

# **FAIRFAX COUNTY, VIRGINIA**

## **Environmental Improvement Program (EIP) Section E: Fact Sheets**

**Fiscal Year 2010**

**Prepared October, 2008**

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# **EIP10-GL07-02(A). PRM Zoning District**

## **Description of Action**

On January 9, 2001, the Board of Supervisors established the new Planned Residential Mixed Use (PRM) District which allows high density residential uses or a mix of high density residential uses and commercial uses in areas designated for such uses in the Comprehensive Plan. This action was pursued in order to facilitate high density residential and mixed use development in transit station areas, consistent with Comprehensive Plan policy.

## **Environmental Agenda Objectives Supported**

Growth & Land Use 1, 2, 3, 4, and 7

## **Other Plans or Documents where this action appears or that it supports**

Comprehensive Plan  
Cool Counties Climate Change Initiative

## **Lead Agency**

DPZ

## **Status/Plans/Outcomes**

The PRM District was established in 2001; as of May, 2008, eighteen PRM Districts have been established.

In order to ensure a broader mix of uses in high density residential areas near transit station areas and in areas designated in the Comprehensive Plan as being Urban or Suburban Centers, there has been the recognition of a desire to consider amending the PRM District to allow mini-warehousing establishments and vehicle sale and rental establishments in the PRM District with special exception approval. This amendment has been on the Zoning Ordinance Amendment Work Program since 2005. In 2007, this amendment was on the Priority 2 Work Program which meant that the item was maintained on the list for future prioritization and that no work occurred on it in 2007. In conjunction with the adoption of the 2008 Zoning Ordinance Work Program in March 2008, this item was moved from the Priority 2 Work Program to the Priority 1 Work Program. It is anticipated that this amendment will be scheduled for public hearings in early 2009.

## **Resources**

The cost of staff time to review and process the amendment through the public hearing process will be absorbed within the current DPZ budget; no new staff needs are anticipated.

# **EIP10-GL07-03(B). Area Plan Amendments and Subsequent Rezonings Supporting Transit-Oriented Development and the Provision of Housing in Employment Centers**

## **Description of Action**

The Policy Plan includes land use, transportation and transit-oriented development policies emphasizing the need to use land resources wisely and the Comprehensive Plan's Concept for Future Development emphasizes that employment and multifamily housing should be concentrated in centers, especially in areas served by rail transit. Since 1990, when the Policy Plan was adopted as part of the Comprehensive Plan and when the Concept for Future Development was used to guide the development of Area Plan recommendations, numerous amendments to the Area Plans have been made to focus future growth in centers and numerous properties have been rezoned in conformance with this Plan guidance. Continued amendment of the Area Plans and subsequent rezoning actions to further implement mixed use development in employment centers can be anticipated into the future.

The 2005-2006 South County Area Plans Review (APR) cycle produced a number of Comprehensive Plan Amendments supporting the provision of housing in employment centers, as described below. Additional Plan amendments are currently pending, as are several rezoning applications to implement existing Plan guidance.

## **Environmental Agenda Objectives Supported**

Growth & Land Use 1, 2, 3, 4, and 7

## **Other Plans or Documents where this action appears or that it supports**

Comprehensive Plan  
Cool Counties Climate Change Initiative

## **Lead Agency**

DPZ

## **Status/Plans/Outcomes**

Since the implementation of planning policy is an ongoing process, efforts to implement and refine the Comprehensive Plan will continue. Several Plan Amendments have been adopted, with implementation of Plan recommendations to occur through the zoning process.

EIP10-GL07-03(B). Area Plan Amendments and Subsequent Rezoning Supporting Transit-Oriented Development and the Provision of Housing in Employment Centers  
Continued

In the 2005-2006 South County APR cycle, several nominations were adopted that increased housing potential within employment centers. These changes in Annandale, Bailey's Crossroads, Fairfax Center, and Seven Corners added or increased housing in mixed use developments. To achieve sustainable mixed use development, the County has assembled expert panels to conduct targeted studies of certain areas including both Annandale and Bailey's Crossroads.

The ongoing Tysons Corner Transportation and Urban Design Study, which is addressed as EIP10-GL07-05(B), provides an example of efforts to support both TOD and housing within employment centers. The Springfield Connectivity Study area begun in 2006 is a second example of County efforts to achieve this objective. The revitalization areas of Annandale and Lake Anne currently also have studies ongoing, and the Bailey's Crossroads area study will begin within the next few months. In addition to discrete projects and studies, a Plan amendment was adopted in March of 2007 that incorporated transit-oriented development (TOD) guidelines in the Policy Plan. This amendment will provide immeasurable support to this objective. Further information on related and supporting actions can be found in item EIP10-GL07-06(B), pedestrian-oriented neighborhood commerce.

Several approved rezoning applications also support the objective of focusing growth in TOD and employment centers. In the Merrifield Suburban Center, the Board of Supervisors approved two rezoning applications related to this objective. The first application RZ 2005-PR-039, approved in December 2004, rezoned the property within the Dunn Loring Metro Center and added 550-720 units of residential development potential. The second application RZ 2007-PR-001, approved in October 2007, requested redevelopment of industrial property for mixed use to include both residential and non-residential uses. In addition, the Board of Supervisors approved a rezoning application RZ 2005-PR-041 in the Merrifield Town Center of 500-900 dwelling units in October 2007. A mixed use rezoning proposal approved in Tysons Corner Center in January 2007 added the potential for 950-1,385 dwelling units. Finally, in the Route 28 and Dulles Corridors, Plan amendment and rezoning applications for mixed use and housing were approved for Dulles Discovery and the EDS/Lincoln site.

The Wiehle Avenue Joint Development project has undergone a multi-phase evaluation of three proposals. Although a particular proposal was selected, after extensive negotiations, an impasse was reached in June 2007. The County subsequently decided to terminate negotiations. A new RFP was issued in October 2007, with responses due by mid-January 2008. Staff is currently evaluating the design concepts and financial capabilities of the development teams. A decision to negotiate with developers should be reached by September/October 2008, with a recommendation to the County Executive and the Board of Supervisors by late 2008.

### **Resources**

The annual cost for implementation of this action represents a considerable amount of DPZ's annual budget. These funds are the primary source for Comprehensive Plan activities and do not include the cost associated with development review and cost of other agencies involved in

EIP10-GL07-03(B). Area Plan Amendments and Subsequent Rezoning Supporting Transit-Oriented Development and the Provision of Housing in Employment Centers  
Continued

completing this objective. In addition, some work, described below, is being funded through a federal grant.

Examples of projects for which DPZ allocated funding include the Urban Land Institute studies of Springfield, Baileys Crossroads and Annandale, for a total of approximately \$330,000. This cost does not include the significant level of staff resources from DPZ and other agencies needed for study preparation and support. In Springfield, as mentioned previously, a follow up study is underway. Known as the Springfield Connectivity Study, this study will evaluate the impacts of the Fort Belvoir Base Realignment and Closure Activities using the ULI study recommendations as a foundation for achieving mixed use development. The study is being funded by the Office of Economic Adjustment, Department of Defense, as part of a larger grant of approximately \$1,550,000, which is being used to address the greater BRAC impact of land use in Fairfax County.

Other planning studies underway include Tysons Corner, Annandale, Lake Anne, and Bailey's Crossroads, in the future. The Tysons Corner study will be funded in totality in the amount of around \$2 million for consultant services over a multiyear period. The Annandale study will approximately cost \$380,000, while Lake Anne will cost \$152,000 for the four to five month study. The cost of the Bailey's study cost will be determined as the development of the scope progresses.

# **EIP10-GL07-04(B). Planned Development District Zoning Ordinance Amendment**

## **Description of Action**

This action is a review of, and possible revision to, the Planned Development District standards to, among other things, place a greater emphasis on tree preservation and the efficient use of open space.

Staff has been requested to pursue this Zoning Ordinance Amendment in order to implement a recommendation of the Infill and Residential Development Study, which was endorsed by the Board of Supervisors in 2001.

## **Environmental Agenda Objectives Supported:**

Growth & Land Use 1; Parks, Trails & Open Space 1

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Cool Counties Climate Change Initiative  
Infill and Residential Development Study  
Fairfax County Tree Action Plan

## **Lead Agency:**

DPZ

## **Status/Plans/Outcomes**

Staff has been working on a Zoning Ordinance amendment addressing Planned Development Districts and has coordinated draft amendment proposals both internally and with the Planning Commission's Policy and Procedures Committee, the Fairfax Committee of the Engineers and Surveyors Institute, the Northern Virginia Building Industry Association and various citizen groups. It is anticipated that this amendment will be brought to the Board for authorization of public hearings in late CY 2008. Follow-up educational activities anticipated.

## **Resources**

The cost of staff time to process the amendment through the public hearing process and to provide the necessary follow up training and educational opportunities for both staff and citizens will be absorbed within the current budget; no new staff needs are anticipated. However, these actions require DPZ staff resources, thereby reducing resource availability for other tasks.

# **EIP10-GL07-05(B). Tysons Corner Transportation and Urban Design Study**

## **Description of Action**

The current Tysons Corner study is being undertaken in order to evaluate transportation and urban design issues and formulate recommendations for strengthening the Comprehensive Plan's guidance for transit-oriented development. Other adopted major Plan amendments addressing this objective are addressed in EIP10-GL07-03.

