (July 1, 2011). However, while other utilities pay permit processing fees, state law prohibits the County from charging WSSC any fees for right-of-way construction permits.

Under terms of the permit, all utility construction must comply with all standards and requirements included in a document entitled *Montgomery County Specifications for Utility Construction Permit*, prepared by DPS.<sup>3</sup> Utility right-of-way construction permits are valid for 18 months. Prior to the expiration of a permit, a utility may apply for a 12-month extension of the permit. DPS does not routinely check the moratorium status (see below) of roads or DOT’s project schedules before renewing permits.

DPS does not require DOT to apply for a right-of-way construction permit for roadway reconstruction or resurfacing projects.

## 2. DPS Permit Review

Upon receipt of a permit application, DPS staff review the information submitted by the utility to ensure that construction is performed in a safe manner and that the right-of-way is restored properly. In some cases, DPS stipulates additional special conditions required for approval of the permit (such as traffic control plans for adjacent roads). In addition, DPS checks permit applications to see if the planned work conflicts with an existing pavement cut moratorium (see below).

Once DPS approves a permit, the utility must contact DPS at least 48 hours before the start of work to schedule a pre-construction meeting. At the pre-construction meeting, a DPS inspector will review permit requirements for the specific site with utility representatives. DPS staff also inspect the site during the construction period to ensure compliance with permit and regulatory requirements. A final DPS inspection occurs after completion of construction.

At present, utility permit information is not routinely transmitted to DOT or utilities nor is this data converted into GIS code for mapping with other right-of-way work.

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<sup>3</sup> <http://permittingservices.montgomerycountymd.gov/DPS/pdf/SpecificationForUtilityConstructionPermit.pdf>.

### **3. Pavement Cut Moratorium**

The County has a policy establishing a moratorium on pavement cutting for newly paved roads. As specified in the document, *Specifications for Utility Construction Permit*, no pavement cutting may occur for five years following the completion of a newly constructed road and for three years following the completion of a reconstruction or resurfacing project. As stated in the Specifications, the intent of the moratorium is “to maintain the integrity ... of ... newly constructed or refurbished roadways.”<sup>4</sup>

The moratorium applies to planned installation, replacement, and repair of utility lines. Emergency utility repairs are exempt from the moratoriums. Utility service connections to new residences or businesses are not subject to a moratorium. Under certain circumstances, a utility may be exempted from the pavement cut moratorium when DPS determines that no alternative is available. In these cases, the utility must repair the cut consistent with the “mill and overlay” standards described in the Specifications.<sup>5</sup>

Moratorium end dates for resurfaced or reconstructed roads are subject to change. DOT includes a road on its moratorium list once the resurfacing of a specific road in a project is complete. Upon completion of the project, DOT will restart the three-year moratorium period, pushing back the moratorium end date.

Currently, DPS does not have an established process in place to notify current permit-holders when a road goes into moratorium. If the County Government reconstructs or resurfaces a road, triggering a moratorium, DPS does not notify utilities that hold valid permits to work on the road that the status of the road has changed. DOT provides a list of roads under moratorium to utilities on a quarterly basis, but does not GIS-code the data.

#### **C. Interagency Coordination**

In several instances, DOT and a utility have learned through their exchange of information that both agencies have pavement work planned for the same road segment. In those cases, staff from DOT and the utility begin a dialogue about the sequencing and timing of the planned right-of-way construction. When possible, the agencies will revise their project schedules to minimize the construction impact on the neighborhood and to assure that utility pavement cuts occur before DOT begins any roadway reconstruction or pavement resurfacing. As an example, Chapter IV describes the recent case of improvements in the Middlebrook Road right-of-way where DOT adjusted its planned schedules to accommodate the WSSC’s work on the road.

In multiple instances, DOT has arranged to schedule resurfacing immediately following completion of a utility line replacement project. As a result of this coordinated project scheduling, the planned DOT repaving project replaced the need to repair the pavement cut by the utility. In these cases, DOT and the utility entered into a memorandum of understanding (MOU) to share the cost of the pavement restoration. Through these cost sharing MOUs, the County’s contractor performs road repair following completion of utility work. In return, the utility agrees to pay the County an amount equal to the cost of pavement restoration work that would have been required absent the DOT project. Chapter IV describes several recent MOUs in more detail. A sample copy of a recent MOU between DOT and WSSC appears in Appendix E.

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<sup>4</sup> Montgomery County Specifications for Utility Construction Permit, page 3.

<sup>5</sup> Montgomery County Specifications for Utility Construction Permit, page 12.

## **D. Public Access to Right-of-Way Work Scheduling Information**

DOT and the utilities have developed their own methods of providing the public with information about planned right-of-way.

### **1. DOT**

DOT informs the public about its right-of-way projects both online and through newsletters sent to residents in neighborhoods with upcoming resurfacing projects.

Online List of Projects: The DOT/Division of Highway Services website lists on-going and planned resurfacing projects for the current fiscal year.<sup>6</sup> The web page for the primary/arterial resurfacing program lists the road segments (e.g., Germantown Road from MD Route 355 to Scenery Drive) planned for repaving. In addition, the web page identifies the type of pavement work (e.g., hot mix asphalt paving, double-shot micro resurfacing, patching), the planned start date, and the status (percent complete) for each project.

The web page for the residential resurfacing program lists the neighborhoods or subdivisions planned for repaving. The web page also identifies the type of pavement work, the planned start date, and the status for each project. This list also provides links to the community newsletter prepared by DOT for specific projects (see below). Exhibit 3-1 on the next page shows the residential resurfacing program web page for the winter of 2012-2013.

Newsletters: Before beginning construction on a residential resurfacing project, DOT mails a newsletter to residents of the community informing them of the upcoming construction. The newsletter contains information about the purpose and scope of the project, the planned construction schedule, and the type of work to be performed. The newsletter also includes contact names and telephone numbers for DOT staff managing the project. Exhibit 3-2 on pages 16-17 shows an example of a recent DOT newsletter to inform a community about a planned resurfacing project.

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<sup>6</sup> [http://www6.montgomerycountymd.gov/hwytml.asp?url=/content/dot/highway/Hwy\\_MainLinkPg/ResurfacingProjects.asp](http://www6.montgomerycountymd.gov/hwytml.asp?url=/content/dot/highway/Hwy_MainLinkPg/ResurfacingProjects.asp).

Exhibit 3-1: DOT Online Listing of Residential Resurfacing Projects

**MONTGOMERY COUNTY MARYLAND**  
 montgomerycountymd.gov

Home | Translate

RESIDENTS GOVERNMENT BUSINESSES CULTURE & LEISURE

*Highway Services* Department of Transportation (MCDOT)

**RESIDENTIAL ROADWAY RESURFACING**

This project provides for the permanent patching and resurfacing of residential roadways, using durable hot mix asphalt (HMA) or micro seal resurfacing to restore long term structural integrity to the aging residential infrastructure.

2012 CONSTRUCTION SEASON: Update 11/30/2012

Click on the Neighborhood or Location name (if underlined) to read or download a Project Newsletter describing the scope of the project.

Check back periodically as projects get added or scheduled. This schedule may be changed and substitutions may be made at any time due to weather and/or operational reasons.

Roadway/Subdivision	Scope of Project	Start Date	Status
<a href="#">Ancient Oak North</a>	Patching	Summer 2012	100%
<a href="#">Ancient Oak/Ancient Oak West</a>	Patching	Summer 2012	100%
<a href="#">Black Rock Estates</a>	HMA	7/11/2012	100%
<a href="#">Bondbrook/Mitchell's Range</a>	Patching	Summer 2012	100%
<a href="#">Brookmont</a>	Rehab	7/23/2012	100%
<a href="#">Cypress Grove Lane</a>	HMA	August 2012	100%
<a href="#">Derwood Heights</a>	HMA	August 2012	100%
<a href="#">Ednor Acres</a>	HMA	Spring 2013	
<a href="#">Emory Grove</a>	HMA	10/19/2012	100%
<a href="#">Fallsreach</a>	Patching	9/4/2012	100%
<a href="#">Fawcett Farms Phase II</a>	Patching	July 2012	100%
<a href="#">Forest Glen</a>	Rehab	3/26/2012	100%
<a href="#">Fox Hills West Phase II</a>	Micro	9/15/2012	100%
<a href="#">Franklin Knolls</a>	Rehab	7/2/2012	45%
<a href="#">Franklin Park</a>	Patching	8/13/2012	100%
<a href="#">Garrett Park Estates</a>	HMA	8/6/2012	100%
<a href="#">Goshen School Road</a>	HMA	3/30/2012	100%
<a href="#">Hadley Farms</a>	Micro	10/8/2012	100%
<a href="#">Harmony Hall Subdivision</a>	HMA	3/26/2012	100%
<a href="#">Layhill Village</a>	HMA	6/18/2012	100%
<a href="#">Lyttonsville Subdivision</a>	Micro	9/30/2012	100%
<a href="#">Needwood Estates</a>	HMA	7/9/2012	100%
<a href="#">Olney Village</a>	2x Micro	7/9/2012	100%
<a href="#">Parkridge</a>	HMA	7/5/2012	100%
<a href="#">Peachwood</a>	HMA	8/16/2012	45%
<a href="#">Potomac Chase Estates</a>	Micro	9/3/2012	100%
<a href="#">Rocky Gorge Meadows</a>	HMA	7/2/2012	100%
<a href="#">Rolling Terrace Subdivision</a>	HMA	10/8/2012	100%
<a href="#">Silver Crest Subdivision</a>	Patching	11/1/2012	55%
<a href="#">South Four Corners</a>	HMA	7/30/2012	100%
<a href="#">Tara/Potomac View Ests /River Oaks</a>	HMA	7/9/2012	100%
<a href="#">Veirs Mill Village</a>	Patching	Summer/Fall '12	100%
<a href="#">Willows of Potomac</a>	Patching	10/8/2012	100%
<a href="#">Windsor Knolls</a>	HMA	3/12/2012	100%
<a href="#">Woodside Park</a>	HMA	7/10/2012	100%

Click on the underlined links below for more information and to view respective project schedules.

HMA	<a href="#">Residential Hot Mix Asphalt Paving</a>
Patching	<a href="#">Full-Depth Permanent Patching</a>
Rehab	<a href="#">Roadway Rehabilitation</a>
Micro	<a href="#">Micro Resurfacing</a>

Exhibit 3-2: Example of DOT Resurfacing Project Community Newsletter (page 1)

Isiah Leggett, County Executive

KEEPING MONTGOMERY MOVING

Arthur Holmes, Jr., Director, MCDOT



# MCDOT NEWS

News from the Montgomery County Department of Transportation, Division of Highway Services

## South Four Corners Roadway Paving Project

Project to Begin Summer of 2012, Includes Road Milling and Paving

### PURPOSE

This newsletter is to inform you of the upcoming road repairs and resurfacing of the streets in the South Four Corners subdivision. This pavement system preservation project employs long term strategies to preserve and enhance the physical and operating conditions of the roadway system as it exists and will produce a system serviceable for many years. This project falls under the County's Residential Roadway Resurfacing Program.

### BACKGROUND

The Montgomery County Department of Transportation's (MCDOT) Division of Highway Services (DHS) maintains over 5,108 lane miles of streets and highways in the county's transportation system. As part of our pavement system preservation efforts, MCDOT initiated a new Pavement Management System in 2008. At that time, MCDOT concluded a complete condition inventory of all County roads, identifying and rating the condition of each. This new system has enabled the development of County-wide road resurfacing schedules based on a formula based objective rating system coupled with budgetary parameters.

### SCOPE OF PROJECT

Overall, pavement conditions in the South Four Corners subdivision were generally rated as fair, with some areas described as needing more attention. This rating meets the criteria for Residential Roadway Preservation using hot mix asphalt (HMA) overlay.

### SCHEDULE

This project is expected to begin during summer of 2012 and will take 4 to 6 weeks to complete.

Weather and other operational requirements may affect the schedule.

Work hours will be between 7:00 am and 5:00 pm, Monday through Friday.

### PROJECT WORK PLAN

Generally, the work will proceed as follows:

1. **Conduct survey** — MCDOT inspectors will identify areas of pavement that, prior to resurfacing, may require full depth asphalt patching of the pavement or other repairs. These areas are marked by white paint.



Typical point markings.

2. **Full Depth Patching** – Full depth patching restores the pavement's structural integrity and capacity to support vehicle loads. The areas of distressed pavement marked by the MCDOT inspectors is removed and replaced by new pavement. The final paving of the road will cover these patched areas.

3. **Pavement milling/edge milling**- Edge milling/grinding off the edges of the existing pavement near curbs and driveways



Typical milling operation

allows the new pavement to match the level of the existing curbs, etc., and restores the proper highway cross-section to improve rideability and drainage. The new pavement will provide a smoother ride and assure positive drainage.

4. **Utility Adjustments** - Sewer and storm drain manholes, water valves and gas valves, and other underground utility access covers need to be elevated to the same grade as the proposed pavement, usually 1" to 2". During construction activities, all utility surface adjustments will be maintained by the placement of temporary HMA ramps until placement of final paving occurs (up to three weeks depending on other operational requirements).

5. **Crack Sealing** - An additional step may be necessary to seal large cracks that may not require full depth patching. A flexible filler material is injected into the cracks, filling voids and preventing water damage.

6. **Paving with hot mix asphalt** - Asphalt is delivered to the site in dump trucks. The hot material is transferred into the hopper of an asphalt paving machine such as the one depicted in the photo. The paving machine places the hot asphalt in a uniform thickness and provides initial compaction. Following placement, steel wheeled rollers complete the compaction effort until field

testing indicates that all relevant specifications have been met.

7. **Replace roadway lane markings** - Permanent lane markings, if existing prior to paving, will be remarked one to two weeks after the paving has been completed.

### IMPACTS

Continuous traffic will be maintained at all times utilizing lane closures and/or alternating one-way traffic patterns. However, minor traffic delays may be experienced as flaggers manually direct traffic safely through the construction zone. Street paving will necessitate temporary lane closures and temporary parking restrictions. Signs will be posted identifying such restrictions. Access to residences will be available at all times, however minor delays may be experienced as workers restrict traffic from freshly placed hot mix asphalt.

Generally speaking this work is best characterized as noisy and disruptive. However, MCDOT will take all necessary steps to mitigate any inconveniences this work may cause.

Quality control for the entire project will be managed by County inspection staff to ensure that the project meets contract specifications.

*We apologize in advance for any unavoidable inconvenience and thank you for your cooperation and patience as we work to improve the South Four Corners subdivision for residents and users.*



Typical asphalt paving operation

100 Edison Park Drive, 4th Floor, Gaithersburg, Maryland 20878

MCDOT NEWS No. 2012.48

**Exhibit 3-2: Example of DOT Resurfacing Project Community Newsletter (page 2)**



**MONTGOMERY COUNTY, MARYLAND**  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAY SERVICES  
 100 EDISON PARK DRIVE, 4th FLOOR, GAITHERSBURG, MD 20878  
 (240) 777-6000      www.montgomerycountymd.gov/mcdot

**KEEPING MONTGOMERY MOVING**  
 MCDOT NEWS No. 2012.48

**NOTICE OF SOUTH FOUR CORNERS  
 RESIDENTIAL ROADWAY PAVING PROJECT**

**SAFETY NOTICE**

Please drive gently and safely through the work site and kindly remember that while repair work is underway, personnel and construction vehicles will be moving around the site. Some materials may be stored in the area. Please use caution when walking or driving through the construction zone. Children may be attracted to the noise and machinery, so we ask that you please keep all children under close supervision at all times, even after the work is completed for the day. Also, please follow the direction of flaggers and temporary signs and traffic control devices. We appreciate your patience and cooperation while we make these much needed improvements to the infrastructure.