## **Environmental Agenda Objectives Supported:**

Growth & Land Use 1, 2, 3, 4, and 7

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Cool Counties Climate Change Initiative

## **Lead Agencies:**

DPZ and DOT

## **Status/Plans/Outcomes**

In January 2005, the initial consultant contract was executed to conduct transportation and urban design analyses. In May 2005, the Board established a Task Force to guide this study, recommend Plan language, and provide extensive stakeholder and community outreach. During the next year, the Task Force conducted a series of 20 Initial Community Dialogues and used this input to formulate and adopt its Guiding Planning Principles. In May 2006, the Task Force identified the need for additional consultant services from an urban planning team experienced in redevelopment of substantial land areas for transit-oriented uses. In June 2006 the Board of Supervisors directed the County Executive to identify funds needed for the additional consultant services. In September 2006 the Board approved the use of funds from FY07 carryover. In October 2006 the Task Force selected a consulting team headed by PB PlaceMaking. In March 2007 the Task Force sponsored a series of six public workshops to solicit public input on the growth scenarios being formulated for analyses by the consulting team. Another series of public meetings was held in July 2007; these meetings focused on the reporting of the results of the consultants' initial testing and analyses. At these meetings public input was solicited; this input was used by the consultants to develop proposed advanced alternatives. After workshops with the consultants in November 2007, the Task Force approved two Advanced Prototypes for analyses by the consulting team. The results of these analyses were presented at three public workshops in February 2008. Input from these workshops was used by the consultants to develop a "Straw Man" alternative in April 2008. The Task Force has developed a Preferred

Alternative which will be the foundation for the Task Force's drafting of Plan recommendations later this year.

In addition to the public workshops, the Task Force held a program on implementation in September 2007, a special Task Force meeting on transportation in December 2007, and a "seminar on density" in January 2008. In order to conduct the outreach events in September 2007 and February 2008 and to have the consultants provide additional analyses, additional funds were requested from FY08 carryover.

### **Resources**

In September 2004, the initial funding provided was \$400,000, which covered only consultant technical services (primarily for transportation modeling and analysis--limited funds were allocated for urban design analyses). In September 2005, additional funds of \$335,000 were provided primarily for community outreach consultant services and to moderately expand the urban design services in the original contract.

In September 2006 the Board approved an additional \$1.2 million for substantial additional planning and urban design consulting services, as requested by the Task Force. In September 2007, staff requested approximately \$100,000 in carryover funds for the analysis of Advanced Prototypes. Due to the length of time the Task Force has been meeting and the number of scenarios analyzed, additional resources have been directed toward transportation consulting services. The new state requirements (Chapter 527) that now require VDOT to review Plan Amendments of this magnitude will also require additional resources. In addition the Board requested that a supplemental neighborhood impact study be conducted to assess the impact outside of Tysons Corner of the proposed Plan changes for Tysons. The Board has funded this along with other transportation projects from the new transportation funds. The scope of this supplemental study is being discussed with Board members at the present time.

These funds do not include cost of staff time and materials provided during the study. Since the creation of the Tysons Land Use Task Force in 2005, staff time is estimated to be 7 to 10 SYE (or \$595,000 to \$850,000) and material cost for document preparation and other associated costs are estimated to be \$30,000 to \$60,000. The staff costs have been absorbed within DPZ's and DOT's budgets.

# **EIP10-GL07-06(B). Pedestrian-Oriented Neighborhood Commerce: Plan Implementation**

## **Description of Action**

In the past few years, there has been an increase in proposed high density residential developments that integrate pedestrian oriented neighborhood commerce. Examples include, but are not limited to, the approved redevelopment of the Fairlee neighborhood adjacent to the Vienna Metro station in December 2004 and an approval of a Plan Amendment for residential and office mixed use with pedestrian-oriented retail use in the Fairfax Center Area in February 2006. Current proposed Plan amendments of the Springfield Mall area also would incorporate more multi-modal standards into the Comprehensive Plan.

Comprehensive Plan policy supports the integration of neighborhood-serving commercial uses within residential areas, and both a Zoning Ordinance amendment (see EIP10-GL07-02) and Area Plan amendments (see EIP10-GL07-03) have been adopted in recent years to support such integration of uses. This action recognizes that implementation of this Plan policy will be a continuing process.

## **Environmental Agenda Objectives Supported:**

Growth & Land Use 2 and 7

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Cool Counties Climate Change Initiative

## **Lead Agency:**

DPZ

## **Status/Plans/Outcomes**

Since the implementation of planning policy is an ongoing process, efforts to implement and refine this aspect of the Comprehensive Plan will continue.

## **Resources**

Costs can be considered to be part of broader comprehensive planning activities that have been identified as resources needed to implement item EIP10-GL07-03. No additional resources are needed.

# **EIP10-GL07-07(B). Adequate Infrastructure Legislation**

## **Description of Action**

Recommend to the Board of Supervisors continuation of the position included in past Legislative Programs supporting legislation to give localities authority to adopt an adequate public facilities (APF) ordinance. Such legislation: 1) should permit localities to adopt provisions in their subdivision and site plan ordinances for deferring the approval of subdivision plats or site plans when it is determined that existing schools, roads, public safety, sewer or water facilities are inadequate to support the proposed development; and 2) should not require localities to construct the necessary infrastructure within a timeframe established by the General Assembly.

## **Environmental Agenda Objectives Supported:**

Growth & Land Use 6

## **Other Plans or Documents where this action appears or that it supports:**

## **Lead Agency:**

Government Relations, Office of the County Executive

## **Status/Plans/Outcomes**

The Code of Virginia (Section 15.2-2200) encourages localities “to improve the public health, safety, convenience and welfare of its citizens and to plan for the future development of communities ...” In addition, the Code mandates localities to adopt ordinances regulating subdivision and development of land. Yet the Commonwealth does not provide localities the authority to defer approval of a site plan or subdivision plat pending installation of certain public facilities even when it has been determined that existing facilities are inadequate to support the development proposal. As a result, developments proceed, with the inevitable result of increased shortages in infrastructure and the need to play catch up after the fact. The public health, safety, convenience and welfare of citizens are not well-served by this situation.

Historically, Fairfax County has acknowledged a need for additional local government authority to ensure the timely provision of adequate public facilities (APF) to accommodate new development. In recent years, the county has participated with other jurisdictions in crafting such legislation and in monitoring proposals before the General Assembly. Most recently, the county has joined and worked with the Virginia Coalition of High Growth Communities, whose priorities include pursuit of APF authority, and the county included in its 2006, 2007 and 2008 Legislative Programs a position statement supporting APF legislation.

As in past years, the 2008 General Assembly declined to grant any authority to local governments to adopt adequate public facilities ordinances. Although the prospects of success

EIP10-GL07-07(B). Adequate Infrastructure Legislation

Continued

for comprehensive APF authority in the near term are not anticipated to be high, the county should continue to pursue this legislative position.

**Resources**

There would be no additional costs associated with this action. The cost of staff time to research and draft an APF legislative position, coordinate with legal staff and affected agencies, vet the position with the Board of Supervisors and its Legislative Committee, and advocate APF legislation during the General Assembly would be included in current operating budgets.

In the event that such legislation was to be adopted by the General Assembly, there would be costs associated with the creation and administration of a program to address the new legislative authority. These costs cannot be calculated at this time because specifics of the enabling legislation do not exist.

# **EIP10-GL07-08(B) – Review of Federal NEPA Reports and State Environmental Impact Reports**

## **Description of Action**

Review of federal Environmental Assessments and Environmental Impact Statements (prepared pursuant to the National Environmental Policy Act [NEPA]), and review of state Environmental Impact Reports (EIRs), for a broad scope of environmental considerations.

## **Environmental Agenda Objectives Supported:**

Growth and Land Use (General)  
Water Quality 2, 5, and 7

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Fairfax County Tree Action Plan

## **Lead Agency:**

DPZ

## **Status/Plans/Outcomes**

NEPA documents cover a broad range of actions pursued through federal funding, of which most, if not all, fall outside of the County's zoning authority. EIRs address significant land use and development proposals by state agencies. Recent NEPA and EIR documents for projects in (or affecting) Fairfax County have included the Base Realignment and Closure activities at Fort Belvoir, other development projects at Fort Belvoir, development projects at Washington Dulles International Airport (including new runways), development projects at George Mason University, changes to airspace design in the Washington, D.C. metropolitan area, the proposed Metrorail extension to and beyond Dulles Airport, and major highway projects such as the Manassas Battlefield Bypass and the Tri-County Connector. County staff reviews and comments on most NEPA and EIR documents that it receives and conducts follow-up actions as appropriate.

Through the provision of comments on NEPA and EIR documents, the county is able to suggest actions consistent with Comprehensive Plan goals, objectives, and policies for projects that fall outside of the county's zoning authority. In the case of EISs, the NEPA review process requires project sponsors to address all comments (even if they are not required to agree with all comments). While the county's comments are not uniformly considered and accepted by federal and state project sponsors, there have been a number of such reviews that have resulted in direct negotiations between project sponsors and county staff, and responsiveness from project sponsors, on issues of concern to the county.