**IMPORTANT MCDOT CONTACTS**

**Patching Manager:** Norman Smith      240-876-5981  
**Paving Manager:** Nicholas Boone      240-777-7648  
**Program Manager:** Donald Noble      240-777-7601

Should your questions be of a more general nature please contact  
 Customer Service at 240-777-6000.

**DHS Email:** mcdot.highway@montgomerycountymd.gov

**Roadway Resurfacing Schedule and Status Page:**  
[http://www.montgomerycountymd.gov/hwytml.asp?url=/content/dot/highway/Hwy\\_MainLinkPg/ResurfacingProjects.asp](http://www.montgomerycountymd.gov/hwytml.asp?url=/content/dot/highway/Hwy_MainLinkPg/ResurfacingProjects.asp)

**DHS Website:**  
<http://www.montgomerycountymd.gov/hwytml.asp?url=/content/dot/highway/index.asp>

On the map, click on Silver Spring Service Area, where information is available describing the roadway evaluations and repair processes.



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## **2. WSSC**

WSSC alerts the public about its right-of-way water and sewer projects through an interactive online map and through targeted neighborhood information.

Online Interactive Map: WSSC recently launched an online interactive map known as “WSSC In Your Neighborhood.”<sup>7</sup> Using this feature, residents may enter an address to see all sewer projects within one-half to three miles of the address.<sup>8</sup> The color codes projects to indicate their current status (completed, in construction, under design, in permitting, or planned). The interactive map allows users to click on a mapped project to reveal a brief description of the project as well as the estimated start and end dates. The online user may also navigate the map to view projects in other parts of the WSSC service area. A screen shot depicting the “WSSC In Your Neighborhood” application appears in Exhibit 3-3 on the next page.

Neighborhood Information: Before and during a water or sewer project, WSSC informs residents of the affected neighborhood of the planned work. WSSC sends a mailing or places door hangers to alert residents of upcoming projects. In addition, WSSC posts signs in the neighborhood that display the name and telephone number of the project manager. Some WSSC sign posts also include a box with project information sheets for residents to take.

## **3. Other Utilities**

Other utilities send out letters, post signs, or place door hangers to inform residents of upcoming work in their neighborhood.

Washington Gas is currently developing a web page to inform residents of current and planned construction projects.<sup>9</sup> OLO has not found construction project web pages for other utilities that operate in the County.

## **4. Public Access to Consolidated Agency Information**

No website or publication provides the public with consolidated information about current and planned construction in County rights-of-way. County residents or businesses must access information from each agency separately to learn about government and utility construction work that will affect their neighborhood.

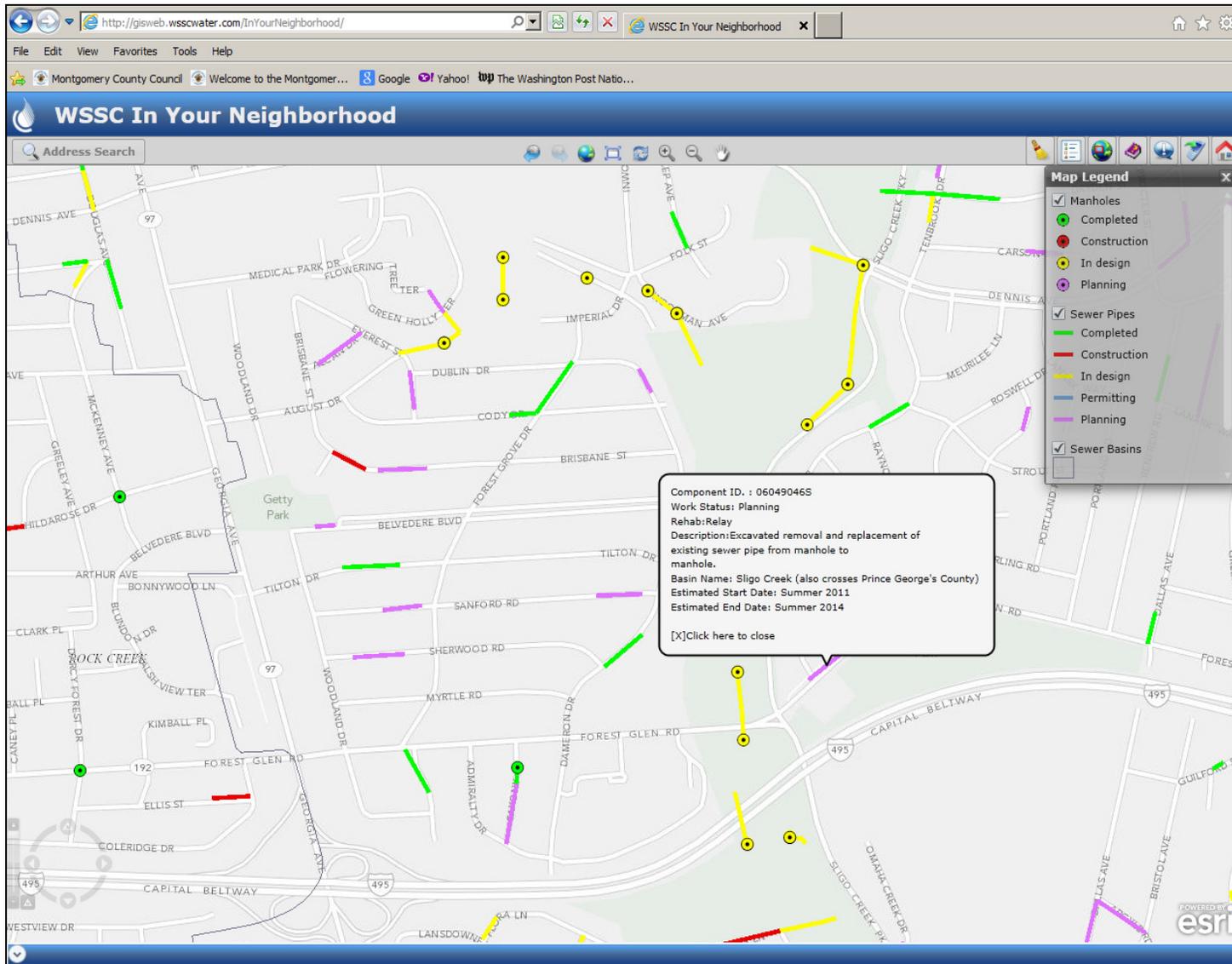
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<sup>7</sup> <http://gisweb.wsscwater.com/InYourNeighborhood/>.

<sup>8</sup> WSSC will soon add water projects to the interactive map.

<sup>9</sup> <http://www.washgas.com/pages/ConstructionProjects>.

Exhibit 3-3: Screen Shot of “WSSC In Your Neighborhood” Online Interactive Map



## CHAPTER IV. LOCAL CASE STUDIES

Chapter III describes the practices employed by the Department of Transportation, the Department of Permitting Services and local utilities to coordinate potentially overlapping work in the rights-of-way. This chapter examines several recent examples of projects where County Government and utility work intersected. The chapter focuses on WSSC's work because WSSC performs the majority of utility work in County rights-of-way.

The examples detailed below are:

- A. Forest Glen Rehabilitation (2010-2013) and WSSC Consent Decree Work;
- B. Middlebrook Road Micro-Resurfacing and WSSC Water Main Extension; and
- C. Memorandums of Understanding.

The chapter ends with OLO's observations from these case studies on efforts to coordinate overlapping work in rights-of-way.

### A. Forest Glen Rehabilitation

**Background.** In December 2009, a Department of Transportation pavement condition survey indicated that the condition of 17.16 miles of neighborhood roads in the Forest Glen area of Silver Spring<sup>1</sup> was poor or very poor. In August 2011, DOT began the Forest Glen Rehabilitation project (hereinafter "Forest Glen Project") to rebuild the neighborhood roads – grinding off the existing road surface, replacing the road base where needed, resurfacing the roads, and replacing concrete sidewalks, curbs, and gutters. DOT completed the road rebuilding in August 2012. As required by DPS' *Specifications for Utility Construction Permit*, the neighborhood roads were placed under a three-year moratorium on road cutting (except in emergency situations).<sup>2</sup> See Appendix F for a map of the roads that were a part of the project.

Three WSSC water main replacement projects between March 2008 and May 2010 degraded the condition of the roads in the same neighborhoods. Through open trenching of the roads, WSSC replaced approximately four miles of 2" to 10" water mains in the neighborhood. WSSC's projects also included replacement of approximately 440 house connections between the water main and the property line for each house.

In September 2011, the County Government and WSSC entered into a memorandum of understanding (MOU) in which WSSC agreed to pay \$408,652 to the County Government for its share of the cost of resurfacing work in the Forest Glen Project (see Section C, below, about MOUs). Because the County Government intended to rebuild the Forest Glen roads following WSSC's 2008-2010 water main replacement projects, DOT and DPS allowed WSSC to put a temporary patch on WSSC's trench cuts in the roads. WSSC then paid the County Government the amount it would have cost WSSC to repave the roads according to the specifications in WSSC's permit from DPS.

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<sup>1</sup> The neighborhoods are bordered by Georgia Avenue on the east, Sligo Creek Parkway on the west, Dennis Avenue on the north, and Forest Glen Road on the south.

<sup>2</sup> See Chapter III for description of the County's moratorium policy.

**WSSC Consent Decree.** In 2005, WSSC entered into a Consent Decree with the United States government, the State of Maryland, WSSC, and citizens groups that requires WSSC to improve sewer collection system performance and reduce sewer overflows and backups by December 7, 2015 (see Chapter II).

At the end of November 2012, approximately four months after DOT completed rebuilding the roads in the Forest Glen Project, a WSSC contractor hired to perform work under the Consent Decree arrived in the neighborhood with a backhoe and told neighbors that its work required cutting the newly-paved street.

WSSC's contractor was working under a permit that WSSC applied for in June 2011 and that DPS issued in October 2011 – to perform work on four streets in Forest Glen Project neighborhoods. WSSC's application indicated that the work could include pavement cutting. During the period when WSSC's permit application was pending DPS review, WSSC and the County Government executed the September 2011 MOU to share the cost of rebuilding the streets in the Forest Glen Project. Executive Branch representatives report that DOT staff were aware that WSSC's permit for the Consent Decree work that authorized pavement cutting, but that DOT and WSSC staff had a verbal agreement that WSSC would use trenchless technology to perform the work.

In August 2012, when DOT finished rebuilding the Forest Glen roads, the roads were placed under moratorium. Although WSSC held a valid DPS permit at that time for work that could include cutting the pavement on these roads, neither DPS nor DOT notified WSSC that the roads were placed under moratorium.

In October 2012, DOT sent an updated Moratorium List to the utilities, including WSSC. The list, however, only identified eight of the more than 20 roads in the Forest Glen Project as being under moratorium. Regardless of DOT's omission, three of the four roads covered by WSSC's permit for the Consent Decree work were included on the Moratorium List, including the road where WSSC's contractor arrived in November 2012.<sup>3</sup> WSSC reports that it would not review an October 2012 moratorium list against a project where WSSC applied for a permit in June 2011. WSSC checks moratorium lists against projects in the planning stage before they are permitted. WSSC assumes that permitted projects do not require further coordination unless WSSC is planning on requesting a permit extension.

In November 2012, WSSC's contractor moved pavement cutting equipment to Brisbane Street to begin Consent Decree work. Permits issued by DPS, including WSSC's permit for the Consent Decree work, require the permit holder to contact a DPS field inspector at least 48 hours before beginning work under the permit. WSSC's contractor neglected to notify DPS of its intent to begin construction. After many neighbors contacted the County Government and WSSC, WSSC temporarily postponed the work to "re-evaluate whether the necessary work can be performed without an open cut."<sup>4</sup>

In February 2013, WSSC representatives attended a community meeting with residents in the Forest Glen Project neighborhoods to explain the Consent Decree work and WSSC's plans for performing the work. At that time, WSSC officials reported that they would be able to perform the required work through a trenchless process that would require WSSC to excavate in grassy areas, but not in the roads.

As a result of the Forest Glen case, DPS modified its utility construction permit review procedures. DPS now checks permit applications against DOT reconstruction and resurfacing plans to identify potential conflicts. When a utility applies for permit in a right-of-way with a planned future reconstruction or resurfacing project, DPS requires approval from DOT before issuing the permit.

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<sup>3</sup> An updated moratorium list that DOT sent to WSSC in March 2013 included the additional roads in the Forest Glen Project and extended the moratorium end date from December 2014 to July 2015.

<sup>4</sup> 11-30-12 email from Jim Neustadt, WSSC Director of Communications and Community Relations, to neighbors and Councilmembers.

**Exchange of Data.** WSSC's permit from DPS for the Consent Decree work was valid between October 2011 and April 2013. While the County Government and WSSC were actively trading project data during that time to identify conflicts, a WSSC representative reports that the utility did not begin actively comparing DOT and WSSC project data to identify potential conflicts until January 2013, when DOT began providing its data to WSSC in a GIS map-able format.

Before January 2013, WSSC staff report that WSSC used only Envista to identify potential project conflicts. Because County Government project data was not in Envista, WSSC could not identify potential conflicts. WSSC staff estimated that mapping DOT project data provided in an excel spreadsheet would require approximately 60 hours of staff time per update, compared to 30 minutes of staff time required to overlay a layer from DOT with GIS map-able data.

**Washington Gas Work.** In the spring of 2012, after DOT had begun rehabilitation work on streets in Forest Glen, Washington Gas sent a letter to residents indicating that it soon would perform pavement work that could include "keyhole technology" – cutting an 18-24" round opening in the pavement. Residents on at least two Forest Glen streets – Woodman Avenue and Julep Avenue – received the letter. The County Government had yet to place neighborhood roads under moratorium as the reconstruction project was ongoing. After residents alerted DOT to the issue, the Department postponed repaving the street to allow Washington Gas to complete its work. In the end, Washington Gas decided that it would postpone work on this street for several years until after the moratorium period expired. County Government representatives reported to neighborhood residents that they notified Washington Gas representatives of the Forest Glen Project before it began to meet and coordinate any needed utility work and that Washington Gas representatives never responded to the meeting request.

## **B. Middlebrook Road Micro-Surfacing and WSSC Water Main Extension**

In April 2010, DOT staff became aware of a WSSC water extension project that potentially overlapped with a planned resurfacing project on Middlebrook Road in Germantown. DOT staff contacted WSSC and the two organizations exchanged details about their project schedules. The County's project consisted of base repair, utility adjustments, crack sealing, and micro-resurfacing. WSSC's project consisted of installing a 12" water main and fire hydrants and required cutting of pavement on a portion of Middlebrook Road.

As WSSC's project was nearing the construction phase in the summer of 2011 – over a year after DOT's and WSSC's first contact – DOT's project was underway, having been pushed back from its original schedule. To accommodate WSSC's need to cut the pavement to install new water mains, DOT performed patching work on Middlebrook Road, but offered to reschedule micro-resurfacing the road until after WSSC had completed its work. In email correspondence to WSSC, DOT staff observed that rescheduling the work "would be a better use of taxpayers' money." Based on the scope of WSSC's work, WSSC agreed that rescheduling DOT's work until after completion of the water main installation would be the preferred course for both agencies.

## **C. Memoranda of Understanding**

In recent years, the County Government and WSSC have entered into several memoranda of understanding (MOUs) to share the cost of road repaving. These MOUs arise when WSSC has performed water or sewer work in a segment of road shortly before the County Government repaves or reconstructs the same road segment. Rather than require WSSC to fully repave a portion of a road, the County allows WSSC to patch their work and County Government contractors subsequently repave the road segment.