**Resources**

NEPA and EIR reviews are conducted with existing staff, although considerable staff time is often needed for the review of complex state and federal projects. The often-substantial staff resources that are dedicated to these reviews are unavailable for other projects and priorities.

# **EIP10-GL07-09(C). Future Planned Development District Zoning Ordinance Amendment**

## **Description of Action**

Amend the Zoning Ordinance to expand the number of uses allowed in Planned Development Districts and to revise allowed densities/intensities of uses in these districts, as appropriate, to better support Comprehensive Plan recommendations regarding mixes of uses in growth centers. This action would go beyond what is currently being considered per EIP10-GL07-04, which focuses on tree preservation and open space considerations associated with the Infill and Residential Development Study, and EIP10-GL07-02, which focuses on the addition of two specific uses in the PRM District.

## **Environmental Agenda Objectives Supported:**

Growth & Land Use 1, 2, 3, 4, and 7

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Cool Counties Climate Change Initiative

## **Lead Agency:**

DPZ

## **Status/Plans/Outcomes**

The 2008 Zoning Ordinance Amendment Work Program identifies, as a Priority 1 item, the consideration of increases to maximum allowable floor area ratios the PDC and PRM Districts. The maximum allowable densities in the PDC and PRM Districts can currently support the existing Plan recommendations throughout the County. However, it is anticipated that the Plan may be revised in the future to reflect higher densities than those currently allowed by the Zoning Ordinance, particularly in the Tysons Corner area and in transit areas. Zoning Administration staff is coordinating with Planning Division staff on the Tysons Corner Transportation and Urban Design Study (EIP10-GL07-05(B)), and it is likely that the study should be completed in the fall of 2008 and may result in Plan amendments for the Tysons Corner area that would allow higher floor area ratios than currently allowed by the Zoning Ordinance. If that is the case, then it is anticipated that Zoning Ordinance amendments will occur shortly thereafter in late 2008 or early 2009.

## **Resources**

The cost of staff time to review and process this amendment would be absorbed within the DPZ budget.

# **EIP10-GL07-10(B). Residential Compatibility Zoning Ordinance Amendment**

## **Description of Actions**

(1) Consider amending the Zoning Ordinance to incorporate methods, such as maximum lot coverages or floor area ratio requirements that address compatibility issues associated with new residential development in existing residential districts. (2) In addition, consider the initiation of a Neighborhood Conservation District to address compatibility issues associated with new residential construction in developed communities.

## **Environmental Agenda Objectives Supported:**

Growth & Land Use 6

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Infill and Residential Development Study

## **Lead Agency:**

DPZ

## **Status/Plans/Outcomes**

The consideration of a Zoning Ordinance Amendment to address residential compatibility issues is on the Priority 1 list of the 2008 Zoning Ordinance Amendment Work Program. The idea of establishing a Neighborhood Conservation District to address compatibility issues will not be pursued as it has been suggested by the County Attorney's Office that such an approach could be considered spot zoning and could raise equal protection issues. In response to these concerns, it is recommended that any proposal to address neighborhood compatibility should be pursued on a Countywide basis. Specific mention of a potential Neighborhood Conservation District approach was deleted from the Zoning Ordinance Amendment Work Program that was adopted by the Board in March, 2008. Currently staff is working on an amendment that would address residential compatibility issues by imposing an angle of bulk plane requirement on residentially developed properties and revising the building height requirement to require that grade be taken from the pre-development grade or post-development grade, whichever is lower. It is anticipated that the angle of bulk plane/grade issue will be scheduled for public hearings in the fall of 2008. In addition, the Board has requested staff to continue reviewing other methodologies to address residential compatibility, to include a possible lot coverage requirement. It is anticipated that subsequent amendments addressing residential compatibility will follow the angle of bulk plane/grade amendment in 2009.

## **Resources**

The cost of staff time to process the amendment(s) through the public hearing process and to provide the necessary follow up training and educational opportunities for both staff and citizens will be absorbed within the current budget; no new staff needs are anticipated.

# **EIP10-GL08-01(B). Review Zoning Ordinance Parking Requirements in Transit-Oriented Developments**

## **Description of Action**

Article 11 of the Zoning Ordinance establishes minimum off-street parking requirements for residential, commercial, industrial, and other uses. The minimum parking requirements are use-specific and do not differentiate among the various settings within which these uses can be established. There is some flexibility in the application of the minimum parking requirements as follows:

1. Paragraph 26 of Section 11-102 of the Zoning Ordinance establishes that the Board of Supervisors can reduce the required parking in conjunction with a proffer for the establishment of a transportation demand management program.
2. Paragraph 5 of Section 11-102 of the Zoning Ordinance allows the Board to reduce parking requirements (a) within the area in proximity to a mass transit station (assuming that the station exists or is programmed for completion within the time frame of the development project), and (b) along a corridor served by a mass transit facility (when the facility is conveniently accessible to the proposed use and offers a regular scheduled service). The Board can impose conditions on such parking reductions.

The Zoning Ordinance does not incorporate further flexibility to modify parking requirements where appropriate to further land use, transportation, and/or environmental objectives. An evaluation of the off-street parking requirements would allow for the consideration of:

- Whether parking requirements should differ within specific uses depending on the setting of the use (e.g., should standards be different in transit-oriented development areas);
- Whether maximum parking requirements may be appropriate for certain uses or in certain circumstances; and
- Whether additional flexibility in allowing for modifications of parking requirements may be appropriate, and, if so, under what circumstances such flexibility should be provided.

Fairfax County has adopted a number of policies and established numerous programs that encourage and support Transportation Demand Management (TDM). These efforts include the objectives identified in the County's Policy Plan, the implementation of these objectives through the existing development process and the provision of direct TDM services. The overall purpose of TDMs in the development process is to reduce vehicle trips by using TDM techniques. In order to better integrate the use of TDMs into the land use and development processes, the County has acquired the services of a consultant that has skills and experience in this area. A Project Steering Committee, consisting of County staff, Planning Commissioners and Board of Supervisors members, has been established for the project to provide oversight, review and comment on the study. It is anticipated that the study should be completed by late fall 2008 and that any necessary amendments to the Plan and/or Zoning Ordinance will subsequently follow in calendar year 2009.

EIP10-GL08-01(B). Review Zoning Ordinance Parking Requirements in Transit-Oriented Developments  
Continued

**Environmental Agenda Objectives Supported:**

Growth & Land Use 1, 2, 3, 4, 5, and 7  
Air Quality and Transportation 1  
Water Quality 5

**Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Cool Counties Climate Change Initiative

**Lead Agencies:**

DOT and DPZ

**Status/Plans/Outcomes**

As noted above, the consideration of development of alternative parking standards for transit-oriented development areas will be a part of a broader Transportation Demand Management program effort. At this time, staff is awaiting the consultant's report and will proceed accordingly based on the consultant's recommendations.

The 2008 Zoning Ordinance Amendment Work Program identifies, as a Priority 2 item, the incorporation of transit oriented development and/or transportation demand management provisions into the Zoning Ordinance. Although Priority 2 items are typically maintained on the list for future prioritization, this item is listed on the 2008 Priority 2 Work Program as a place holder and awaiting consultant study results.

**Resources**

The cost of staff time to process one or more Zoning Ordinance amendment(s) through the public hearing process and to provide the necessary follow up training and educational opportunities for both staff and citizens would be absorbed within the current budget; no new staff needs are anticipated.

# **EIP10-GL08-02(B). Development of the Integrated Parcel Lifecycle System (IPLS)**

## **Description of Action**

Development of an integrated parcel lifecycle system that will allow parcel level data to be captured in a GIS-based data warehouse. The goal of the new system is to create a cross-functional data store to better harness the value of land parcel information that various county departments maintain and to make that information widely available through GIS technology.

## **Environmental Agenda Objectives Supported:**

This action would broadly support the Environmental Agenda. It would provide a better land use data system that would support analyses necessary to implement many of the Environmental Agenda Objectives.

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan

## **Lead Agency:**

Systems Management for Human Services (Initially only). Once the system has been initially established, individual agencies will take the lead in the development of additional modules. The data warehouse concept will allow other county agencies to build upon the foundation that the Department of Systems Management for Human Services is developing.

## **Status/Plans/Outcomes**

This effort has been funded to develop a data warehouse of parcel data and create tools for demographic analysis. Phase I, development of the data warehouse structure and loading modules, has been completed. Work has been completed on Phase II, which incorporates Comprehensive Plan information and creates demographic estimates and forecasts and provides some demographic reporting tools. The IPLS data warehouse is now available to all county staff using GIS tools or Oracle tools. An initial training and introductory session was conducted in May 2008. A third phase is planned that will build in additional data handling and analyses tools, create existing and planned land use analyses and reports, and create daytime population estimates. Funding not spent during the initial two phases has been transferred to the Public Access Technologies (PAT) branch of the Department of Information Technology. Using this remaining funding, the PAT branch has been tasked with identifying an enterprise solution for meeting the additional analysis and reporting needs of IPLS.

EIP10-GL08-02(B). Development of the Integrated Parcel Lifecycle System (IPLS)  
Continued

**Resources**

The Integrated Parcel Lifecycle System data warehouse structure and demographic analyses modules have been funded and the planned database development is essentially complete. The PAT branch has been provided initial funding and has been charged with identifying an enterprise solution for the additional reporting and analysis needs of IPLS. Ancillary actions, such as the updating of the county's planimetric data layer (see EIP10-GL08-05), are not part of this project and will require additional resources.