To arrive at an MOU, WSSC and County Government representatives jointly identify the section of road that WSSC would have been obligated to repave under the requirements in DPS’ *Specifications for Utility Construction Permit*. The MOUs require WSSC to pay DOT’s Division of Highway Services for the total estimated cost of the repaving work attributable to WSSC’s project.

The table below summarizes four recent MOUs between the County Government and WSSC.

**Table 4-1: Summary of Recent MOUs between the County Government and WSSC for Repaving Costs**

Date	Area/Subdivision	Road Segment(s)	WSSC Reimbursement
September 2, 2011	Forest Estates and Forest Grove	Many	\$408,652
November 15, 2011	Wheaton/Silver Spring	Andrew Street Valleywood Drive	\$51,132
December 6, 2011	Pooks Hill Subdivision	Corsica Drive Viking Road Wicket Terrace	\$101,921
August 1, 2012	Brookmont	Broad Street Valley Road	\$23,560

Source: Department of Transportation

WSSC also reimburses the County for “surface adjustment” work, where DOT adjusts the height of sewer and/or storm drain manholes and water value boxes to the new height of a repaved or rebuilt road. DOT estimates that WSSC reimburses the County approximately \$100,000 annually for this work.

**D. Observations**

The Department of Transportation and WSSC have developed a system of cooperation and information sharing in the past several years – to keep each other abreast of current and planned project work and to coordinate work when projects overlap. DOT and WSSC have adjusted project schedules to sequence work logically and in ways that will save resources, as they did with the Middlebrook Road work described above. They also share the cost of paving when both entities have performed road work in the same location.

At the same time, several current practices and/or recent occurrences increase the chance that County Government and WSSC projects will conflict and that the conflict will not be detected in a timely manner – potentially leading to delay or to the cutting of recently repaved or rebuilt roads.

- **WSSC project sequencing.** WSSC replaced water mains in the Forest Glen neighborhoods between 2008 and 2010 having been informed that the County intended to rebuild the neighborhood roads following WSSC’s work. The sequencing of the work allowed WSSC to simply patch the roads after its water main work, rather than repaving them, and WSSC subsequently paid the County for the cost it would have incurred repaving the roads.

At the same time, however, WSSC was required under a Consent Decree to perform sewer work in the same neighborhood that could require it to cut pavement. WSSC did not schedule the Consent Decree work for the same time as its water main work and it had an application pending with DPS for a permit to cut neighborhood roads as DOT was beginning to rebuild those roads (that WSSC paid to repave).

WSSC reports that it was performing the investigative phase of Consent Decree projects at the time of the Forest Glen water replacement project and therefore would have been unable to coordinate the construction phases of the water and sewer projects in that neighborhood. County Government staff report that the County had a verbal agreement with WSSC to not cut the pavement in the Forest Glen neighborhoods when performing the Consent Decree work.

- **Issuing of DPS permits.** While DPS representatives report that its staff review DOT data on road projects and DOT's road moratorium list before issuing utility permits for work in County rights-of-way, in the Forest Glen Project, DPS issued WSSC a permit that would allow WSSC to cut pavement in a neighborhood at a time when DOT was actively rebuilding the neighborhoods' roads. County Government staff report that DOT knew of the permit and had an agreement with WSSC that the utility would use trenchless technology to perform the work. Nonetheless, WSSC's contractor apparently was unaware of this agreement and prepared to trench cut the newly reconstructed County road.

DPS also does not notify entities that hold valid permits when a road goes under moratorium and can no longer be cut. DPS did not notify WSSC that the roads in the Forest Glen Project had gone under moratorium. At the same time, WSSC reports that it does not recheck DOT's Moratorium List before performing work – checking the list only during the project planning stage and before applying for a permit (or before applying for an extension to a permit). WSSC, however, applied for its permit for the Consent Decree work in June 2011, but did not begin to perform the work until November 2012, over 16 months later.

The County Government has taken steps to improve coordination between DPS and DOT regarding utility permit review. Following the incident where a WSSC contractor nearly cut a recently reconstructed road in the Forest Glen neighborhood, DPS modified its permit review procedures. As of early 2013, DPS checks permit applications against DOT reconstruction and resurfacing plans and requires approval from DOT before issuing a permit to a utility for a project in a right-of-way with a planned DOT reconstruction or resurfacing project.

- **Inaccurate DOT data on road moratoriums.** When DOT finished rebuilding the roads in the Forest Glen Project in August 2012, the roads fell under moratorium and could not be cut for three years. The Moratorium List that DOT distributed to the utilities in October 2012 only included eight of the more than 20 streets in the Forest Glen Project and it listed the moratorium end date as December 2014, which was less than three years from the August 2012 project completion date.

Only one of the four streets covered by WSSC's permit for the Consent Decree work was included on the October 2012 Moratorium List. When DOT distributed an updated list in March 2013, all of the roads in the Forest Glen Project (except one) were included on the list and the moratorium end date was extended from December 2014 to July 2015, three years after completion of the entire Forest Glen Project.

## **CHAPTER V. PRACTICES IN OTHER JURISDICTIONS**

This chapter summarizes practices employed by local governments and public utilities in other jurisdictions to:

- Exchange information about construction projects in rights-of-way;
- Coordinate the scheduling of right-of-way work; and
- Inform the public about on-going and planned right-of-way construction projects.

### **A. Baltimore, Maryland: GIS-Based Project Coordination System**

In 2008, the City of Baltimore sought a means to better coordinate construction activities in public rights-of-way. The City chose to contract with a vendor (Envista Corporation) to implement a GIS-based project coordination system to track municipal and utility roadway construction and maintenance activities. Before implementing the system, City staff met with government and utility representatives to identify current data collected by each agency and define system needs and uses. Participants agreed that all agencies would maintain control of their data and would retain their construction projection tracking systems.

The new shared system would input GIS-based data (using a cloud computing concept) in a common information repository. After a two year development period, the City launched a web-based system that provides government agencies and utilities with real-time information on infrastructure projects across the City. The system presents users with a clickable map that provides project details for each project such as location, timeline, scope, schedule, cost, and points of contact.

The Federal Highway Administration (FHWA) lists the Baltimore system as a best practice for reducing the number of roadway cuts and increase pavement life. According to the FHWA, “the system enables stakeholder awareness of upcoming and ongoing projects, and encourages them to come to the table to discuss the projects and coordinate.” The City reports that during the first year after implementation, the resulting reduction in roadway cuts reduced City pavement costs by \$350,000 to \$500,000.<sup>1</sup>

### **B. Palo Alto, California: GIS Mapping**

In 2006, the City Auditor of Palo Alto, California completed an audit of the City’s street maintenance program. The audit found that street excavations degrade and shorten the life of the City streets. Moreover, the auditor’s report concluded that “this degradation increases the frequency and cost to the public for necessary resurfacing, maintenance, and repair.”<sup>2</sup>

The City Auditor determined that the City’s Public Works Department and the (mostly City-run) utilities did not have cross-departmental information about project schedules and the moratorium status of streets. Operations crews also lacked access to GIS data to review, monitor, or record repair and maintenance work. As a result, departments did not coordinate their activities with one another resulting in operational conflicts and inefficiencies. One of the auditor’s recommendations was that all departments that cut City streets use GIS to coordinate their projects and summarize work completed in a timely manner.

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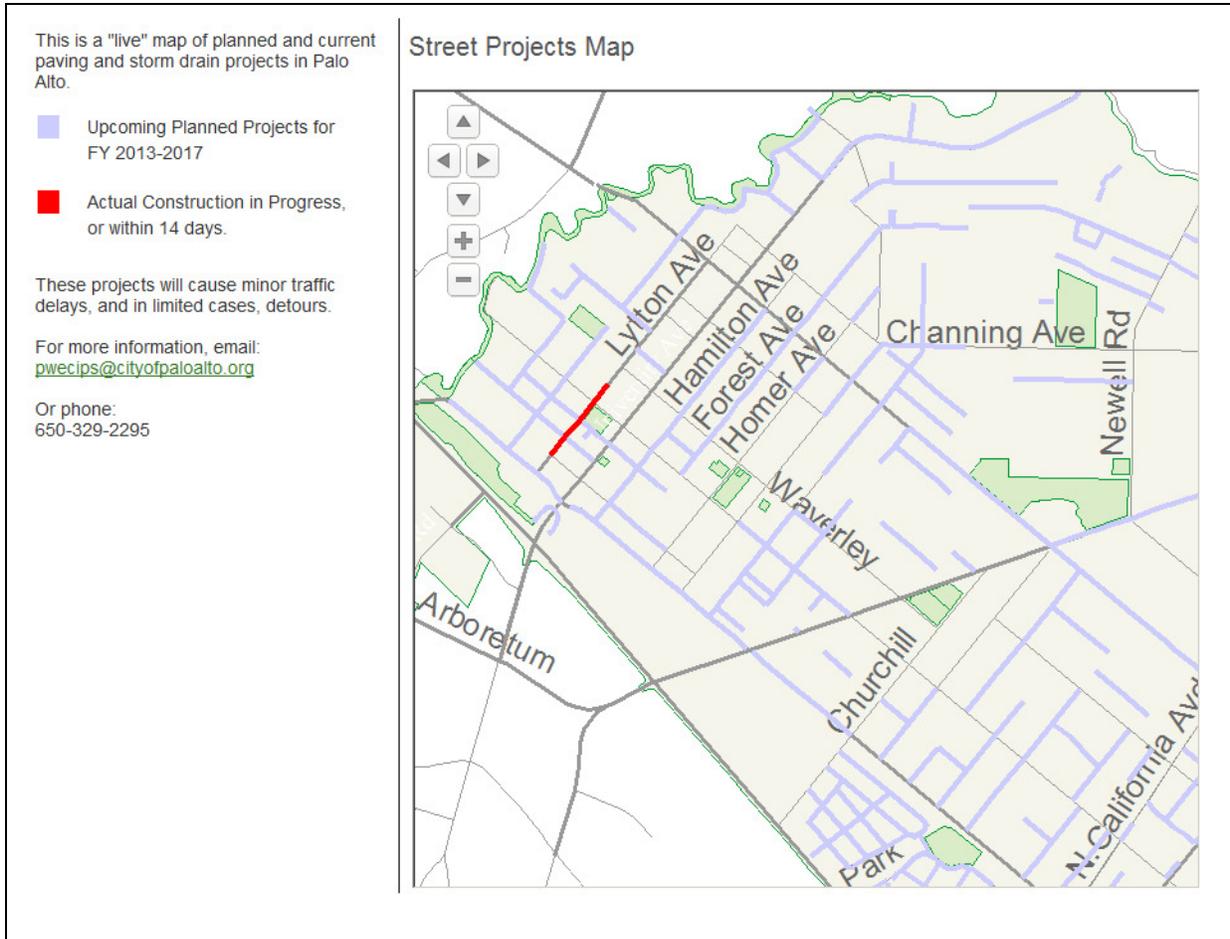
<sup>1</sup> <http://ops.fhwa.dot.gov/wz/construction/crp/baltcasestudy/index.htm>.

<sup>2</sup> <http://www.cityofpaloalto.org/civicax/filebank/documents/6195>.

In response to the audit, the Public Works Department developed a program (using in-house GIS capabilities) to create a GIS-based system to coordinate rights-of-way construction. Public Works and utility staff input construction schedules, routinely update project status, and check for conflicting work on street segments.

In addition, the City’s web site offers the public an up-to-date map of planned and current paving and storm drain projects (<http://www.cityofpaloalto.org/gov/depts/pwd/streetwork/default.asp>). The map displays pavement and storm drain construction projects that are active or planned within 14 days. The map also shows projects planned for the next four years.

**Exhibit 5-1: Screen View of City of Palo Alto Street Projects Map**



### C. New York City, New York: Data Sharing, Mapping, and Financial Incentives

New York City requires utilities to obtain a “street opening permit” to excavate or perform other work in a right-of-way that may cause damage to the street surface. In 2011, the City launched a data sharing and on-line mapping system to help improve coordination among utility companies, contractors, and government agencies. At the same time, the City created a financial incentive for utilities to comply with permit regulations and requirements by increasing fines for street work violations.

**Data Sharing and Mapping.** In October 2011, the City Department of Transportation executed agreements with major utility companies to share rights-of-way construction project information. Each month, the City and utilities provide updated data regarding:

- The location and status of active street excavation permits;
- The current inventory of "protected streets" (the term for recently repaved/reconstructed streets);
- City street resurfacing schedules; and
- Utility excavation plans and project schedules.

Utilities and the public may access this information via the City's public online map portal known as "NYCityMap" (<http://gis.nyc.gov/doitt/nycitymap>).

**Fines.** To reduce street work violations, the City raised fines for non-permitted construction. For example, the fine for opening a non-protected street without a permit was increased from \$800 to \$1,500; the penalty for restoring a protected street surface without notifying City inspectors was increased from \$250 to \$750.

Taken together, these actions will reduce the incidence of street work undertaken without permits, provide a stronger incentive for collaboration and coordination between city government and private sector stakeholders that engage in work on city streets, and better facilitate public mobility and safety.

The FHWA identified the above initiatives as best practices to improve coordinated road construction projects. FHWA noted that these initiatives will "minimize the number of times streets are dug up, reduce construction congestion, and extend the life of resurfacing projects."<sup>3</sup>

#### **D. Charlotte, North Carolina: Pavement Degradation Fee**

In 2007, the Charlotte City Council voted to implement a "Utility Cut Pavement Degradation Fee."<sup>4</sup> A utility (or developer) is charged a pavement degradation fee for the right to cut pavement in a public right-of-way. The intent of this type of fee is to recover the cost of repairing the long term damage caused by pavement cutting. Based on the findings of a University of North Carolina-Charlotte study, the City determined that pavement cutting – even when repaired to specifications – results in a measurable decrease in the functional life of a road. In addition, pavement degradation fees also create an economic incentive for utilities (and developers) to coordinate construction projects to minimize pavement cuts.

All public and private utility companies are subject to the Charlotte pavement degradation fee. The City's fee schedule is based on the type (e.g. asphalt, concrete) and thickness of the cut pavement.<sup>5</sup> Revenue collected from this fee is dedicated for street maintenance and resurfacing programs. City regulations stipulate that the Department of Transportation will stop issuing street cut permits to any utility that has not fully paid past pavement degradation fee obligations.

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<sup>3</sup> <http://ops.fhwa.dot.gov/wz/construction/crp/index.htm>.

<sup>4</sup> <http://charmeck.org/city/charlotte/Transportation/divisionsandcontacts/Documents/Utility%20Cut%20Degradation%20Policy%2010252007.pdf>.

<sup>5</sup> Other municipalities have more complex pavement degradation fee schedules that include variable fees based on the age, condition, and type of pavement, the size of the impacted area, and the roadway's level of use.

## CHAPTER VI. FINDINGS

A large portion of public infrastructure in Montgomery County – including roads and underground utility lines – were constructed in the 1950s and 1960s. After half a century of use, much of this infrastructure is now in need of repair and replacement. With increasing frequency, Montgomery County roadway resurfacing needs coincide geographically with local utilities’ underground line replacement programs. Without proper information sharing and coordination, conflicts might arise between concurrent right-of-way construction programs. With well-developed information sharing and interagency coordination, roadway pavement cutting can be minimized, reducing both costs and impact on neighborhoods.

### 1. Assessment of Current Practices

During the past five years, the Department of Transportation (DOT), the Department of Permitting Services (DPS), the Washington Suburban Sanitary Commission (WSSC), and other local utilities have made significant progress in improving interagency communication regarding planned right-of-way construction programs. In several cases in recent years, DOT and utilities have been able to coordinate their scheduling of right-of-way work to minimize pavement cuts and disruption to the community and to jointly share repaving costs.

As detailed in Chapter III, the County Government and local utilities have established multiple channels of communication to share information about right-of-way pavement work. As a result of this communication, in many cases, DOT and the utilities have been able to coordinate their scheduling of right-of-way work to minimize pavement cuts and disruption to the community and to jointly share some repaving costs.

At the same time, the current practices employed by DOT, DPS, and the utilities have not yet been fully developed into an integrated information sharing system. Without such a system, optimal right-of-way program coordination will be difficult to achieve. Current limitations include:

*Absence of central information repository.* The County Government and utilities share much pertinent information about right-of-way pavement work. This information is contained in different formats (including GIS data, spreadsheets, plan drawings, and memoranda). However, no single, central repository exists to house and connect project level information such as maps, permits, design plans, construction status, contact information, or schedules. As a result, links do not always exist to connect different types of information for the same project or for the same right-of-way. For example, GIS data shared between agencies does not link with information about project start dates or roadway moratorium status. In addition, no means currently exists for utilities to learn of right-of-way permits issued by the County for other utilities.

*Non-standardized data.* No set of standards exists for data shared among DOT, DPS, and the utilities. For example, in some cases, agency data give non-standardized names to different sections of a roadway (e.g., “East Franklin Avenue, Section 03”). When this data is shared, the receiving agency’s technology systems may be unable to identify the location of the roadway section. Another example of non-standardized data involves the future year timeframe for planned projects. Different agency data sets show scheduled projects, one, two, three, or more years into the future.

*Uneven processes for updating project status.* Given the nature of right-of-way work, project schedules are unavoidably subject to change. Agencies must adjust the timing and sequencing of pavement work as a result of fluctuations in program funding as well as changes in weather and operational conditions. While the County Government and the utilities periodically transmit to one another revised fiscal year schedules, a mechanism does not yet exist for routine and timely mid-year updating of project schedules. Without access to up-to-date schedules of all planned right-of-way

work, an agency may unknowingly invest resources in a project that may be subject to imminent delay. In addition, the lack of timely updates (accessed through a common data repository) may leave field personnel and other project staff unaware of important status changes, such as a newly imposed pavement cut moratorium on a particular roadway.

*Uncertainty regarding road moratorium status.* Current practices may leave utilities and the public uncertain about the start and end dates of a pavement cut moratorium. First, as DOT does not yet provide GIS-coded data specifying the location of roads under moratorium, utilities cannot easily integrate moratorium information into their GIS-based project management systems. Second, no mechanism exists to notify utilities with existing permits that a road has gone into moratorium status. Third, while DOT may include a road on its moratorium list once resurfacing of a specific road is complete, the Department will restart the three-year moratorium period upon completion of all roads in a project.

*Inability to present consolidated information to the public.* The County Government and some utility websites provide the public with information about planned right-of-way work. However, no platform currently exists for members of the public to view consolidated information about all planned County and utility right-of-way work.

## **2. Opportunity for Improvement: Interagency Project Tracking System**

An opportunity exists to address the above limitations through development of a standardized interagency GIS-based data repository and application to access and view real-time information about all planned right-of-way construction and maintenance activities. The GIS-based data and application would allow for mapping of recently-completed, current, and planned projects. In addition, the data set and application could provide agency staff with direct links to up-to-date information such as project location, scope, design plans, permit status, schedule, cost, moratorium status, and points of contact.

Under this approach, each agency would continue to control, manage, and update its own data and would continue to use its existing in-house technology systems. The agencies would collaborate to identify which data sets to input into the shared technology system. A shared multi-agency GIS based application based on a shared repository would provide integrated access to designated data sets from existing agency systems for shared use by all participants. This approach also provides flexibility as to how the repository is constructed and linked to each participant's data sources.

A shared interagency repository and application would provide staff with a refined communication tool, but would not replace the need for human interaction among agencies. Nonetheless, development of such a system would offer multiple advantages. These advantages include:

- Access to a single repository of complete, up-to-date project information would provide agency staff timely and complete project information, and thereby promote improved and more efficient coordination and sequencing of pavement work.
- Shared data that include pending and approved right-of-way permits would create a channel of inter-utility communication that could create opportunities for utilities to replace or repair underground infrastructure at the same time to reduce cost and community impact.
- A standardized shared data set would enhance data quality and would relieve agency staff of the burden of transmitting updated project data to other agencies.

- Interagency coordination of right-of-way work would allow DOT and the utilities to develop improved traffic management plans during construction periods.
- The data set and application could serve as the platform for an online tool to provide the public with consolidated, up-to-date information about right-of-way construction projects.

Creating an integrated, interagency data set and application could be achieved using in-house agency resources or could be procured through a private vendor. To pursue this strategy, further work is required to develop a detailed program of requirements and to estimate system development and maintenance costs. The complexity of this undertaking may warrant incremental system development and phased implementation.

## **CHAPTER VII. RECOMMENDATIONS**

Based on the findings of this report, OLO offers the following two recommendations for Council consideration.

**Recommendation #1: Request that the Executive report to the Council about the feasibility, implementation requirements, and cost of creating an interagency right-of-way project tracking system.**

OLO recommends that the County Government work with local utilities to develop a more systemized approach to the sharing of information and coordination of infrastructure improvements in County rights-of-way. Specifically, DOT, DPS, and the Department of Technology Services (DTS) should evaluate the feasibility and cost of creating a GIS-based standard data set for sharing information about right-of-way projects from the County Government and the utilities. The data should be stored in a single repository with an integrated application that would allow access to the data by DOT, DPS, and participating utilities.

The purpose of this standardized, consolidated data set and application would be to provide agency staff with direct links to project information including location, design plans, permit status, schedule, cost, moratorium status, and points of contact. The standardized data-set and application could be developed using in-house agency resources or a commercial application could be purchased through a private vendor. For example, the County Government should evaluate the feasibility of incorporating the data set and application into the dataMontgomery digital government initiative using the Socrata software platform.

Furthermore, OLO does not recommend agencies abandon their existing in-house systems. Rather, the shared data set and application system should draw designated data sets from existing agency systems and integrate this information through a single multi-agency GIS application.

OLO also recommends that the County Government (including the Public Information Office) evaluate the possibility of using data from a shared project tracking system to develop an online tool to provide the public with consolidated, up-to-date information about right-of-way construction projects.

OLO recommends that the Council request that the Executive report back to the Council by November 1, 2013, about implementation of an interagency right-of-way project tracking system. The report should:

- Describe the detailed functional requirements of the application;
- Estimate development and maintenance costs for the standardized data set and application using in-house resources and/or a commercial product; estimate the staff time savings resulting from data standardization and automated inter-agency project tracking;
- Describe interagency agreements (e.g., memoranda of understanding, service level agreements) needed to standardize, integrate, and share data sets;
- Present a plan to develop an online tool to provide the public with consolidated information about right-of-way construction projects;
- Identify the relative priority of a right-of-way infrastructure data set compared to other items on the dataMontgomery implementation plan; and
- Include a recommendation from the Executive of whether the benefits of the system justify the estimated costs.

Should the Executive not recommend the creation of an interagency tracking system (or should the Executive indicate that system implementation would take several years), then OLO suggests that the Council request that the Executive develop an alternative method for providing the public with up-to-date, interagency information about pending rights-of-way construction projects.

**Recommendation #2: Request that the Executive refine and provide more specificity regarding the implementation requirements of pavement cutting moratoriums.**

OLO recommends that the Executive further define the implementation requirements for pavement cutting moratoriums. As specified in the DPS document, *Specifications for Utility Construction Permit*, no pavement cutting may occur for five years following the completion of a newly constructed road and for three years following the completion of a reconstruction or resurfacing project. The moratorium applies to planned (non-emergency) installation, replacement, and repair of utility lines. As detailed in Chapters III, IV and VI, the effectiveness of the moratorium policy is limited by several current conditions, including:

- DOT does not yet provide utilities with GIS-coded data specifying the location of roads in pavement cut moratorium. As a result, utilities cannot easily integrate moratorium information into their GIS-based project management systems.
- Once DPS issues a right-of-way construction permit to a utility, the status of the permit does not change when DOT begins a resurfacing or reconstruction project triggering a moratorium. Moreover, no process exists to notify utility permit-holders when a road goes into moratorium. As a result, a utility may hold a valid permit to cut pavement for a road that is in moratorium.
- Moratorium end dates for resurfaced or reconstructed roads are subject to change. DOT may include a road on its moratorium list once the resurfacing of a specific road in a project is complete. Upon completion of the project, DOT will restart the three-year moratorium period for the entire project, extending the moratorium end date.

To address each of these conditions, OLO recommends that the County Government:

- a. Develop a protocol to routinely share GIS-coded moratorium data with utilities. This could be achieved either as part of the project tracking system described in Recommendation #1 or as a separate practice.
- b. Establish a mechanism to notify permit holders when a roadway goes into moratorium. In addition, DPS could add a condition to utility permits stating that the authorization to cut pavement under the permit automatically terminates when a road goes into moratorium (unless a waiver is granted).
- c. Refine the definition of the moratorium period for resurfaced and reconstructed roads. For example, DPS could amend the *Specifications for Utility Construction Permit* to stipulate that a road goes under moratorium once the resurfacing of a specific road is complete and that the moratorium continues for three years after completion of the entire project.

## **CHAPTER VIII. AGENCY COMMENTS**

The Office of Legislative Oversight circulated a final draft of this report to the County Government, the Washington Suburban Sanitary Commission, Pepco, and Washington Gas. OLO appreciates the time taken by agency representatives to review the draft report and provide feedback.

OLO's final report incorporates technical comments and corrections submitted by the agencies. Written comments on the final draft report from the Chief Administrative Officer begin on the next page. Written comments from WSSC begin on page 36. Written comments from Pepco begin on page 39.



OFFICE OF THE COUNTY EXECUTIVE

MEMORANDUM

Isiah Leggett  
County Executive

Timothy L. Firestine  
Chief Administrative Officer

May 29, 2013

TO: Chris Cihlar, Director, Office of Legislative Oversight  
FROM: Timothy L. Firestine, Chief Administrative Office  
SUBJECT: OLO Draft Report No. 2013-5  
Coordinating Utility and Transportation Work in County Rights-of-Way

I am in receipt of the Draft Report No. 2013-5 dated April 30, 2013, addressing Coordinating Utility and Transportation Work in the County Rights-of-Way. Your assessment of current practices is thorough and well detailed. I agree with your overall recommendation that a seamless standardized interagency GIS-based data repository to access and view real-time information about all planned right-of-way construction and maintenance activities would augment and encapsulate current coordination practices to the benefit of all affected parties.

In response to the report's recommendations, I offer the following comments:

**OLO Recommendation #1:**

Request that the Executive report to the Council about the feasibility, implementation requirements, and the cost of creating an interagency right-of-way project tracking system.

**CAO Response to OLO Recommendation #1:**

We will engage the local utilities to evaluate the feasibility and estimate the preliminary costs associated with creating a multi-organizational GIS-based standardized data set(s) for sharing information and tracking of projects planned in the public right-of-way. As you know, as part of a recent Council enacted Open Data legislation (Bill 23-12) and also our dataMontgomery initiative, we license and use an open data platform, known as Socrata. This is consistent with the four overarching principles ("Information-Centric", "Shared Platform", "Customer-Centric" and "Security and Privacy") that are driving the County's application design strategy. For details, please refer to Montgomery County's Digital Government Strategy and dataMontgomery program via the following links:

- <http://www.montgomerycountymd.gov/open/Resources/Files/openMontgomery-Digital-Government-Strategy.pdf>
- <http://data.montgomerycountymd.gov/>

For this multi-jurisdictional issue, in addition to the dataMontgomery open data platform, we will explore other options for developing and publishing the standardized data-set(s). The evaluation will encompass evaluating the possibility of using data from a standard data set to

Chris Cihlar, Director, Office of Legislative Oversight  
OLO Report No. 2013-5  
Coordinating Utility and Transportation Work in County Rights-of-Way  
Page 2  
May 29, 2013

develop an online tool to provide the public with consolidated, up-to-date information about rights-of-way construction projects.

However, given the number of utility agencies involved in this undertaking and their specific data related or systems challenges, and also our still under development Open Data Implantation Plan, a report by November 1, 2013, may only be feasible in preliminary form. I hope it is understood that the success and schedule of this undertaking will depend solely on the cooperation of all utility agencies and outside entities.

**OLO Recommendation #2**

Request that the Executive refine and provide more specificity regarding the implementation requirement of pavement cutting moratoriums.

**CAO Response to OLO Recommendation #2**

We will develop a protocol to share GIS-coded moratorium data with the utilities. I envision this being accomplished in the development of a GIS-based standard data set(s) for sharing information about projects planned in the public right-of-way to include moratorium data with utilities. Likewise, we will develop a mechanism to notify permit holders when a roadway goes into moratorium. Lastly, we will be more specific with respect to the initiation of a moratorium on specific roads and the end date for such moratorium.

If you have any questions or need additional information, please contact Fariba Kassiri, Assistant Chief Administrative Officer. Again, I thank the Office of Legislative Oversight for its detailed work on this program.

TF:swl

cc: Fariba Kassiri, Assistant Chief Administrative Officer  
Arthur Holmes, Jr., Director, Department of Transportation  
Sonny Segal, Director, Department of Technology Services  
Diane Jones, Director, Department of Permitting Services



# Washington Suburban Sanitary Commission

14501 Sweitzer Lane • Laurel, Maryland 20707-5901

COMMISSIONERS  
Chris Lawson, Chair  
Gene W. Counihan, Vice Chair  
Melanie Hartwig-Davis  
Antonio L. Jones  
Hon. Adrienne A. Mandel  
Dr. Roscoe M. Moore, Jr.

GENERAL MANAGER  
Jerry N. Johnson

June 4, 2013

The Honorable Nancy Navarro  
President  
Montgomery County Council  
100 Maryland Avenue  
Rockville, MD 20850

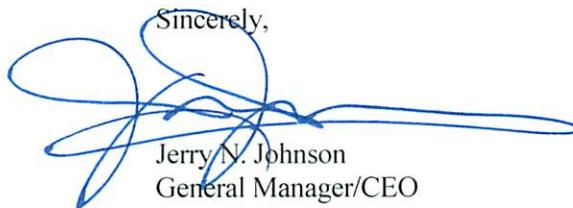
Dear Council President Navarro:

Over the course of the past four months, the Washington Suburban Sanitary Commission (WSSC) has participated in the Montgomery County Office of Legislative Oversight's (MC-OLO) initiative to assess the efficacy of current practices for coordinating Utility and Transportation Work in the County Rights-of-Way. WSSC is fully committed to all efforts aimed at enhancing the current business practices to ensure they are in keeping with state of the art technology, are cost effective, and are responsive to the evolving needs of our ratepayers. The Infrastructure Systems Group has been leading WSSC's involvement in this important initiative by providing MC-OLO with input on the current process from key WSSC staff, attending meetings, and reviewing and providing comments on the draft report submittals.

We would like to express our concurrence with the MC-OLO draft report recommendations to work collaboratively with the County and other Utilities to develop cost effective and user friendly centralized project tracking tools to provide improved services to our customers. As part of our technical review comments, we have provided suggestions for utilizing the mutually available Geographic Information System (IT-GIS) services to enhance the coordination efforts.

We appreciate the opportunity to be involved in this important initiative and look forward to a continued partnership with the County as we mutually engage in continuous improvement of our business processes to better serve our customers.