# **EIP10-GL08-03(A). Plan Amendment to Strengthen Air Quality Guidance and to Incorporate Support for Green Building Concepts**

## **Description of Action**

Amendment of the Comprehensive Plan to enhance the existing air quality objective in the Policy Plan in order to provide a stronger Plan focus on air quality matters and to facilitate air quality-sensitive development. Incorporation of support for the “green building” concept within this Plan amendment.

## **Environmental Agenda Objectives Supported:**

Growth and Land Use 1, 2, 3, 4, and 7  
Air Quality and Transportation 1, 2, and 7

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Cool Counties Climate Change Initiative  
Air Quality Management Plan  
Fairfax County Tree Action Plan

## **Lead Agency:**

DPZ

## **Status/Plans/Outcomes**

On December 3, 2007, the Board of Supervisors adopted Plan Amendment S07-CW-3CP. The amendment strengthened Comprehensive Plan guidance regarding air quality issues and incorporated within the Policy Plan support for green building practices. Included in the amendment were new policies establishing linkages between the incorporation of green building/energy conservation practices and attainment of certain Comprehensive Plan Options, planned uses or densities/intensities of development.

In addition to adopting the Plan Amendment, the Board requested that staff, in coordination with the Planning Commission’s Environment Committee, continue to evaluate green building incentive options. The continued review of green building incentives is discussed in EIP10-GL09-01(B).

The Board of Supervisors also requested that the Planning Commission review the green building policy guidance, and recommend revisions to this guidance as it may deem appropriate, no later than December 3, 2009.

## **Resources**

The Plan Amendment has been adopted; no additional resources for this action are needed. It is not anticipated that additional resources will be needed for the two-year review of the green building policy guidance.

# **EIP10-GL08-05(B). Update the County's Planimetric Data Layer**

## **Description of Action**

The action is providing for the updating and continued maintenance of the planimetric data layer of the county's geographic information system. "Planimetric data" are features of the built and natural environment visible in aerial photography, including impervious surfaces. Examples include: buildings; hydrographic features such as lakes, streams, paved ditches, and wetlands; transportation facilities such as roads, trails, parking areas, and driveways; street centerlines; railroads; recreation facilities; airports; and utility features such as transmission lines and towers. While significant updates of some of the planimetric data in the county's GIS have been pursued since initial data acquisition from 1997 aerial photography, there has been no systematic maintenance/updating of these data, until now.

A recent informal survey of the county's GIS users identified a wide range of needs for updated planimetric data, including public safety, planning, transportation, public facility, and park purposes. Therefore, while this action has been identified in the EIP, it is far greater than an "environmental" initiative. The implications and benefits of this action are manifold and cut across numerous agency and disciplinary lines.

## **Environmental Agenda Objectives Supported:**

This broadly supports the Environmental Agenda. It provides better, more up-to-date data that will support analyses necessary to implement many of the Environmental Agenda Objectives.

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Fairfax County Park Authority Strategic Plan

## **Lead Agency:**

DIT

## **Status/Plans/Outcomes**

The state of Virginia captured aerial photography at one- and two-foot resolutions for the entire state in March 2007. Fairfax County will attain one-half foot resolution for its entirety. The higher resolution will increase the positional accuracy of features captured from the aerial imagery. The base set of planimetric features that would need to be updated includes all of the planimetric features originally compiled in 1997. New features that could be considered as additions would include:

- Driveways
- Sidewalks – complete area
- Pools
- Patios
- Decks
- Sheds
- Tennis Courts
- 2-foot Contours (currently have 5-foot Contours)

These features were identified in the user survey as assisting county operations.

Two approaches had been identified to keep the planimetric data layer reasonably up to date. The first approach would focus on a single update process through which the entire county would be updated at once. This would update all of the data at one time, but the next update would not be programmed and therefore there would be considerable uncertainty regarding the timing of this update. The second approach would establish a continuing four year cycle through which one quarter of the county would be updated each year. While this approach would provide the best guarantee for updating since it does not require a massive one time funding (it would instead be an ongoing project), it would mean that some of the planimetric data would be 15 years old before being updated.

The second approach was decided upon in FY 2007. Through combined funding from Stormwater Management and DIT special projects, sufficient funds were allocated (based on some contractor estimates) to update 25% of the county annually. The first update will be done with aerial imagery flown in March 2007.

The first quadrant of the county to be processed will be the SE quadrant. Security issues needed to be addressed with the Department of Defense due to security concerns about Ft. Belvoir and offshore work in China. Statements of work were developed for both the data capture and quality control components of the update. The planimetric vendor has been selected and the process is underway to establish a purchase order. Proposals for the quality control work have been submitted and are being evaluated.

### **Resources**

The first data capture option – the one-time updating of the planimetric data layer would have had an estimated cost to apply the photography of \$1.15 million (\$1.44 million with the additional data layers identified above). This estimate includes the flying of the county and processing the imagery along with funds for independent quality control. Additional funding would have been needed to maintain the planimetric layer over time.

The second option, to pursue a recurring, cyclical process through which planimetric data for one-fourth of the county would be updated each year, was funded. Under this four-year revolving cycle approach, an average of \$322,000 would be needed each year to update the existing planimetric data for 1/4 of the county; an additional \$82,000 per year would be needed for the additional data layers. The additional costs are from additional administrative and set up activities. Quality control will add an estimated additional 17% to the cost.

# **EIP09-GL08-06(B). Mapping of Fairfax County's Vegetation Ecosystems**

## **Description of Action**

This project entails the mapping of the county's vegetation by ecosystem-based communities, using the United States National Vegetation Classification System as a standard. The final product will be a polygon-based GIS dataset that is fully compatible with other planimetric data and will delineate the extent and distribution of over 40 indigenous plant communities down to the parcel level.

USNVCS mapping will allow approximate measurements of the total area and distribution of specific vegetation communities on a countywide basis and should be valuable in the identification and conservation of unique and/or threatened plant communities and species on a parcel level.

## **Environmental Agenda Objectives Supported:**

This action would broadly support the Environmental Agenda. It would provide valuable information regarding the county's vegetation communities and would assist in natural resource management planning efforts.

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Park Authority Natural Resource Management Plan  
Park Authority Policy Manual  
Park Authority Strategic Plan  
Fairfax County Tree Action Plan

## **Lead Agency:**

DPWES, Urban Forest Management Division

## **Status/Plans/Outcomes**

This effort has been funded and is under way.

Automated vegetation mapping down to the NVCS alliance level is dependent upon consistent and accurate supervised spectral classification of satellite imagery via image analysis software. This success of this process is not a given at this point and will largely be determined by the quality of the spectral data contained in the satellite imagery and the capacity of the image analysis software and human operators to aggregate spectral signatures into polygons that reflect the actual extents of vegetation communities, many of which do not have easily discernible

Continue

boundaries, but are divided by ecotones (transition zones between communities) of varying width and composition.

If the spectral analysis results in acceptable confidence levels via field verification, then the vegetation mapping process will be greatly accelerated. If the spectral analysis fails to produce consistently accurate results, then it is likely that follow-up field work will be needed to refine the dataset where more than one community type produces similar spectral responses. If the spectral analysis cannot be improved via additional data collection, then the mapping will need to be completed without the benefits of automation. In either case, additional time will be needed to complete the mapping project. If all goes well, it is anticipated that a countywide USNVCS dataset based on 2002/2003 satellite imagery will be completed in 2009.

Funding has been identified to acquire updated satellite imagery in the summer of 2009, and to contract-out the spectral analysis component of the mapping project. Once the new imagery is analyzed, staff will update the NVCS dataset to reflect conditions found at the time of image acquisition. Although the inventory and classification of vegetation communities is prerequisite to managing the County's forest resources and will support other natural resource management initiatives (see EIP09-PT08-03(B), Park Information Systems), Urban Forest Management has had to delay this project in order to refocus staff resources on the development of proposed tree conservation ordinance amendments, which will be considered by the Board for adoption in late 2008 (see EIP09-GL08-10(A)).

### **Resources**

Funding has been dedicated for the current mapping effort and for obtaining and processing updated satellite imagery (fall, 2009).

Additional funding would be needed in the future to provide occasional updates of the NVCS dataset beyond 2009. It is recommended that major updates to NVCS vegetation mapping should occur at least once every 10 years. An update would cost an estimated \$180,000 to \$200,000.

# **EIP09-GL08-10(A). Tree Preservation Legislation**

## **Description of Action**

The ability of Virginia's localities to support efforts to comply with Federal and State air and water quality regulations and to provide their communities with a sustainable quality of life is largely dependent on their authority to protect and manage tree and forest resources. However, sections of the Code of Virginia that provide authority to preserve trees and forests during land development are either ineffective or limited in application. This action relates to a continuing effort by Fairfax County and neighboring jurisdictions to obtain robust state enabling authority to preserve existing trees and forests during land development.

## **Environmental Agenda Objectives Supported:**

Growth & Land Use 8  
Air Quality & Transportation 7  
Water Quality 12

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Cool Counties Climate Change Initiative  
Fairfax County Tree Action Plan

## **Lead Agency:**

DPWES, Urban Forest Management Division; County Executive's Office

## **Status/Plans/Outcomes**

This effort is complete. Starting in 2002, the Board included either a legislative proposal or a position supporting proposed amendments to Va. Code Ann. §15.2-961 related to tree conservation in the County's annual legislative program. These efforts culminated in the enactment of a new section, § 15.2-961.1, to the Code of Virginia, effective July 1, 2008, that allows localities within Planning District 8 and classified as an eight-hour nonattainment area for ozone under the federal Clean Air Act and Amendments of 1990, to adopt local ordinances providing for the conservation of trees during the land development process. The new state enabling authority allows the County to shift its regulatory focus from tree replacement to tree preservation.

The enabling authority stems from two bills (House Bill 1437 and Senate Bill 710) that were passed by the 2008 Virginia Legislative Assembly. The language of these bills was developed by a committee that was formed as a result of a conference sponsored by the Northern Virginia Urban Forest Roundtable. The committee included Virginia State Senator Patricia Ticer and

## EIP09-GL08-10(B). Tree Preservation Legislation

Continued

Virginia State Delegate David Bulova plus representatives of the Northern Virginia Building Industry Association, the Fairfax County Tree Commission, the Virginia Department of Forestry Board, and the Fairfax County Urban Forest Management Division.

As a result of House Bill 1437 and Senate Bill 710 being passed by the Virginia Legislative Assembly and signed into law by the Governor of Virginia on March 4, 2008, staff received a directive from the Board at the March 10, 2008, Board meeting to prepare a tree conservation ordinance in accordance with House Bill HB 1437. It is anticipated that the Board will consider a new tree conservation ordinance premised on the enabling authority of § 15.2-961.1 in the fall of 2008. If adopted by the Board, Fairfax County will be the first jurisdiction to implement a local tree conservation ordinance based on this new enabling authority.

### **Resources**

No additional resources are needed at this time; however, if future legislative efforts are successful, then additional staff resources may be needed to generate and enforce local ordinances and policies premised on the contents of the state enabling authority.

# **EIP09-GL08-11(B). Urban Forestry Roundtable**

## **Description of Action**

This action relates to efforts by the Urban Forest Management Division, DPWES to support and participate in the newly formed Northern Virginia Urban Forestry Roundtable. NVUFR has been formed to provide a forum for inter-jurisdictional communication and policy development for use by local governments, tree commissions, citizen-based environmental groups, and the public.

## **Environmental Agenda Objectives Supported:**

Growth & Land Use (General)  
Environmental Stewardship (General)

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Cool Counties Climate Change Initiative  
Fairfax County Tree Action Plan

## **Lead Agency:**

DPWES, Urban Forest Management Division

## **Status/Plans/Outcomes**

This effort is under way. The lack of regional communication over urban forestry issues is thought to have limited past efforts to obtain tree conservation legislation and to develop other effective programs and practices related to the management of trees and forest resources. NVUFR was formed in late 2005 to bring local environmental groups, tree commissioners and urban forestry officials together to examine ways to cooperate over regional issues such as efforts to obtain tree conservation legislation and to develop urban forestry practices and measures for ozone mitigation. UFMD provided leadership during the formation of NVUFR and has been instrumental in organizing a regional conference on trees and air quality plans in November of 2005. In addition, UFMD organized and hosted a NVUFR tree conservation strategy workshop at the Fairfax County Government Center in May 2006. The May 2006 workshop was attended by over 50 people including officials from Virginia Forestry Board and speakers from the Virginia State Senate and House of Delegates. Participation in the NVUFR is critical for the success of the county's tree conservation legislative efforts and regional efforts to embed a credited urban forestry ozone mitigation measure in the 2009 Metropolitan Washington Air Quality Plan.

In late 2007, NVUFR held a conference that led to the formation of an ad-hoc group that included Virginia State Senator Patricia Ticer and Virginia State Delegate David Bulova plus

representatives of the Northern Virginia Building Industry Association, the Fairfax County Tree Commission, the Virginia Department of Forestry Board, and the Fairfax County Urban Forest Management Division. The work of that NVUFR sponsored committee lead to the writing of House Bill 1437 and Senate Bill 710 which were tree conservation bills. Both bills were passed by the 2008 Virginia Legislative Assembly and signed into law (§ 15.2-961.1) by the Governor of Virginia on March 4, 2008 (see EIP09-GL08-10(A), Tree Preservation Legislation). This new authority represents the first broad-based authority for localities to require tree conservation during land development. Staff will continue to participate in NVUFR on forest and tree related issues of regional concern.

**Resources**

No additional resources are needed to support this action.

# **EIP10-GL08-12(B). Consider Amending Article 13 of the Zoning Ordinance (Landscaping and Screening)**

## **Description of Action**

Consider Amending Article 13 of the Zoning Ordinance (Landscaping and Screening) to:

- Strengthen parking lot landscaping requirements in order to increase shading, thereby reducing evaporative air pollutant emissions from motor vehicles;
- Strengthen screening and buffering requirements adjacent to major trails such as the Washington and Old Dominion Trail;
- Clarify the use of existing trees and alternative plant materials for landscaping requirements;
- Consider whether additional incentives may be available for tree preservation and other recommendations in the Tree Action Plan; and
- Add more guidance regarding requirements for maintenance of landscaped areas.

A first step in this process would be to identify quantitative goals for incorporation into this amendment pertaining to appropriate levels of tree cover in parking lots, appropriate screening and buffering requirements adjacent to trails, and appropriate maintenance practices. Outreach to stakeholders should be a component of staff's process for formulating such quantitative goals.

## **Environmental Agenda Objectives Supported:**

Growth & Land Use 8  
Air Quality & Transportation 7/10  
Water Quality 11/12

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Fairfax County Tree Action Plan

## **Lead Agency:**

DPWES, Urban Forest Management Division; DPZ  
Cool Counties Climate Change Initiative

## **Status/Plans/Outcomes**

The consideration of increasing the parking lot landscaping requirements, including street tree preservation and planting requirements, the evaluation of opportunities to include provisions that support and promote sustainable principles in site development and redevelopment, including the application of better site design, Low Impact Development and natural landscaping practices, the appropriateness of planting requirements and barrier specifications and the appropriateness of

such requirements when property abuts open space or parkland have been maintained on the Priority 2 list of the 2008 Zoning Ordinance Amendment Work Program.

Language to reduce the density of plant materials required in transitional screening yards and to clarify the responsibilities of property owners to maintain landscaping and barrier requirements of Article 13 is included in the proposed tree conservation amendment package that will be considered for adoption by the Board in the fall of 2008.

**Resources**

The cost of staff time to process the amendment through the public hearing process and to provide the necessary follow up training and educational opportunities for both staff and citizens would be absorbed within the current budget; no new staff needs would be anticipated.

# **EIP10-GL08-13(B). Support for Regional Land Use and Related Transportation Planning Initiatives**

## **Description of Action**

County staff provides ongoing support to a number of regional land use planning initiatives. These efforts have included and/or will include:

- Participation on and support to the Cooperative Forecasting and Data Subcommittee of the Washington Metropolitan Council of Governments. This is a technical subcommittee that is responsible for preparing 30-year population, household and employment forecasts at the traffic analysis zone level for the entire metropolitan Washington region. These forecasts are used for a variety of purposes. County staff provides population, household, and employment forecasts for Fairfax County. These data are updated regularly.
- Participation on the Planning Directors Technical Advisory Committee of COG. This is the technical subcommittee of the Metropolitan Development Policy Committee (MDPC), which is composed of elected officials in the region and which reports to the COG Board on regional population growth, economic growth and land use issues. Projects undertaken by the Technical Advisory Committee (such as the publication of “Metropolitan Washington Regional Activity Centers: A Tool for Linking Land Use and Transportation Planning”) enhance the coordination between regional land use and transportation planning in Metropolitan Washington.
- Participation on the Joint Technical Working Group that undertook the Regional Mobility and Accessibility Study. This study evaluated alternative regional land use and transportation scenarios to determine the extent to which these scenarios would be consistent with a vision statement adopted by the National Capital Region Transportation Planning Board in 1998 that calls for an efficient, accessible, environmentally sensitive and financially feasible transportation system in the 21st century. The technical report was released in November 2006. The follow-up study, entitled *Greater Washington 2050* will examine many implications of growth within the region.
- Participation in efforts to determine next steps for the regional “Reality Check” which has resulted in the new initiative called “Envision Greater Washington”. This initiative focuses on achieving greater collaboration and improving communication between existing organizations and stakeholders to advance consensus goals for the region.
- Participation in efforts to update the regional picture of the aggregate of local land use plans.

Participation on the Metropolitan Washington Air Quality Committee is addressed by EIP10-AQ07-14(B). County staff also participates actively in a variety of other regional committees addressing a variety of environmental and transportation issues.

EIP10-GL08-13(B). Support for Regional Land Use and Related Transportation Planning Initiatives  
Continued

**Environmental Agenda Objectives Supported:**

Growth & Land Use 1, 2, 3, 4, and 7  
Air Quality & Transportation 1 and 2

**Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Cool Counties Climate Change Initiative

**Lead Agencies:**

DPZ; DOT

**Status/Plans/Outcomes**

Staff support of these regional efforts will be ongoing. The Director of the Department of Planning and Zoning is a key presence on the Planning Director's Technical Advisory Committee to the Metropolitan Development Policy Committee (MDPC). Staff from the Department of Planning and Zoning, the Health Department, the Department of Transportation, the Department of Systems Management for Human Services and the Economic Development Authority invests time and talent at the regional level dealing with land use, transportation and environmental issues that are critical to the sustainability of the region over the long term.