Sincerely,



Jerry N. Johnson  
General Manager/CEO

# **Coordinating Utility Work Requiring Pavement Cuts With Agencies and Municipalities Proof of Concept using ArcGIS Online WSSC Comments**

## What is ArcGIS Online?

ArcGIS Online is a collaborative, cloud-based platform that lets members of an organization and associated contractors create, share, and access maps, applications, and data, including authoritative basemaps published by Esri or by the agencies participating in the Utility Coordination solution. Through ArcGIS Online, access is gained to Esri's secure cloud, to manage, create, store, and access hosted web services and associated files including pdfs, Excel files, Word documents, and image files. Because ArcGIS Online is an integral part of the Esri platform, it can be used to extend the capabilities of ArcGIS for Desktop, ArcGIS for Server, web-based ArcGIS applications, and the ArcGIS APIs and Runtime SDKs.

<http://resources.arcgis.com/en/help/arcgisonline/index.html#//010q000007400000>

## Why use ArcGIS Online?

Most stakeholders are already using Esri technologies such as the ArcGIS for Desktop application, which enables the creation and maintenance of project boundaries. These stakeholders and stakeholders without access to existing Esri technologies can create and modify their project information directly in the ArcGIS Online interface. . ArcGIS Online utilizes Javascript technology making published maps platform independent. In other words, Smartphones, Tablets, Laptops and Desktops can view and, if needed, edit the published maps as long as they have an Internet connection and a browser (Firefox, Google Chrome, Internet Explorer, Safari or Android's default browser) or the ArcGIS native applications for Android or iOS, which can be found in the Google Play and Apple App Store respectively.

Because ArcGIS Online requires a login for each individual accessing the system, viewing and editing access can be limited by each individual user's login and group assignment. For example, a user from a County organization can be limited to only edit data associated with projects for that County. They may, however, be allowed to view all on-going projects from all agencies within their area of focus. Or, if this information is not required for the editor to effectively perform their duties, they can be limited to only edit and view projects that fall under the direct responsibility of the County. This model can be applied to all organizations participating within the Utility Coordination ArcGIS Online-based platform.

In addition, most organizations have contractors that perform work on their behalf. An individual at the contracting firm can be granted permission to edit a project boundary for a specific agency, and can then be removed from the system once their editing duty and/or the life of the contract ends.

## Proof of Concept Pilot

A quick win would be to establish a team derived from a representative of each organization. The team will identify issues, gaps and scope for the pilot.

The pilot shall include at a minimum,

- Search/View all Planned and Active project/activity schedules from each participating organization

- Conflict Detection, Resolution and Planning Tool
- Communication/Alerts
- Mapping Standards - Layers, Datums, Projections, etc.
- Data Ownership and Responsibilities
- Lessons Learned
- Next Steps
  - Scope, Requirements, Stakeholders, etc. after POC
  - Future Business Opportunities



201 West Gude Drive  
Rockville, MD 20850

A PHI Company

May 22, 2013

Mr. Aron Trombka  
Montgomery County Council  
Office of Legislative Oversight  
100 Maryland Avenue  
Rockville, MD 20850

Re: Final DRAFT of Office of Legislative Oversight (OLO) Report 2013-5,  
*Coordinating Utility and Transportation Work in County Rights-of-Way*

Dear Mr. Trombka,

Pepco submits the following comments on the final DRAFT.

Recommendation #1:

Pepco's GIS/GWD in-house system has difficulty in integrating with other GIS applications. Pepco is receptive to collaborating with Montgomery County (MC) in developing a common solution.

Recommendation #2:

Pepco requests that we maintain our current practice in MC as follows to cut or bore a road whether under moratorium or not under moratorium through applying and securing an MC permit:

- (1) For MC cuts, any length, parallel to curb, mill and overlay the length of the cut times (x) 12 (the width of the lane of traffic).  $L \times 12$ .
- (2) For MC cuts, any length where trench traverses the roadway, mill and overlay the full width of the roadway (all lanes) (WR) times (x) the length of the cut (LC) measured parallel to the curb (LC) plus 50 feet on either side of the cut [  $WR \times (LC + 100)$  ]. Cuts perpendicular to the curb,  $WR \times 100$ .
- (3) When boring roads perpendicular to the curb, test pit a 1 ft. x 1 ft. area of existing utilities in roadway; then, restore test pit back to original condition.

If you have any questions or concerns, please do not hesitate to contact me at [mlbrown@pepco.com](mailto:mlbrown@pepco.com) or 301-343-7402.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael L. Brown", written over a horizontal line.

Michael L. Brown  
Senior Supervising Engineer  
Pepco Engineering

Cc: Jerry Pasternak  
John T. Weber  
Gary L. Keeler

## LIST OF APPENDICES

<b>Appendix</b>	<b>Title</b>	<b>Begins on Circle Number</b>
A	Descriptions of County Government Roadway Maintenance and Resurfacing Projects in the Capital Budget	1
B	Description of WSSC Water and Sewer Reconstruction Programs	5
C	Example from DOT FY13 Road Rehabilitation, Resurfacing, and Patching Project Schedule	9
D	Example of DPS Utility Construction Permit	11
E	Memorandum of Understanding between the County Government and WSSC	21
F	Map of Rebuilt Roads from the Forest Glen Rehabilitation Project	26

# Resurfacing: Residential/Rural Roads -- No. 500511

Category  
Subcategory  
Administering Agency  
Planning Area

Transportation  
Highway Maintenance  
Transportation  
Countywide

Date Last Modified  
Required Adequate Public Facility  
Relocation Impact  
Status

May 17, 2012  
No  
None.  
On-going

### EXPENDITURE SCHEDULE (\$000)

Cost Element	Total	Thru FY11	Est. FY12	Total 6 Years	FY13	FY14	FY15	FY16	FY17	FY18	Beyond 6 Years
Planning, Design, and Supervision	8,919	57	4,033	4,829	1,395	434	750	750	750	750	0
Land	0	0	0	0	0	0	0	0	0	0	0
Site Improvements and Utilities	0	0	0	0	0	0	0	0	0	0	0
Construction	63,221	30,780	5,082	27,359	7,905	2,454	4,250	4,250	4,250	4,250	0
Other	45	0	45	0	0	0	0	0	0	0	0
<b>Total</b>	<b>72,185</b>	<b>30,837</b>	<b>9,160</b>	<b>32,188</b>	<b>9,300</b>	<b>2,888</b>	<b>5,000</b>	<b>5,000</b>	<b>5,000</b>	<b>5,000</b>	<b>*</b>

### FUNDING SCHEDULE (\$000)

Current Revenue: General	309	309	0	0	0	0	0	0	0	0	0
G.O. Bonds	70,259	28,911	9,160	32,188	9,300	2,888	5,000	5,000	5,000	5,000	0
PAYGO	1,617	1,617	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>72,185</b>	<b>30,837</b>	<b>9,160</b>	<b>32,188</b>	<b>9,300</b>	<b>2,888</b>	<b>5,000</b>	<b>5,000</b>	<b>5,000</b>	<b>5,000</b>	<b>0</b>

**DESCRIPTION**

This project provides for the permanent patching and resurfacing of rural and residential roadways using durable hot mix asphalt to restore long-term structural integrity to the aging rural and residential roadway infrastructure. The County maintains a combined total of 4,143 lane miles of rural and residential roads. Preventative maintenance includes full-depth patching of distressed areas of pavement in combination with a new hot mix asphalt wearing surface of 1-inch to 2-inches depending on the levels of observed distress. A portion of this work will be performed by the county in-house paving crew.

**COST CHANGE**

Increase in FY13-14 to address pavement infrastructure maintenance backlog; increase also due to the addition of FY17-18 to this ongoing level of effort project.

**JUSTIFICATION**

In FY09, the Department of Transportation instituted a contemporary pavement management system. This system provides for systematic physical condition surveys. The surveys note the type, level, and extent of residential pavement deterioration combined with average daily traffic and other usage characteristics. This information is used to calculate specific pavement ratings, types of repair strategies needed, and associated repair cost, as well as the overall Pavement Condition Index (PCI) of the entire residential network. The system also provides for budget optimization and recommending annual budgets for a systematic approach to maintaining a healthy residential pavement inventory. The latest 2011 survey indicated that 2,480 lane miles (60 percent) require significant levels of rehabilitation. Physical condition inspections of residential pavements will occur on a 2-3 year cycle.

**OTHER**

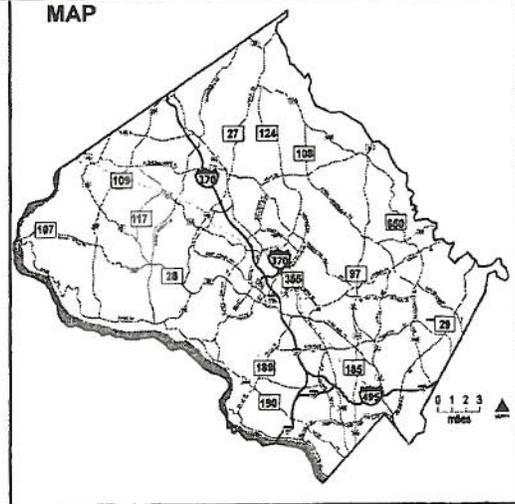
The design and planning stages, as well as project construction, will comply with the Department of Transportation (DOT), Maryland State Highway Administration (MSHA), Manual on Uniform Traffic Control Devices (MUTCD), American Association of State Highway and Transportation Officials (AASHTO), and American with Disabilities Act (ADA). Rural/residential road mileage has been adjusted to conform with the State inventory of road mileage maintained by the State Highway Administration (SHA). This inventory is updated annually.

**OTHER DISCLOSURES**

- \* Expenditures will continue indefinitely.

APPROPRIATION AND EXPENDITURE DATA		
Date First Appropriation	FY05	(\$000)
First Cost Estimate	FY13	72,185
Current Scope	FY13	72,185
Last FY's Cost Estimate	FY12	52,791
Appropriation Request	FY13	9,300
Appropriation Request Est.	FY14	2,888
Supplemental Appropriation Request	FY14	0
Transfer	FY14	0
Cumulative Appropriation	FY13	39,997
Expenditures / Encumbrances	FY13	32,707
Unencumbered Balance	FY13	7,290
Partial Closeout Thru	FY10	0
New Partial Closeout	FY11	0
Total Partial Closeout	FY11	0

**COORDINATION**  
 Washington Suburban Sanitary Commission  
 Washington Gas Light Company  
 PEPCO  
 Cable TV  
 Verizon  
 United States Post Office



## Resurfacing: Primary/Arterial -- No. 508527

Category  
Subcategory  
Administering Agency  
Planning Area

Transportation  
Highway Maintenance  
Transportation  
Countywide

Date Last Modified  
Required Adequate Public Facility  
Relocation Impact  
Status

May 21, 2012  
No  
None.  
On-going

### EXPENDITURE SCHEDULE (\$000)

Cost Element	Total	Thru FY11	Est. FY12	Total 6 Years	FY13	FY14	FY15	FY16	FY17	FY18	Beyond 6 Years
Planning, Design, and Supervision	9,733	6	3,277	6,450	1,500	900	900	1,050	1,050	1,050	0
Land	0	0	0	0	0	0	0	0	0	0	0
Site Improvements and Utilities	302	302	0	0	0	0	0	0	0	0	0
Construction	48,159	6,476	5,133	36,550	8,500	5,100	5,100	5,950	5,950	5,950	0
Other	26	0	26	0	0	0	0	0	0	0	0
<b>Total</b>	<b>58,220</b>	<b>6,784</b>	<b>8,436</b>	<b>43,000</b>	<b>10,000</b>	<b>6,000</b>	<b>6,000</b>	<b>7,000</b>	<b>7,000</b>	<b>7,000</b>	<b>*</b>

### FUNDING SCHEDULE (\$000)

G.O. Bonds	42,852	6,784	8,436	27,632	10,000	6,000	6,000	1,379	2,203	2,050	0
Recordation Tax Premium	15,368	0	0	15,368	0	0	0	5,621	4,797	4,950	0
<b>Total</b>	<b>58,220</b>	<b>6,784</b>	<b>8,436</b>	<b>43,000</b>	<b>10,000</b>	<b>6,000</b>	<b>6,000</b>	<b>7,000</b>	<b>7,000</b>	<b>7,000</b>	<b>0</b>

#### DESCRIPTION

The County maintains approximately 966 lane miles of primary and arterial roadways. This project provides for the systematic milling, repair, and bituminous concrete resurfacing of selected primary and arterial roads and revitalization of others. This project includes the Main Street Montgomery Program and provides for a systematic, full-service, and coordinated revitalization of the primary and arterial road infrastructure to ensure viability of the primary transportation network, and enhance safety and ease of use for all users. Mileage of primary/arterial roads has been adjusted to conform with the inventory maintained by the State Highway Administration. This inventory is updated annually.

#### COST CHANGE

Increase in FY13 to address pavement infrastructure maintenance backlog and accelerated \$1 million from FY14 and \$1 million from FY15 to FY13; increase also due to the addition of FY17-18 to this ongoing level of effort project.

#### JUSTIFICATION

Primary and arterial roadways provide transport support for tens of thousands of trips each day. Primary and arterial roads connect diverse origins and destinations that include commercial, retail, industrial, residential, places of worship, recreation, and community facilities. The repair of the County's primary and arterial roadway infrastructure is critical to mobility throughout the County. In addition, the state of disrepair of the primary and arterial roadway system causes travel delays, increased traffic congestion, and compromises the safety and ease of travel along all primary and arterial roads, including pedestrians and bicyclists. Well maintained road surfaces increase safety and assist in the relief of traffic congestion.

In FY09, the Department of Transportation instituted a contemporary pavement management system. This system provides for systematic physical condition surveys and subsequent ratings of all primary/arterial pavements as well as calculating the rating health of the primary roadway network as a whole. Physical condition inspections of the pavements will occur on a 2-3 year cycle. The physical condition surveys note the type, level, and extent of primary/arterial pavement deterioration combined with average daily traffic and other usage characteristics. This information is used to calculate specific pavement ratings, types of repair strategies needed, and associated repair costs, as well as the overall Pavement Condition Index (PCI) of the entire primary/arterial network. The system also provides for budget optimization and recommends annual budgets for a systematic approach to maintaining a healthy primary/arterial pavement inventory.

#### OTHER

One aspect of this project will focus on improving pedestrian mobility by creating a safer walking environment, utilizing selected engineering technologies, and ensuring Americans with Disabilities Act (ADA) compliance. Several existing CIP and operating funding sources will be focused in support of the Main Street Montgomery campaign. The design and planning stages, as well as final completion of the project will comply with the Department of Transportation (DOT), Maryland State Highway Administration (MSHA), Manual on Uniform Traffic Control Devices (MUTCD), American Association of State Highway Officials (AASHTO), and ADA standards.

#### OTHER DISCLOSURES

- A pedestrian impact analysis has been completed for this project.
- \* Expenditures will continue indefinitely.