**Resources**

Staff coordination efforts are being, and will continue to be, conducted with existing resources.

# **EIP10-GL09-01(B). Consideration of Green Building Incentives for Private Sector Development**

## **Description of Action**

“Green building” refers to the design and construction of buildings and associated landscapes to minimize negative impacts of buildings on the environment and building occupants. Nationwide, building operations account for over 70% of electricity demand, over 50% of natural gas demand, and over 30% of total greenhouse gas emissions. The green building concept provides opportunities to reduce these and other impacts. The Metropolitan Washington Council of Governments has adopted a resolution encouraging local jurisdictions in the Washington, D.C. area to incorporate green building design into public sector projects, to support the application of such practices in the private sector, and to provide public education and staff training on green building practices.

Fairfax County has adopted a Sustainable Development Policy for Capital Projects that supports incorporation of green building practices into the county’s public facilities projects (see EIP10-ES09-07(B)) and has amended the Comprehensive Plan to incorporate support for green building practices into County policy (see EIP10-GL08-03(A)). The County has also joined the U.S. Green Building Council and has accepted the U.S. Environmental Protection Agency’s ENERGY STAR® Challenge, through which the County will promote energy efficiency in buildings (see EIP10-ES09-06(B)).

Upon adoption of the Policy Plan Amendment supporting green building practices, the Board of Supervisors requested that staff continue to evaluate green building incentive options in coordination with the Planning Commission’s Environment Committee. Specifically, staff was asked to consider: rebates for water, tap, sewer or other fees; implementation of tax credits for new buildings or retrofitting; expedited processing of development plans; energy efficiency and/or performance bonds or escrows; and the establishment of a “green fund” to collect monetary contributions as part of the development process to support the county’s environmental initiatives. Staff was asked to report back to the Board with findings and recommendations by June 2008.

Staff met several times with the Planning Commission’s Environment Committee during the first half of 2008 to discuss green building incentive options and considerations. On June 9, 2008, staff presented an overview of such options and considerations to the Board of Supervisors’ Environmental Committee and recommended further consideration of development of enabling legislation to support tax credits for costs of green building practices in combination with establishment of a requirement for contributions to a green fund for development projects that do not pursue a requisite level of green building performance.

## **Environmental Agenda Objectives Supported:**

This action would broadly support the Environmental Agenda.

EIP10-GL09-01(B). Consideration of Green Building Incentives for Private Sector Development  
Continued

**Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Cool Counties Climate Change Initiative

**Lead Agency:**

DPWES

**Status/Plans/Outcomes**

Green building incentive options and considerations were discussed at the Board of Supervisors' Environmental Committee meeting on June 9, 2008. It is anticipated that discussions of enabling legislation relating to green building incentives will continue during the fall of 2008.

**Resources**

This effort is being pursued using existing staff resources. However, the implementation of a green building tax incentive would have impacts to county revenues; the specific impacts to revenues would depend on the number of applicants who would apply for tax credits. As currently envisioned, the program would be available to commercial and residential owners/developers building new construction or major retrofits, and a sunset clause would be built in to allow for an evaluation of the program. The program would not have revenue impact until FY 2011 at the earliest.

There would potentially be an increase in revenues associated with the green fund component of the incentives package, although the green fund concept is not being proposed for the purpose of revenue generation; staff is hopeful that developers will satisfy the levels of green design performance necessary such that there would be no contributions to this fund. As envisioned, revenues collected through the fund contribution requirement would, at least initially, be used in support of environmental initiatives as identified in the Environmental Improvement Program. The extent of revenue gains through this fund would depend on both the amount of proposed development and the extent to which green building practices would be incorporated into development projects.

# **EIP10-GL09-02(C). Review Effectiveness of Agricultural and Forestal District Program in Preserving and Managing Sensitive Lands**

## **Description of Action**

Convene a meeting, or series of meetings, among staff from the Department of Planning and Zoning, Urban Forest Management Division, Virginia Department of Forestry, and the Northern Virginia Soil and Water Conservation District to evaluate the effectiveness of the County's Agricultural and Forestal District program in preserving and managing environmentally sensitive lands, preserving and planting trees and ensuring appropriate land stewardship practices.

## **Environmental Agenda Objectives Supported:**

Growth & Land Use 8  
Air Quality & Transportation 7  
Environmental Stewardship 6

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Fairfax County Tree Action Plan  
Agricultural and Forestal District Ordinance

## **Lead Agencies:**

DPZ

## **Status/Plans/Outcomes**

The anticipated outcome of this review would be an identification of any changes to the A&F District process that may be appropriate to improve preservation and management efforts, including a consideration of the need for monitoring and enforcement actions relating to land management activities and the identification of whether or not enabling legislation may be needed in this regard.

Upon completion of the staff coordination effort, these ideas could be refined further through coordination with the Agricultural and Forestal District Advisory Committee.

## **Resources**

The interagency coordination efforts would be conducted with existing staff and would be absorbed into existing agency budgets. Resource implications of follow-up actions (e.g., ordinance revisions) would be dependent on the nature and extent of recommendations resulting from the review.

# **EIP10-GL09-03(C). Strengthened Zoning Case Submission Requirements: Preliminary Utility Plan**

## **Description of Action**

Consider strengthening submission requirements for zoning applications to require submission of a preliminary utility plan where utility construction can conceivably result in a clearing of trees.

## **Environmental Agenda Objectives Supported:**

Growth and Land Use 8  
Air Quality and Transportation 7

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Fairfax County Tree Action Plan

## **Lead Agency:**

DPZ

## **Status/Plans/Outcomes**

Construction of utility lines can result in the clearing of trees that had been identified for preservation on development plans associated with zoning applications. By requiring a preliminary utility plan, it is anticipated that tree preservation efforts will improve by allowing for consideration of utility siting needs during the development plan process. It is also anticipated that limits of clearing and grading presented on development plans will more accurately reflect utility needs than is generally the case at this time.

The consideration of the addition of utility plan layout as a zoning submission requirement was added to the Zoning Ordinance Amendment Work Program in 2007 as a Priority 2 item, and this item has been retained on the Priority 2 list in conjunction with the Board's adoption of the 2008 Zoning Ordinance Amendment Work Program. It is anticipated that no action will take place on this item this year and it will remain on the list for future prioritization.

## **Resources**

While existing staff resources would be applied to this effort, these staff resources would be unavailable for other efforts.

# **EIP09-GL09-04(C). Consideration of No-Net Tree Canopy Loss Policy during the Development of County Facilities**

## **Description of Action**

Convene a series of meeting attended by representatives of agencies that develop public facilities to consider if adopting a no-net canopy loss policy is feasible and advisable. This action supports a Board directive associated with June, 2007 adoption of the 30-year Tree Canopy Goal (see EIP09-ES09-08(B)). The Board directed staff to investigate the feasibility of this concept and to report back to the Board's Environmental Committee with recommendations.

## **Environmental Agenda Objectives Supported:**

Growth and Land Use 8  
Air Quality and Transportation 7

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Fairfax County Tree Action Plan  
Fairfax County 30-year Tree Cover Goal  
Cool Counties Climate Change Initiative

## **Lead Agencies:**

DPWES, Urban Forest Management Division; Park Authority; DPZ; FCPS; and FMD

## **Status/Plans/Outcomes**

This action relates to a recommendation of the Tree Action Plan. Strategy 5 of Core Recommendation # 5 (Improve Water Quality and Stormwater Management through Tree Conservation) recommends that the County commit to maximum, realistic and sustainable tree canopy goals on county-owned property. If feasible, a no-net tree canopy loss policy would provide substantial support to the County's effort to obtain 45 percent tree canopy by 2037.

## **Resources**

No additional resources are anticipated in order to consider the policy; however, if adopted, additional landscaping costs and canopy offset funds may need to be facilitated in the budgets for new County facilities.

# **EIP10-GL09-05(C). Development of a County Green Building Program Through the Establishment of a Green Building Coordinator Position**

## **Description of Action**

“Green building” refers to the design and construction of buildings and associated landscapes to minimize negative impacts of buildings on the environment and building occupants. Nationwide, building operations account for over 70% of electricity demand, over 50% of natural gas demand, and over 30% of total greenhouse gas emissions. The green building concept, therefore, provides substantial opportunities to reduce these and other impacts.

The Metropolitan Washington Council of Governments (MWCOG) has adopted a resolution encouraging local jurisdictions in the Washington, D.C. area to:

- 1) incorporate green building design into public sector projects,
- 2) to support the application of such practices in the private sector, and
- 3) to provide public education and staff training on green building practices.