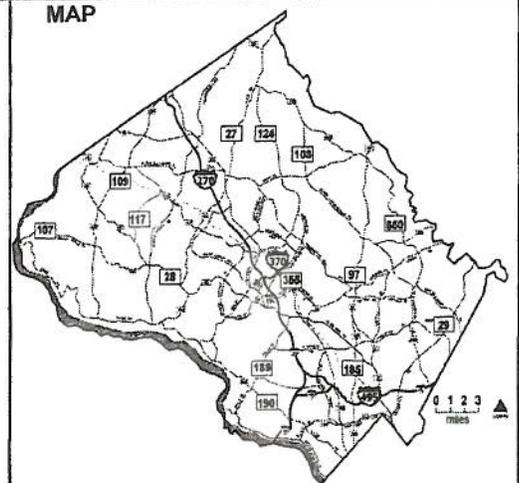
#### APPROPRIATION AND EXPENDITURE DATA

Date First Appropriation	FY85	(\$000)
First Cost Estimate	FY13	58,220
Current Scope		
Last FY's Cost Estimate		43,220
Appropriation Request	FY13	10,000
Appropriation Request Est.	FY14	6,000
Supplemental Appropriation Request		0
Transfer		0
Cumulative Appropriation		15,220
Expenditures / Encumbrances		7,189
Unencumbered Balance		8,031
Partial Closeout Thru	FY10	72,692
New Partial Closeout	FY11	0
Total Partial Closeout		72,692

#### COORDINATION

Washington Suburban Sanitary Commission  
Other Utilities  
Department of Transportation  
Department of Housing and Community Affairs  
Montgomery County Public Schools  
Maryland - National Capital Park and Planning Commission  
Department of Economic Development  
Department of Permitting Services  
Regional Services Centers  
Community Associations  
Montgomery County Pedestrian Safety Advisory Committee  
Commission on People with Disabilities

#### MAP



## Residential and Rural Road Rehabilitation -- No. 500914

Category  
Subcategory  
Administering Agency  
Planning Area

Transportation  
Highway Maintenance  
Transportation  
Countywide

Date Last Modified  
Required Adequate Public Facility  
Relocation Impact  
Status

May 17, 2012  
No  
None.  
On-going

### EXPENDITURE SCHEDULE (\$000)

Cost Element	Total	Thru FY11	Est. FY12	Total 6 Years	FY13	FY14	FY15	FY16	FY17	FY18	Beyond 6 Years
Planning, Design, and Supervision	7,870	5	1,475	6,390	990	1,080	1,080	1,080	1,080	1,080	0
Land	0	0	0	0	0	0	0	0	0	0	0
Site Improvements and Utilities	0	0	0	0	0	0	0	0	0	0	0
Construction	47,119	6,739	4,170	36,210	5,610	6,120	6,120	6,120	6,120	6,120	0
Other	8	0	8	0	0	0	0	0	0	0	0
<b>Total</b>	<b>54,997</b>	<b>6,744</b>	<b>5,653</b>	<b>42,600</b>	<b>6,600</b>	<b>7,200</b>	<b>7,200</b>	<b>7,200</b>	<b>7,200</b>	<b>7,200</b>	<b>*</b>

### FUNDING SCHEDULE (\$000)

G.O. Bonds	47,691	6,544	1,303	39,844	6,600	4,444	7,200	7,200	7,200	7,200	0
Recordation Tax Premium	7,306	200	4,350	2,756	0	2,756	0	0	0	0	0
<b>Total</b>	<b>54,997</b>	<b>6,744</b>	<b>5,653</b>	<b>42,600</b>	<b>6,600</b>	<b>7,200</b>	<b>7,200</b>	<b>7,200</b>	<b>7,200</b>	<b>7,200</b>	<b>0</b>

#### DESCRIPTION

This project provides for the major rehabilitation of rural and residential roadways in older communities to include extensive pavement rehabilitation and reconstruction including the associated rehabilitation of ancillary elements such as under drains, sub-grade drains, and curbs and gutters (if present). This project will not make major changes to the location or size of existing drainage structures, if any. Pavement rehabilitation includes the replacement of existing failed pavement sections by the placement of an equivalent or increased pavement section. The rehabilitation usually requires the total removal and replacement of failed pavement exhibiting widespread areas of fatigue related distress, base failures and sub-grade failures.

#### COST CHANGE

Increase in FY13 to address pavement infrastructure maintenance backlog; increase also due to the addition of FY17-18 to this ongoing level of effort project.

#### JUSTIFICATION

In FY09, the Department of Transportation instituted a contemporary pavement management system. This system provides for systematic physical condition surveys. The physical condition surveys note the type, level, and extent of residential pavement deterioration combined with average daily traffic and other usage characteristics. This information is used to calculate specific pavement ratings, types of repair strategies needed, and associated repair costs, as well as the overall Pavement Condition Index (PCI) of the entire residential network. The system also provides for budget optimization for a systematic approach to maintaining a healthy residential pavement inventory.

The updated 2010 pavement condition survey indicated that 1,006 lane miles (24 percent) of residential pavement have fallen into the lowest possible category and are in need of structural reconstruction. Typically, pavements rated in this category require between 15-20 percent permanent patching per lane mile. Physical condition inspections of residential pavements will occur on a 2-3 year cycle.

#### OTHER

Hot mix asphalt pavements have a finite life of approximately 20 years based upon a number of factors including but not limited to: original construction materials, means and methods, underlying soil conditions, drainage, daily traffic volume, other loading such as construction traffic and heavy truck traffic, age, and maintenance history.

A well maintained residential road carrying low to moderate traffic levels is likely to provide a service life of 20 years or more. Conversely, lack of programmed maintenance will shorten the service life of residential roads considerably, in many cases to less than 15 years before rehabilitation is needed.

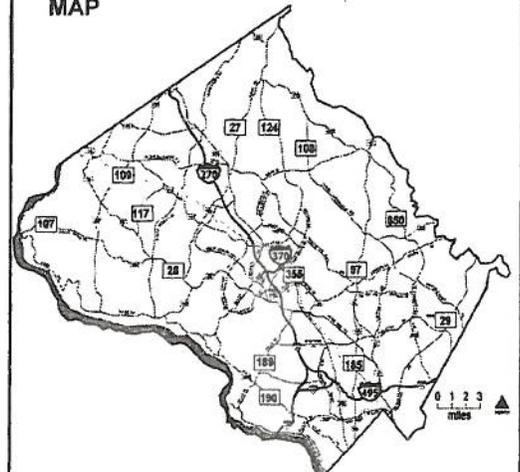
#### OTHER DISCLOSURES

- A pedestrian impact analysis has been completed for this project.
- \* Expenditures will continue indefinitely.

APPROPRIATION AND EXPENDITURE DATA		
Date First Appropriation	FY09	(\$000)
First Cost Estimate	FY13	54,997
Current Scope		
Last FY's Cost Estimate		40,297
Appropriation Request	FY13	6,600
Appropriation Request Est.	FY14	7,200
Supplemental Appropriation Request		0
Transfer		0
Cumulative Appropriation		12,397
Expenditures / Encumbrances		6,858
Unencumbered Balance		5,539
Partial Closeout Thru	FY10	0
New Partial Closeout	FY11	0
Total Partial Closeout		0

**COORDINATION**  
Washington Suburban Sanitary Commission  
Washington Gas Light Company  
Department of Permitting Services  
PEPCO  
Cable TV  
Verizon  
Montgomery County Public Schools  
Regional Services Centers  
Community Associations  
Commission on People with Disabilities

#### MAP



## Permanent Patching: Residential/Rural Roads -- No. 501106

Category  
Subcategory  
Administering Agency  
Planning Area

**Transportation**  
**Highway Maintenance**  
**Transportation**  
**Countywide**

Date Last Modified  
Required Adequate Public Facility  
Relocation Impact  
Status

**May 17, 2012**  
**No**  
**None.**  
**On-going**

### EXPENDITURE SCHEDULE (\$000)

Cost Element	Total	Thru FY11	Est. FY12	Total 6 Years	FY13	FY14	FY15	FY16	FY17	FY18	Beyond 6 Years
Planning, Design, and Supervision	3,900	0	900	3,000	975	225	450	450	450	450	0
Land	0	0	0	0	0	0	0	0	0	0	0
Site Improvements and Utilities	0	0	0	0	0	0	0	0	0	0	0
Construction	22,100	2,818	2,282	17,000	5,525	1,275	2,550	2,550	2,550	2,550	0
Other	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>26,000</b>	<b>2,818</b>	<b>3,182</b>	<b>20,000</b>	<b>6,500</b>	<b>1,500</b>	<b>3,000</b>	<b>3,000</b>	<b>3,000</b>	<b>3,000</b>	<b>*</b>

### FUNDING SCHEDULE (\$000)

G.O. Bonds	26,000	2,818	3,182	20,000	6,500	1,500	3,000	3,000	3,000	3,000	0
<b>Total</b>	<b>26,000</b>	<b>2,818</b>	<b>3,182</b>	<b>20,000</b>	<b>6,500</b>	<b>1,500</b>	<b>3,000</b>	<b>3,000</b>	<b>3,000</b>	<b>3,000</b>	<b>0</b>

#### DESCRIPTION

This project provides for permanent patching of rural/residential roads in older residential communities. This permanent patching program provides for deep patching of rural and residential roads to restore limited structural integrity and prolong pavement performance. This program will ensure structural viability of older residential pavements until such time that road rehabilitation occurs.

Based on current funding trends, many residential roads identified as needing reconstruction may not be addressed for 40-years or longer. The permanent patching program is designed to address this problem.

Pavement reconstruction involves either total removal and reconstruction of the pavement section or extensive deep patching followed by grinding along with a thick structural hot mix asphalt overlay.

Permanent patching may improve the pavement rating such that total rehabilitation may be considered in lieu of total reconstruction, at significant overall savings.

#### COST CHANGE

Increase in FY13 to address pavement infrastructure maintenance backlog and accelerated \$1.5 million from FY14 to FY13; increase also due to the addition of FY17-18 to this ongoing level of effort project.

#### JUSTIFICATION

In FY09, the Department of Transportation instituted a pavement management system. This system provides for systematic physical condition surveys. The physical condition surveys note the type, level, and extent of residential pavement deterioration combined with average daily traffic and other usage characteristics. This information is used to calculate specific pavement ratings, types of repair strategies needed, and associated repair costs, as well as the overall Pavement Condition Index (PCI) of the entire residential network. The system also provides for budget optimization and a systematic approach to maintaining a healthy residential pavement inventory.

The updated 2011 pavement condition survey indicated that 1,006 lane miles (24 percent) of residential pavement have fallen into the lowest possible category and are in need of structural patching. Typically, pavements rated in this category require between 15-20 percent permanent patching per lane mile. Physical condition inspections of residential pavements will occur on a 2-3 year cycle.

#### OTHER DISCLOSURES

- \* Expenditures will continue indefinitely.

APPROPRIATION AND EXPENDITURE DATA	COORDINATION	MAP												
<table border="1"> <tr> <td>Date First Appropriation</td> <td>FY11</td> <td>(\$000)</td> </tr> <tr> <td>First Cost Estimate</td> <td>FY13</td> <td>26,000</td> </tr> <tr> <td>Current Scope</td> <td></td> <td></td> </tr> <tr> <td>Last FY's Cost Estimate</td> <td></td> <td>18,000</td> </tr> </table>	Date First Appropriation	FY11	(\$000)	First Cost Estimate	FY13	26,000	Current Scope			Last FY's Cost Estimate		18,000	Washington Suburban Sanitary Commission Washington Gas Light Company Department of Permitting Services PEPCO Cable TV Verizon Montgomery County Public Schools Regional Services Centers Community Associations Commission of People with Disabilities	
Date First Appropriation	FY11	(\$000)												
First Cost Estimate	FY13	26,000												
Current Scope														
Last FY's Cost Estimate		18,000												
<table border="1"> <tr> <td>Appropriation Request</td> <td>FY13</td> <td>6,500</td> </tr> <tr> <td>Appropriation Request Est.</td> <td>FY14</td> <td>1,500</td> </tr> <tr> <td>Supplemental Appropriation Request</td> <td></td> <td>0</td> </tr> <tr> <td>Transfer</td> <td></td> <td>0</td> </tr> </table>	Appropriation Request	FY13	6,500	Appropriation Request Est.	FY14	1,500	Supplemental Appropriation Request		0	Transfer		0		
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<table border="1"> <tr> <td>Cumulative Appropriation</td> <td>6,000</td> </tr> <tr> <td>Expenditures / Encumbrances</td> <td>2,822</td> </tr> <tr> <td>Unencumbered Balance</td> <td>3,178</td> </tr> </table>	Cumulative Appropriation	6,000	Expenditures / Encumbrances	2,822	Unencumbered Balance	3,178								
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Partial Closeout Thru	FY10	0												
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**A. Identification and Coding Information**

1. Project Number: W-1.00 Agency Number: Change Update Code: Change Revised: \_\_\_\_\_

2. Date: October 1, 2011

3. Project Name: Water Reconstruction Program 5. Agency: WSSC

4. Program: Sanitation 6. Planning Area: Bi-County

7. Pre PDF Pg.No.: \_\_\_\_\_ 8. Req. Adeg. Pub. Fac. \_\_\_\_\_

**B. Expenditure Schedule (000's)**

	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	Total	Thru FY '11	Estimate FY '12	Total 6 Years	Year 1 FY '13	Year 2 FY '14	Year 3 FY '15	Year 4 FY '16	Year 5 FY '17	Year 6 FY '18	Beyond 6 Years
Cost Elements											
Planning, Design & Supervision	<b>274,543</b>		26,307	<b>248,236</b>	30,841	36,732	41,363	44,698	46,602	48,000	
Land											
Site Improvements & Utilities											
Construction	<b>291,616</b>		24,257	<b>267,359</b>	29,810	38,990	45,262	48,395	51,676	53,226	
Other	<b>140,991</b>		15,278	<b>125,713</b>	16,776	19,191	20,944	21,982	23,064	23,756	
<b>Total</b>	<b>707,150</b>		<b>65,842</b>	<b>641,308</b>	<b>77,427</b>	<b>94,913</b>	<b>107,569</b>	<b>115,075</b>	<b>121,342</b>	<b>124,982</b>	
<b>C. Funding Schedule (000's)</b>											
WSSC Bonds	<b>707,150</b>		65,842	<b>641,308</b>	77,427	94,913	107,569	115,075	121,342	124,982	

**D. Description & Justification**

**DESCRIPTION**

The purpose of this program is to renew and extend the useful life of water mains. Portions of the water system are more than 80 years old. Bare cast iron mains, installed generally before 1965, permit the build-up of tuberculation which can reduce flow and cause discoloration at the customer's tap. Selected replacement is necessary to supply water in sufficient quantity, quality and pressure for domestic use and fire fighting. As the system ages, water main breaks are increasing. Selected mains are chronically breaking and other mains are undersized for the current flow standards. Replacement of these mains provides added value to the customer. Galvanized, copper and cast iron water services, as well as all other water main appurtenances including meter and P/RV vaults are replaced on an as needed basis when they have exceeded their useful life.

\* EXPENDITURES FOR WATER RECONSTRUCTION ARE EXPECTED TO CONTINUE INDEFINITELY.

Service Area Bi-County/Area

**JUSTIFICATION**

**Plans & Studies**

Flow studies, water system modeling, and field surveys are routinely conducted. A staff level report: Water Main Condition Assessment, 1915-1998; Analysis and Recommendations by the Water Main Reconstruction Work Group (June, 1999) examined the historical main break data for performance measures to define, characterize, and prioritize the future replacement needs of the distribution system. An early outcome of this project identified the need to increase the frequency of water main replacement. "FY2012 Water Distribution System Asset Management Plan", GHD, Inc. (March 2011).

**Specific Data**

The program's projected work units and expenditure levels for FY'13 (including overhead) are as follows: design of main replacement, 45 miles - \$10.1M; construction of main replacement and associated water house connection renewals, 46 miles - \$61.4M; large water service replacement program - \$5.9M. Note: The specific mix and type of water main reconstruction may vary in any given year depending on the nature and priority of the work to be addressed. Program level may be adjusted in future years based upon the results of the Asset Management Plan.

**Cost Change**

The program cost increase in FY 2013 primarily reflects an increase in replacement miles.