Fairfax County has adopted a Sustainable Development Policy for Capital Projects that supports incorporation of green building practices into the county’s public facilities projects (see EIP10-ES09-07(A)) and has amended the Comprehensive Plan to incorporate support for green building practices into County policy (see EIP10-GL08-03(A)). The County has also joined the U.S. Green Building Council and has accepted the U.S. Environmental Protection Agency’s ENERGY STAR® Challenge, through which the County will promote energy efficiency in buildings (see EIP10-ES09-06(B)). Further, Fairfax County is considering green building incentives for private sector development (see EIP10-GL09-01(B)). However, the County lacks a comprehensive green building program that can proactively and energetically promote the application of green building practices and provide technical support to homeowners and builders who are interested in “going green.” In order to build County staff capacity in this area, the establishment of a Green Building Coordinator position is recommended. This position would support the MWCOG resolution to provide public education and staff training. In addition, this position would oversee the public and private sector green programs that are implemented in various agencies to provide a coordinated effort countywide.

The Green Building Coordinator would not constitute the County’s green building program, in that it is anticipated that green building capacity will need to be developed within a number of agencies and that one staff position will prove to be insufficient to meet what is likely to be a high demand for service. Rather, it is expected that the Green Building Coordinator would coordinate efforts among a number of County agencies to build coordinated, cross-agency efforts to enhance green building capacity and to provide an initial point of focus to support implementation of green building practices in the County. It is anticipated that the Green Building Coordinator would:

EIP09-GL09-05(C). Development of a County Green Building Program Through the Establishment of a Green Building Coordinator Position  
Continued

- (1) Serve as a liaison to county residents who are interested in incorporating energy efficiency and other green building practices into home renovation and addition projects (e.g., identifying resources, providing assistance with permitting/Code issues).
- (2) Serve as a liaison to county businesses and developers who wish to incorporate energy efficiency and other green building practices into their operations and/or development projects.
- (3) Develop or compile available green building resource guidance for use by interested homeowners and businesses and publicize the availability of this guidance.
- (4) Develop recommendations for the establishment and funding of a green building fund that would be used to support green building efforts in Fairfax County.
- (5) Serve as the County's representative on the Metropolitan Washington Council of Governments' Intergovernmental Green Building Committee.
- (6) Serve on the County's Environmental Coordinating Committee, EIP Action Group, and core team supporting the County's Cool Counties Climate Change Initiative and the Metropolitan Washington Council of Governments' Global Climate Change efforts.
- (7) Coordinate efforts with the Fairfax County Environmental Coordinator and Air Quality Program Manager to ensure seamless government.
- (8) Coordinate an interagency green building subcommittee of the Environmental Coordinating Committee that would develop recommendations for strengthening green building efforts in Fairfax County. Staff from the Department of Planning and Zoning, Department of Public Works and Environmental Services (Land Development Services, Capital Facilities, and Stormwater), Fairfax County Park Authority, Fairfax County Public Schools, and Facilities Management Department, as well as the Fairfax County Environmental Coordinator and other agencies as needed, would serve on this subcommittee. The subcommittee would prepare recommendations for consideration by the Board regarding staffing, resources, and training needed to strengthen public and private sector-related green building efforts in Fairfax County as well as policy, regulatory and legislative considerations.
- (9) Report directly to a Deputy County Executive.
- (10) Provide staff training.

It should be recognized that the establishment of this position would be an interim step in development of a county green building program and would not constitute the program itself. It is possible that the need for additional staffing and resources would be identified for a more comprehensive county effort.

It should also be recognized that a possible outcome of the interagency coordination effort to be led by this new position could be the establishment of a green building fund, which could, at least in part, defray expenses associated with the establishment of this position.

**Environmental Agenda Objectives Supported:**

This action would broadly support the Environmental Agenda.

EIP09-GL09-05(C). Development of a County Green Building Program Through the Establishment of a Green Building Coordinator Position  
Continued

**Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Cool Counties Climate Change Initiative  
Fairfax County Sustainable Development Policy for Capital Projects

**Lead Agency:**

County Executive's Office

**Status/Plans/Outcomes**

It is recommended that the Green Building Coordinator position be housed within the County Executive's Office in order to ensure an appropriate level of oversight and authority for interagency coordination. It is also recommended that the position be established at a level no lower than S-31.

**Resources**

If it is assumed that the position would be budgeted at the mid-point of the pay range for the S-31 pay grade, a salary of \$89,492 plus an additional cost for fringe benefits of \$25,505 would be needed, for a total first-year cost of \$114,997.

# **EIP10-AQ07-01(B). EZ Bus Program**

## **Description of Action**

EZ Bus is a free shuttle bus service that was launched in December 2003 as part of the Virginia Governor's Congestion Relief Initiative. EZ Bus serves the Burke Centre Virginia Railway Express (VRE) Station as an alternative form of transportation to the station and relieves some of the over-crowding in the local streets and the station's parking lot.

EZ Bus operates two neighborhood routes – one north of the station, and one south of the station. Passengers subscribe in advance via the web or telephone; passengers without subscriptions are accepted on a "space available" basis. The bus arrives at the station five minutes before the morning trains depart and leaves the Burke Centre Station five minutes after the evening trains arrive. Subscribers are given an incentive card and after 15 days of riding the shuttle, they receive a 20 percent rebate on their monthly or ten-trip train ticket.

The EZ Bus shuttle service was designed to provide alternative access to the Burke Centre VRE Station when the parking lot was full, because the parking lot did not have sufficient capacity to meet the demand. It was also critical to providing access to the station during construction of the new parking garage. Alone the service has a small air quality benefit. To realize the full benefit and value of the service, the entire trip has to be included in the emissions calculation. The bus service provides 19,440 passenger trips annually, and reduces 526,500 passenger miles per year. Now that the parking garage is open the EZ Bus service will be reevaluated this fall.

On February 16, 2005, the U.S. Environmental Protection Agency (EPA) informed the County that EZ Bus was selected for a Clean Air Excellence Award in the Transportation Efficiency Innovations category. From over 100 applications received nationwide, EZ Bus was chosen by EPA's office of Air and Radiation for its impact, innovation, and replicability, in efforts to achieve cleaner air.

## **Environmental Agenda Objectives Supported**

Air Quality & Transportation 1  
Growth & Land Use 3  
Global Climate Change Initiative

## **Other Plans or Documents where this action appears or that it supports**

Fairfax County Comprehensive Plan: Transportation Section  
Objective 1, Policy a.; Objective 2, Policies j., n., q.; Objective 6, Policy c.  
Fairfax County Capital Improvements Program

## **Lead Agency:**

Fairfax County Department of Transportation

**Status/Plans/Outcomes**

EZ Bus initiated service on December 1, 2003. The grant funds used to implement this service have since expired. However, with the service being very successful, the Board of Supervisors has continued to fund the operations of this service.

Construction of Burke Centre VRE Station Parking Garage began in the Fall 2006, and the garage opened in June 2008. The EZ Bus service will be reevaluated in the Fall 2008

**Resources**

The EZ Bus service is operated by the Fairfax Connector, and therefore, is a part of its annual operating budget. The annual operating costs for EZ Bus for three buses and service from two satellite parking lots during garage construction is \$798,740.00.

# **EIP10-AQ07-02(B). Employer Services Program**

## **Description of Action**

The Employer Services Program is one component of the regional Transportation Emission Reduction Measures, which were adopted by the Metropolitan Washington Regional Transportation Planning Board. Fairfax County has received \$170,000 in regional Commuter Connections Program funds to continue the program. The Employer Services Program provides local outreach and promotion of transportation demand management strategies to employers in Fairfax County. Employer participation is strictly voluntary and direct "sales" contact with employers is conducted by the Employer Services staff.

The program markets to employers commute alternatives such as public transportation, carpooling, vanpooling, teleworking, flexible work schedules, bicycling, and walking. In addition, subsidies (Transportation Benefits), incentives and the regional Guaranteed Ride Home Program are promoted. Presentations of commute alternatives are done via personal meetings with decision makers, car/vanpool formation meetings, and through on-site transportation fairs.

## **Environmental Agenda Objectives Supported**

Air Quality and Transportation 1 and 2  
Growth & Land Use 7  
Global Climate Change Initiative

## **Other Plans or Documents where this action appears or that it supports**

Fairfax County Comprehensive Plan: Transportation Section  
Objective 1: Policy a., Policy c., Policy d.; Objective 2: Policy i., Policy l., Policy p.,  
Policy q., Policy r., Policy s., Policy t., Policy u.; Objective 6: Policy d.; Objective 10:  
Policy a., Policy b.  
Washington Region Transportation Improvement Program

## **Lead Agency**

Department of Transportation

## **Status/Plans/Outcomes**

This program was initiated in 1997 to assist employers within Fairfax County to establish on-site Employee Transportation Projects to reduce single occupancy vehicle (SOV) travel and resultant air pollution. The program is one component of the regional Transportation Emissions Reduction Measures, which were adopted by the Metropolitan Washington Regional Transportation Planning Board.

**Resources**

This program is funded with an annual \$170,000.00 Commuter Connections Program Grant from the Washington Metropolitan Council of Governments and supported by DOT Staff.

# **EIP10-AQ07-03(B). Ridesources Program**

## **Description of Action**

The RIDESOURCES Marketing and Ridesharing Program has received State grant support every year since 1984.