**STATUS** Under Construction

**E. Annual Operating Budget Impact (000's)**

	FY of Impact
Program Costs	.....
Staff	.....
Other	.....
Maintenance	.....
Debt Service	.....
Total Costs	61663 ..... 19
Impact on Water or Sewer Rate	61663 ..... 19
	122# ..... 19

**F. Approval and Expenditure Data (000's)**

Date First in Capital Program	FY --
Date First Approved	FY --
Initial Cost Estimate	
Cost Estimate Last FY	594,421
Present Cost Estimate	707,150
Approved Request, Last FY	65,860
Total Expenditures & Encumbrances	
Approval Request FY 13	77,427
Supplemental Approval Request	
Current FY (12)	

**G. Status Information**

Land Status: Not applicable

% Project Completion: Not Applicable

Est. Completion Date: On-Going

**H. Map** Map Reference Code:

**MAP NOT APPLICABLE**

**D. DESCRIPTION & JUSTIFICATION (CONT.)**

Agency Number: W - 1.00

Project Name: Water Reconstruction Program

**OTHER**

The project scope has remained the same. The water reconstruction program has been ongoing since 1979. Funding in the six-year program period is subject to Spending Affordability Guideline limits. The following work accomplishments through FY'10 summarize the magnitude of the reconstruction effort: water main cleaning and lining, 1,142 miles completed; water main replacement, 239 miles completed; large water service/meter replacement, 28 large water service/meters replaced. It is anticipated water reconstruction activity will be a perpetual element of future work programs.

**COORDINATION**

Maryland State Highway Administration, Montgomery County Department of Public Works and Transportation, Montgomery County Government (including local municipalities where work is to be performed), Prince George's County Government (including local municipalities where work is to be performed), Prince George's County Department of Public Works & Transportation and Local Community Civic Associations.

**A. Identification and Coding Information**

1. Project Number: Agency Number Update Code Change

2. Date: October 1, 2011

7. Pre PDF Pg. No.: 8 8. Req. Adeq. Pub. Fac.

3. Project Name: Sewer Reconstruction Program Revised:

5. Agency: **WSSC**

4. Program: Sanitation 6. Planning Area: Bi-County

**B. Expenditure Schedule (000's)**

	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Cost Elements	Total	Thru FY '11	Estimate FY '12	Total 6 Years	Year 1 FY '13	Year 2 FY '14	Year 3 FY '15	Year 4 FY '16	Year 5 FY '17	Year 6 FY '18	Beyond 6 Years
Planning, Design & Supervision	137,785		16,700	121,085	26,414	17,237	18,509	19,064	19,636	20,225	
Land											
Site Improvements & Utilities											
Construction	460,591		46,277	414,314	89,661	58,376	63,647	65,557	67,523	69,550	
Other	104,497		10,967	93,530	20,337	13,192	14,342	14,772	15,215	15,672	
<b>Total</b>	<b>702,873</b>		<b>73,944</b>	<b>628,929</b>	<b>136,412</b>	<b>88,805</b>	<b>96,498</b>	<b>99,393</b>	<b>102,374</b>	<b>105,447</b>	
<b>C. Funding Schedule (000's)</b>											
WSSC Bonds	702,873		73,944	628,929	136,412	88,805	96,498	99,393	102,374	105,447	

**D. Description & Justification**

**DESCRIPTION**

This program funds a comprehensive sewer system rehabilitation program. The main component of this program is the rehabilitation and/or repair of sewer mains and house connections. The program addresses infiltration and inflow control, exposed pipe problems, and future capacity needs for the basin. The rehabilitation and repair funded by this program includes the rehabilitation and repair recommended by comprehensive basin studies as well as that resulting from sewer systems evaluations, line blockage assessments, field surveys, and closed circuit TV inspections. This program does not include funding for any major capital projects (e.g. CIP size relief or replacement sewers) that may result from a comprehensive basin study. These are funded separately in the CIP.

\* EXPENDITURES FOR SEWER RECONSTRUCTION ARE EXPECTED TO CONTINUE INDEFINITELY.

**JUSTIFICATION**

**Service Area** Bi-County/Area

**Plans & Studies**  
Comprehensive Basin Studies, Sewer System Evaluation Surveys, Line Blockage Assessments, field surveys, closed circuit TV inspections, and/or other activities investigating specific portions of the collection system.

**Specific Data**  
The FY'13 work units and associated costs are based on our historical experience with regards to timing of design and construction work, cost per linear foot, availability of authorized contractors for proprietary rehabilitation techniques, and management's availability to oversee and manage the total number of individual contracts. The program's projected work units and expenditure levels for FY'13 (including overhead) are as follows: 65 miles of residential main and lateral line design - \$8.0 M; 55 miles of residential line construction - \$87.4 M; 10 miles of lateral line construction and associated sewer house connection renewals - \$38.5 M; emergency repairs - \$2.5 M. Note: The specific mix and type of sewer reconstruction may vary in any given year depending on identified system defects.

**Cost Change**  
The overall program cost increased due to a ramp up of the program to meet the Consent Decree schedule and higher unit costs based upon actual bids received.

**STATUS** Under Construction

**OTHER**  
The project scope has remained the same. The program schedule and expenditures shown above reflect the terms of the Sanitary Sewer Overflow Consent Decree. The Consent Decree between WSSC, Maryland Department of the Environment (MDE), and the

**E. Annual Operating Budget Impact (000's)**

	FY of Impact
Program Costs	19
Staff	19
Other	19
Maintenance	19
Debt Service	19
Total Costs	19
Impact on Water or Sewer Rate	19

**F. Approval and Expenditure Data (000's)**

Date First in Capital Program	FY --
Date First Approved	FY --
Initial Cost Estimate	
Cost Estimate Last FY	475,292
Present Cost Estimate	702,873
Approved Request, Last FY	49,560
Total Expenditures & Encumbrances	
Approval Request FY 13	136,412
Supplemental Approval Request	
Current FY (12)	

**G. Status Information**

Land Status: Not applicable

% Project Completion: Not Applicable

Est. Completion Date: On-Going

**H. Map** Map Reference Code:

**MAP NOT APPLICABLE**

**D. DESCRIPTION & JUSTIFICATION (CONT.)**

**Agency Number: S - 1.01**

**Project Name: Sewer Reconstruction Program**

EPA was entered into on December 7, 2005. The sewer reconstruction program was established in 1979. Expenditures for an estimated 4 miles of grouting repairs are included in the operating budget. The rehabilitation work included in the Federal stimulus grant provided under the American Recovery and Reinvestment Act for the reconstruction work in Lower Anacostia was completed in FY 2011.

The following work accomplishments through FY'10 summarize the magnitude of this reconstruction effort: sewer main reconstruction, 252 miles; and sewer house connection renewals, 15,538. It is anticipated that sewer reconstruction activity will be a perpetual element of future work programs.

**COORDINATION**

Maryland State Highway Administration, Montgomery County Department of Public Works and Transportation, Montgomery County Government (including local municipalities where work is to be performed), Prince George's County Government (including local municipalities where work is to be performed), Maryland Department of the Environment (SSO Consent Decree Compliance), Prince George's County Department of Public Works & Transportation, U.S. Environmental Protection Agency, Region III (SSO Consent Decree Compliance) and Local Community Civic Associations.

**Primary Arterial HMA FY13**

Road Name	To	From
Westlake Dr.	Democracy Blvd.	Tuckerman La.
Stoney Creek Rd.	Travilah Road	River Road
Appleridge Road	Montgomery Village Ave	Watkins Mill Road
Mateny Road	Clopper Road	Wheatridge Drive
Kempton Church Road	Bethesda Church Road	Frederick County Line
Jones Lane	MD 28	Turkey Foot Rd
Mink Hollow Road	MD RT 108	E.O.M.
Randolph Road	Veris Mill Road	Connecticut Ave
Fenton Street	Wayne Avenue	Cameron Street
Franklin Avenue	Colesville Road	University Blv
Lyttonsville Pl	Lyttonsville Rd	Brookville Rd
Tenbrook Dr.	Forest Glen Rd.	Dennis Ave.

**Double-shot Microsurface FY13**

Road Name	To	From
Bells Mill Rd.	Seven Locks Rd.	Falls Road
Edson Lane	Old Georgetown Road	Rockville Pike
Dawson Farm Road	Germantown Road	Father Hurley Blvd
Middlebrook Rd.	Frederick Road	Great Seneca Hwy.
Germantown Road	Frederick Road	Scenery Drive
Omega Drive	Key West Avenue	I-270 Ramp
Fields Road	I-270 Ramp	Sam Eig Highway
Parkland Drive	Chesterfield Road	Aspen Hill Road
Mariana Drive	Parkland Drive	Bauer Drive
Heathfield Road	Georgia Avenue	Parkland Drive
Stewart Lane	Old Columbia Pike	Lockwood Drive
April Lane	Stewart Lane	End of Maintenance
Ferrara Drive	Veirs Mill Road	Mahan Road
Mahan Road	Ferrara Drive	Dewey Road

**Residential Resurfacing HMA FY13**

Road Name	To	From
Cypress Grove Ln	Seven Locks Rd.	End
Piney Meetinghouse Ct.	Piney Meetinghouse Rd	End
Tara Road	River Road	End
Potomac View Drive	Tara Road	End
Balantre Lane	End	End
Riverwood Drive	River Road	End
Riverwood Court	Riverwood Drive	End
River Oaks Lane	River Road	Barn Wood Lane
Barn Wood Lane	River Oaks Lane	River Oaks Lane
Deep Glen Drive	Barn Wood Lane	Glen Road
Aurora Dr	Flanders Ave	Stillwater Ave
Bangor Dr	Rockville Pik	Flanders Ave
Cushing Dr	Stillwater Ave	Flanders Ave
Druid Dr	Flanders Ave	Orleans Way
Euclid Dr	Orleans Way	Waycross Way
Flanders Ave	Rockville Pik	Strathmore Ave
Gretchen St	Jolly Way	White Flint Dr
Jolly Way	Strathmore Ave	Flanders Ave
Orleans Ct	Orleans Way	End

Orleans Way	Strathmore Ave	End
Rokeby Ave	End	End
Rokeby Ct	Rokeby Ave	End
Rokeby Pl	Rokeby Ave	Orleans Way
Stillwater Ave	Strathmore Ave	Flanders Ave
Waycross Ct	Waycross Way	End
Waycross Way	Bangor Dr	Rokeby Ave
White Flint Dr	Waycross Way	End
Onax Dr.	Black Rock Rd.	End
Black Rock Rd.	Burdette Ln.	Germantown Rd.
Flagstone Dr.	Black Rock Rd.	End
Flagstone Ct.	Flagstone Dr.	End
Garrett Dr	Stoneridge Dr	End
Parkridge Dr	Clopper Rd	Garrett Dr
Stoneridge Ct	Garrett Dr	End
Stoneridge Dr	Clopper Rd	Garrett Dr
Deer Lake La.	Deer Lake Rd.	Deer Lake Rd.
Deer Lake La.	Ottenbrook Terr.	Deer Lake Rd.
Deer Lake Rd.	Needwood Rd	Needwood Rd
Deer Point Ct	Carnegie Ave.	End
Carnegie Ave.	Ottenbrook Terr.	End
Ottenbrook Terr.	End	End
Equestrian Ct	Equestrian La	End
Equestrian La	Needwood Rd	End
Jousting Ter	Needwood Rd	End
Mineral Springs Ct	Mineral Spring Dr	End
Mineral Springs Dr	Mulberry Ct	Mulberry Ct
Misty Ct	Mineral Spring Dr	End
Mulberry Ct	Mineral Spring Dr	End
Pinecroft Ct	Mineral Spring Dr	End

**Residential Resurfacing HMA FY13**

Road Name	To	From
Powhatan Ct	Mineral Spring Dr	End
Prince Hall Ct	Mineral Spring Dr	End
Quondal Ct	Mineral Spring Dr	End
North Gate Dr	Bel Pre Rd	End
Post La	Layhill Rd	North Gate Dr
White Horse La	North Gate Dr	End
Portage Rd	North Gate Dr	End
North Gate Ter	North Gate La	End
North Gate La	North Gate Dr	End
East Gate Dr	Layhill Rd	North Gate Dr
Vintage La	North Gate Dr	North Gate Ter
Ednor View Terr.	Tucker Ln.	End
Patuxent Dr.	Tucker Ln.	End
Skyline Dr.	Patuxent Dr.	End
Shenandoah Ct.	Skyline Dr.	End
Lost Creek Dr.	Skyline Dr.	End
Highfield Dr.	Pond Rd.	End
Astoria Ln.	Donora Rd.	Tucker Ln.
Pinebrook Ct.	Pinebrook Dr.	End
Pinebrook Dr.	Cliftonbrook Ln.	Pinebrook Ct.



DEPARTMENT OF PERMITTING SERVICES

Isiah Leggett
County Executive

Diane R. Schwartz Jones
Director

RIGHT-OF-WAY CONSTRUCTION
PERMIT

IssueDate: 10/14/2011

Permit No: 271406
Expires: 04/14/2013
ID: 000005

THIS IS TO CERTIFY THAT:

WSSC
14501 SWEITZER LANE
LAUREL MD 20707-
Day Phone: (301)206-8300 x

HAS PERMISSION TO: INSTALL PUBLIC UTILITY

Special Notes: Repair, seal joint and provide lining in sewer main and reset/replace sewer manhole frame and cover in accordance with WSSC plans. Work shall comply with ADA requirements, Montgomery County Specifications for Utility Construction Permit and the direction of the DPS Inspector. A mill and overlay shall be required should the patch not meet the specifications as set forth by the current County Specifications for Utility Construction Permit and as directed by the DPS ROW inspector. All lane closures/traffic controls shall comply with the MCDOT approved Traffic Control Plans, Work Zone Temporary Traffic Control Standards and directions of the DPS ROW Inspector.

The proposed work must comply with the conditions of this permit and with the provisions of the Montgomery County Road Construction Code and the "Standards and Specifications" adopted by the County Council for Montgomery County.

Notify: CHRISTOPHER CARY Field Inspector at (301)370-3686 48 hours before initial start of work, restart of work after 48 hours or more of work stoppage and upon completion of the work for final inspection and bond release.

Upon Permit expiration, payment of an extension fee and approval by the DPS inspector are required for permit extension.

PREMISE ADDRESS BRISBANE STREET, FOREST GROVE DRIVE, CODY DRIVE, & TILTON DRIVE

LOT BLOCK
LIBER TAX ACCOUNT NO.:
FOLIO SUBDIVISION :

PARCEL
PS NUMBER:
BOND TYPE:

Diane R. Schwartz Jones

Director, Department of Permitting Services



DEPARTMENT OF PERMITTING SERVICES

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Notify: CHRISTOPHER CARY Field Inspector at (301)370-3686 48 hours before initial start of work, restart of work after 48 hours or more of work stoppage and upon completion of the work for final inspection and bond release.  
Upon Permit expiration, payment of an extension fee and approval by the DPS inspector are required for permit extension.

PREMISE ADDRESS BRISBANE STREET, FOREST GROVE DRIVE, CODY DRIVE, & TILTON DRIVE

LOT BLOCK  
LIBER TAX ACCOUNT NO.:  
FOLIO SUBDIVISION :

PARCEL  
PS NUMBER:  
BOND TYPE:

Director, Department of Permitting Services



## DEPARTMENT OF PERMITTING SERVICES

Ike Leggett  
County Executive

Diane R. Schwartz Jones  
Director

### CONDITIONS OF THE PERMIT

1. The permittee agrees to save harmless the County from all liability arising from the construction associated with this permit.
2. This permit is non-transferable.
3. Unless otherwise noted, this permit automatically expires 18 months from the date of its issuance unless extended in writing by the Director of the Department of Permitting Services. An extension is granted after a request is made in writing and the appropriate fees are paid prior to the expiration date of the permit.
4. All work done under this permit shall comply with written requirements or directions which may be issued by the Director of the Department of Permitting Services relating to the particular project. If the conditions of this permit are being violated, this permit is subject to revocation by the Director of the Department of Permitting Services.
5. The work, materials, plans and specifications shall be available at all times for inspection by duly authorized officials of Montgomery County.
6. Driveway apron(s) constructed under this permit are for the purpose of providing access to lots adjacent to the right of way. Maintenance will be the responsibility of the property owner.
7. No permit shall be issued for construction unless the right of way has been acquired by the County or has been dedicated to public use and such acquisition or dedication has been recorded among the land records of Montgomery County.
8. If the Director of the Department of Permitting Services finds that the original plans, standards and specifications under which this permit is issued are inadequate or inappropriate for the particular project, he may require different or additional plans, standards and specifications and they shall thereafter, or modification thereof, become a part and condition of this permit.
9. A permit from the State of Maryland Forest, Park and Wildlife Service is required for the removal, and/or planting of any trees on improved public rights of way. Contact (301) 854-6060.
10. The relocation and/or adjustment of any public or private utility shall be the responsibility of the permittee prior to any construction authorized by this permit.
11. Coordinate the relocation of any traffic control signs, parking meters or signalization devices with the Division of Traffic and Parking Services. Contact (240) 777-2190.
12. Construction materials and equipment must not be stored or parked on the public right of way, unless otherwise noted as a condition of this permit.
13. Prior to the release of this permit, complete repair (restoration of right of way) shall be made of any and all damages done to the existing improvements in the public right of way caused by construction operations on this site. All disturbed areas shall be fine graded and sodded.
14. Proper precautions must be taken to keep existing roadways free of mud, debris and other obstructions.
15. Notify "Miss Utility" at 1-800-257-7777 prior to any excavation in the public right-of way.



#### Right-of-Way Construction Permit Unit

Division of Land Development • Right-of-Way Permitting and Plan Review Section  
255 Rockville Pike, Second Floor • Rockville, Maryland 20850-4166 • Main: 240.777.6298 • Fax: 240.777.6296  
Page 1 of 3



## DEPARTMENT OF PERMITTING SERVICES

Ike Leggett  
County Executive

Carla Reid  
Director

### TRAFFIC CONTROL REQUIREMENTS FOR ALL DRIVEWAY PERMITS, AND FOR WORK ACTIVITIES WITHIN PUBLIC RIGHT-OF-WAYS ALONG SECONDARY AND TERTIARY ROADWAYS

#### I. General Requirements:

All work activities within roadways classified as primary or higher shall be performed between the hours of 9:00 AM and 3:30 PM. Work activities within secondary or tertiary roadways will not normally be restricted to these hours unless specifically stipulated by the County Inspector.

No work shall be permitted on Saturday, Sunday, and legal holidays without written permission of the County Inspector.

The permittee shall contact occupants of all adjoining properties and inform them of the scope of the work and the timing of construction a minimum of twenty-four (24) hours prior to the commencement of any activity on the site.

Ingress and egress shall be maintained to all driveways.

No materials or equipment shall be stored on the roadway surface or sidewalk during non-work periods. All stored materials and equipment shall be set back at least six (6) feet behind the curb along a closed section roadway and at least twelve (12) feet from the edge of roadway on an open section roadway.

All excavation(s) within the paved section of roadway shall be back-filled and capped with cold mix or steel plated prior to the end of any day's work. "STEEL PLATES AHEAD" signs shall be placed two hundred fifty (250) feet in advance of any steel plates.

Excavations in unpaved sections within the public space shall be either back-filled to grade, completely covered with lumber/plywood, encircled with approved construction fencing at the end of the work day or shall comply with the following:

No traffic shall be permitted within ten (10) feet of any excavation that results in a vertical drop-off of over five (5) inches in the level of pavement during non-working hours unless protected by temporary concrete barriers or ramped with gravel at a three-to-one (3:1) or flatter slope from the edge of pavement. When ramping is utilized, traffic drums shall be positioned adjacent to the edge of the work area on the traffic side of the slope.

No traffic shall be permitted within two (2) feet of any excavation that results in a vertical drop-off of more than two (2) inches but no more than five (5) inches in the level of pavement during non-working hours unless protected by either ramped by gravel at a three-to-one (3:1) or flatter slope, provided an abutting wedge of bituminous material at a three-to-one (3:1) or flatter slope or protected by traffic drums.





## DEPARTMENT OF PERMITTING SERVICES

Ike Leggett  
County Executive

Diane R. Schwartz Jones  
Director

In areas where the drop-off in the level of pavement is two (2) inches or less, traffic may be allowed to freely cross under the following conditions:

- A. In areas where longitudinal paving joints of two (2) inches or less are exposed to traffic, warning signs shall be erected indicating "UNEVEN PAVEMENT" (W8-11 mod). These signs shall be placed two hundred fifty (250) feet in advance of the uneven joint and spaced at appropriate intervals throughout the area of the uneven joints.
- B. In areas of exposed lateral joints of two (2) inches or less, the warning signs shall be "BUMP" (W8-1) with a supplemental distance plate mounted below it.
- C. When milled pavement is left exposed to traffic a "ROUGH ROAD" (W8-8a) sign shall be placed two hundred fifty (250) feet in advance of the milled area.

All existing traffic control devices that must be removed shall be replaced in their proper location prior to the completion of the project. Cost for the replacement and/or repair of the devices damaged, as a result of the project shall be assessed to the permittee.

All traffic control devices shall conform to the MANUEL ON UNIFORM TRAFFIC CONTROL DEVICES.

The implementation date and continuance of this project may be altered at the discretion of the County Inspector in the event of conflicts with previously approved or emergency activities.

### II. Specific Requirements:

#### A. Maintenance of Traffic

"ROAD WORK AHEAD" signs (MUTCD Standard W21-4) shall be posted approximately five hundred (500) feet in advance of the work site.

Simultaneous two-way traffic should be maintained whenever possible.

Whenever two-way traffic cannot be maintained, flaggers shall be used to control traffic around the work area on direction at a time with advance flagger signs (MUTCD Standard W20-7a) placed two hundred fifty (250) feet in advance of the flagger. Flaggers shall use STOP/SLOW paddles to direct traffic.

At least ten (10) feet of the roadway shall be available for traffic at all times.

Sidewalk closures shall be limited to occur only during the actual excavation and paving operations of the sidewalk. During excavation and paving operations sidewalks shall be barricaded to physically prevent pedestrian passage. During all other time's provisions for safe pedestrian access through the work area, by a temporary sidewalk shall be provided.

Reflectorized traffic drums shall be placed on the traffic side of any excavation and at the ends of trenches spaced a maximum of ten (10) feet. During daytime work periods twenty-eight (28) inch high traffic cones are acceptable.





Department of Permitting Services  
255 Rockville Pike, 2nd Floor  
Rockville, MD 20850-4166  
Phone: 311 in Montgomery County or 240-777-0311  
Fax (240)-777-6262  
<http://montgomerycountymd.gov/permittingservices/>



## Tree Protection in the Right of Way

### Guidelines

The following guidelines have been provided by the Department of Transportation to save county street trees from construction related damage. Because street trees in the urban and suburban environment almost always grow in close proximity to residential and commercial structures and therefore, construction work activities, measures to successfully protect the trees are necessary. Usually the greatest impact to trees on construction sites is from soil compaction and root cutting. The following simple procedures can greatly reduce most of the construction damage to trees in the right of way:

#### Protective Plastic fencing

- Delineates where construction traffic and materials are permitted and where they are not permitted.
- Plastic construction fencing should be at least 4 feet in height, staked and taut throughout.
- Installation of fencing should **precede any construction** activity and remain in place throughout the entire construction process.
- Fencing should create a square or rectangle shape around the tree with one side as close as possible to the curb, another side as close as possible to the sidewalk (or edge of right-of-way), and the other two sides should be at least 5 feet from the base of the tree perpendicular to the other two sides. An example is shown below.

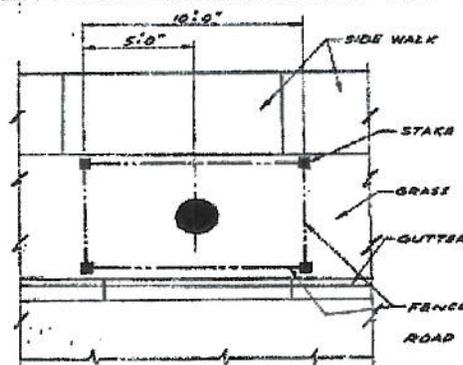


FIGURE 1

- If **silt fences** are shown for installation within the root zone, the Sediment Control Inspector should be contacted for a re-evaluation **prior to Installation.**

#### **Trenching/Excavating**

- The root zone of a tree extends out even past the drip line (canopy) of the tree. Alternate methods should be explored before trenching or excavating are considered.
- If trenching or excavating are necessary, the disturbance should occur as far away from the base of the tree as possible.
- **Prior to excavation or trenching,** roots should be pruned at the point of disturbance. Any exposed roots should be cut cleanly at the edge of the trench.

#### **Minimizing soil compaction**

- Equipment, tools, or building materials are not allowed in the lawn panel or grass right of way area. In certain circumstance if staging areas are permitted by the Right of Way Inspector, sheets of ¾ inch plywood should be laid down beneath the materials to displace the weight and minimize soil compaction.
- Only a permitted temporary construction entrance or an existing driveway may be used for vehicular ingress and egress to a site. However, if temporary access across the right of way occurs, plywood should be used.
- **Plywood must not obstruct the sidewalk or create a pedestrian hazard.**
- Staging areas and ingress/egress areas should be thought out well before construction begins with consideration to minimize impact to the public trees.

**If you have any questions, please call 311 in Montgomery County or 240-777-0311 outside of Montgomery County. For more information on tree care and planting go to the following link <http://www.trees.maryland.gov/>**

## AGREEMENT

THIS AGREEMENT, entered into this 6<sup>th</sup> day of December, 2011, between MONTGOMERY COUNTY, MARYLAND, hereinafter referred to as the "County", and the WASHINGTON SUBURBAN SANITARY COMMISSION, an agency of the State of Maryland, hereinafter referred to as the "WSSC."

WHEREAS, the County is a political subdivision of the State of Maryland which is authorized to construct, rebuild, maintain and operate streets and roads, bridges and sidewalks within its jurisdictional limits; and

WHEREAS, the WSSC was created by the legislature and is authorized to construct, maintain and operate systems for water supply and sewerage in an area designated as the Washington Suburban Sanitary District in Prince George's and Montgomery Counties; and

WHEREAS, the WSSC has, pursuant to authorization by the legislature, installed water and sewer mains in and under the road system located within the County; and,

WHEREAS, the WSSC replaced water mains under WSSC Contract No. BR4762A08 in the Pooks Hill Sub-division; and

WHEREAS, the County intends for WSSC to repair and resurface areas of asphalt pavement in accordance with the DPS permit 256645 issued to the WSSC for utility improvements on the following roads in the above referenced Sub-division: Wicket Terrace, Viking Road and Corsica Drive; and

WHEREAS, the County intends to hire a contractor to perform planned road resurfacing work as part of the County CIP for Hot Mix Asphalt Resurfacing and Patching of Residential Streets in the Pooks Hill Subdivision effected by the WSSC water and sewer main replacement work; and

WHEREAS, it is the desire of both parties to have the County perform all road resurfacing through its contractor with the expense shared by the WSSC as agreed to herein.

NOW, THEREFORE, in consideration of the mutual promises and agreements hereinafter set forth, the parties agree as follows:

1. The County through its contractor shall perform road repair as described in Exhibit A attached hereto after receipt of written notice from WSSC that all utility work is complete. In accordance with Exhibit A and incorporated herein by reference, the WSSC agrees to pay to the

County Department of Transportation, Division of Highway Services the total estimated cost of the work performed by the County's contractor, such payment to be \$101,920.87. Payment shall be made by WSSC directly to the Montgomery County Department of Transportation, Division of Highway Services within 45 days after execution of this Agreement. The WSSC will not be responsible for any additional payments made by the County to its contractor for this work beyond the lump sum payment.

2. The County agrees to require its contractor to maintain general liability insurance for personal injury and property damage in an aggregate amount of Two Million Dollars (\$2,000,000); and excess liability insurance or umbrella liability insurance in the amount of One Million Dollars (\$1,000,000). WSSC shall be named as a certificate holder and listed as an additional insured party in the general liability policy described in the Certificate of Insurance provided by the contractor to the County.

3. The County and WSSC agree that all work performed under this agreement between the County and the WSSC will be done under the direct control and supervision of the County and WSSC will not be responsible for any defects in the road repair work performed by the County's contractor.

4. The County and WSSC acknowledge that there may be additional water, wastewater and road projects in the County and agree to cooperate in good faith to coordinate and negotiate the sharing of the cost of any additional work when applicable.

5. This Agreement constitutes the entire agreement between the parties regarding the subject matter hereof and supersedes all prior negotiations, discussions, and communications.

6. Any obligation or liability of the County or WSSC arising from this Agreement is subject to, limited by, and contingent upon the appropriation and availability of funds, as well as the damage caps and notice requirements provided in state law, including the Local Government Tort Claims Act, as amended.

7. Any amendment of this Agreement must be in writing and signed by the parties.

8. This MOU shall be governed by, and construed and enforced in accordance with, the laws of Maryland, without regard to conflict of laws principles.

9. Any notice given under this Agreement shall be in writing and sent to:

Wicket Terrace, Corsica Drive, and Viking Road Paving Agreement  
Page 3 of 5

County: Montgomery County Government  
Department of Transportation  
Division of Highway Services  
100 Edison Park Drive, 4th Floor  
Gaithersburg, Maryland 20878

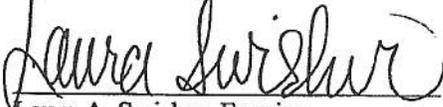
With a copy not to constitute notice to:

Office of the County Attorney  
101 Monroe Street  
Rockville, MD 20850  
Attention: County Attorney

WSSC: Washington Suburban Sanitary Commission  
Engineering and Construction Team  
Systems Inspection Group  
14501 Sweitzer Lane  
Laurel, MD 20707  
Attn: Group Leader

WITNESS the signatures of the parties set forth below.

Reviewed and Approved for Form and  
Legal Sufficiency:



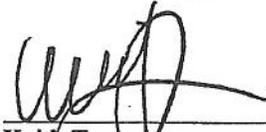
Laura A. Swisher, Esquire  
Associate Counsel

Attest:

---

WASHINGTON SUBURBAN  
SANITARY COMMISSION

Reviewed and Approval Recommended:



Keith Tyson  
Unit Coordinator

Approved:



Ross Beschner  
Group Leader

WITNESS the signature of the party set forth below.

ATTEST:

MONTGOMERY COUNTY, MARYLAND

Julie L. White

By: Ramona Bell-Pearson  
Ramona Bell-Pearson  
Assistant Chief Administrator

Approved for Form and Legality:

Clifford Ryzally 12/2/11

EXHIBIT A

WSSC Estimated Resurfacing Costs for Wicket Terrace, Viking Rd. and Corsica Dr.

<u>Condition Assessment BR4752A08</u>	<u>Street</u>	<u>Est. Paving Cost</u>
	Wicket Terrace	\$46,124.08
	Viking Road	\$20,478.88
	Corsica Drive	\$35,317.91
		<u>\$101,920.87</u>