This grant program provides funding to promote the use of HOV lanes and FAIRFAX CONNECTOR express and local bus service; to promote commuter alternatives countywide, including promotion of cooperative events/marketing campaigns with other jurisdictions and the Washington Metropolitan Area Transit Authority (WMATA). In addition, funds are used to: provide technical support to Transportation Management Associations (TMAs); promote specific marketing campaigns in targeted areas; support desktop publishing and production of various marketing materials, such as maps, timetables, brochures, flyers, and posters; support the County's participation in the Metropolitan Washington Council of Governments' COMMUTER CONNECTIONS network; and provide ridematching assistance to commuters Countywide. The RIDESOURCES Program provides free ridematching services to County residents and to employees who work at employment sites within the County.

## **Environmental Agenda Objectives supported**

Air Quality and Transportation 1 and 2  
Growth & Land Use 7  
Global Climate Change Initiative

## **Other Plans or Documents where this action appears or that it supports**

Fairfax County Comprehensive Plan: Transportation Section  
Objective 1, Policy c., Objective 2, Policy b., Policy c., Policy d., Policy i., Policy j.,  
Policy k., Policy o., Policy q., Policy t., Policy w., Objective 4, Policy b.

## **Lead Agency**

Department of Transportation

## **Status/Plans/Outcomes**

The RIDESOURCES Marketing and Ridesharing Program continues to market ridesharing and transit marketing activities. In addition to promotion of specific marketing campaigns the program provides free ridematching services to County residents and to employees who work at employment sites within the County. No additional funding for DOT Staff was requested in the FY 2009 grant application.

**Resources**

This program is supported with an annual \$560,000 VDRPT Grant and \$140,000 local matching funds. The grant application for FY09 requested funding to support existing positions of two Transportation Planners III, one Transportation Planner II, one Graphics Artist III, two Administrative Assistants II and one Planning Technician.

# **EIP10-AQ07-04(B). Transportation Benefits**

## **Description of Action**

Transportation Benefits program is provided as an employee benefit by more than 2500 public and private employers in the Washington, D.C. area, including the federal government. Transportation Benefits Cards are accepted by more than 100 bus, rail, and vanpool commuter services in the region, including Metro, Virginia Railway Express, and local bus systems.

The Transportation Benefits Program works just like many other commonly available fringe benefits such as employer-provided health insurance. Employees are not taxed for the value of the Transportation Benefits they receive, and employers can deduct the cost of providing the program as a business expense. The monthly Transportation Benefits can be any amount the employer chooses to provide, although a maximum of \$115 per month is allowable tax-free or pre-tax to employees.

## **Environmental Agenda Objectives Supported**

Air Quality and Transportation 1  
Growth and Land Use 7  
Global Climate Change Initiative

## **Other Plans or Documents where this action appears or that it supports**

Fairfax County Comprehensive Plan: Transportation Section  
Objective 1: Policy c.; Objective 2: Policy b., Policy i., Policy j., Policy k., Policy q.,  
Policy v.; Objective 7: Policy a.  
Global Climate Change Initiative

## **Lead Agency**

Department of Transportation

## **Status/Plans/Outcomes**

This program is available to all County employees. The pre-tax benefit for the employee is \$115 per month. The program is funded from the Department of Transportation Annual Budget.

## **Resources**

The program is funded by DOT up to \$140,000 annually. The program is supported by DOT Staff.

# **EIP10-AQ07-05(B). Residential Traffic Administration Program**

## **Description of Action**

The Residential Traffic Administration Program, managed by the Fairfax County Department of Transportation, includes a Traffic Calming component which enhances pedestrian safety and mobility by providing for the installation of physical devices for slowing the speed of traffic in qualifying residential areas. Pedestrian amenities are also enhanced by the “Cut-Through Restriction” signs, “\$200 Fine for Speeding” signs, multi-way stop signs, “Watch for Children” signs, and “Through Truck Restriction” components of the Residential Traffic Administration Program.

## **Environmental Agenda Objectives supported**

Air Quality & Transportation 1  
Growth & Land Use 7

## **Other Plans or Documents where this action appears or that it supports**

Fairfax County Comprehensive Plan: Transportation Section  
Objective 4: Policy c., Policy e., Policy f.; Objective 8: Policy g.; Objective 9: Policy d.

## **Lead Agency**

Department of Transportation

## **Status/Plans/Outcomes**

Through FY 2008 the Board of Supervisors has approved:

- 71 traffic residential road calming plans
- 108 traffic calming projects for roads in the community planning and approval process
- 28 roads for the community planning and approval process
- 10 roads for Through Truck Restriction
- 2 roads for \$200 Fine for Speeding signs
- 136 intersections for multi-way stop signs
- 18 Watch for Children sign locations

## **Resources**

Funding needs: \$200,000 per year in state funding. Fairfax County Department of Transportation staff resources to manage this program are in place, and it is anticipated that annual state funding of \$200,000 will continue.

## **EIP09-AQ07-06(A). Transit Shelter Program**

### **Description of Action**

This program provides for transit stop amenities, such as new shelters, pads, and benches, throughout the County.

**AQ07-06(A) shown here and in EIP FY 2009, is now listed in Section D in the “A” category because it was absorbed into AQ07-07(B) shown below. That merging is recorded in the “Status” column of the Section D matrix for AQ07-06(A) and in the fact sheet for AQ07-07(B).**

# **EIP10-AQ07-07(B). Priority Bus Stop Improvement Program**

## **Description of Action**

The Bus Stop Safety and Inventory Study Plan identified 344 priority bus stops that require safety improvements, accessibility improvements, and amenities. This program merged with the Bus Shelter program (AQ-07-06) for a more comprehensive approach for total access and safety improvements. The plan includes enhanced ADA accessibility improvements and bus stop amenities including bus stop shelters. Ultimately, improved accessibility and bus stop improvements will increase transit ridership reducing roadway congestion, promote improved economic vitality and improve air quality by reducing the use of single occupancy vehicles. There are 89 bus stops in the design phase of construction.

## **Environmental Agenda Objectives Supported**

Air Quality and Transportation 1  
Global Climate Change Initiative

## **Other Plans or Documents where this action appears or that it supports**

Bus Stop Inventory and Safety Study  
Fairfax County Comprehensive Plan: Transportation Section  
Objectives 1, 2, 5, 8

## **Lead Agency**

Department of Transportation

## **Status/Plans/Outcomes**

The initial Bus Stop Safety Study recommended a variety of safety improvements ranging from minor pedestrian improvements to full scale intersection redesign. The estimated cost to make recommended improvements to all stops is \$26 million without regard to inflation, right-of-way acquisition, design, or utility impact. Currently, planning for the implementation is underway. The initiative received its first infusion of funds in Q1 of FY 2007. This was \$2.5 million from the County general fund to begin work on improvements identified in the study.

## **Resources**

The Priority Bus Stop Improvements received \$7,500,000 from a transportation bond that passed in November 2007. Additional funding is anticipated in future year annual budgets. Support of DOT staff is anticipated throughout the program.

# **EIP10-AQ07-08(B). Richmond Highway Public Transportation Initiative**

## **Description of Action**

The Richmond Highway Public Transportation Initiative is primarily a capital improvements program based on the 2001 Route 1 Corridor Bus Study conducted by the Northern Virginia Transportation Commission (NVTC), and an update prepared by Fairfax County. The program is being coordinated with the South County Bus Plan. The project involves establishing several major and minor transit centers, improving bus stops, establishing additional park-and-ride facilities, and significantly improving pedestrian safety and access to the transit facilities. These improvements will help augment the bus service currently operating in the corridor, as well as provide the facilities to establish new routes throughout the corridor and beyond. The Richmond Highway (U.S. Route 1) Corridor is one of the most heavily transit dependent areas of Fairfax County. It is also one of the most congested and economically disadvantaged. Currently, pedestrians and transit passengers have significant difficulty crossing the six through lanes and numerous turn lanes on Richmond Highway. Although there is already a substantial amount of well-used transit service in the corridor, the Route 1 Corridor Bus Study found that this service would be even better utilized if pedestrian and transit facilities were upgraded. Ultimately, increasing transit ridership will reduce roadway congestion, promote improved economic vitality in the corridor, and improve air quality by reducing the use of single occupancy vehicles. This will be especially important as the county prepares to accommodate the additional jobs that will be added to Ft. Belvoir based on the BRAC recommendation.

## **Environmental Agenda Objectives Supported**

Air Quality and Transportation 1, 3  
Global Climate Change Initiative

## **Other Plans or Documents where this action appears or that it supports**

Fairfax County Comprehensive Plan: Transportation Section  
Objective 1: Policy a., Policy b., Policy d.; Objective 2: Policy b., Policy e., Policy j., Policy k., Policy l., Policy m., Policy n., Policy o., Policy u., Policy x.; Objective 4: Policy c., Policy e.  
Board of Supervisors Four Year Transportation Plan

## **Lead Agency**

Department of Transportation

## **Status/Plans/Outcomes**

The initial study recommended many capital improvements, ranging from small projects, such as pedestrian signs and signals, to large ones, such as the transit centers and park-and-ride lots that

were necessary to accomplish the plan's goals. The estimated total project costs for all the capital improvements for the initiative is \$55.0 million. With that as a starting point, and so many recommended projects that were identified, the initiative began as a design/build effort, where some of the projects could be implemented immediately while others required more planning and analysis. The initiative began implementation with its first infusion of funds in the fall of 2002. This was a \$2.0 million Federal Highway Administration (FHWA)/Federal Transit Administration (FTA) Congestion Mitigation and Air Quality (CMAQ) grant. These funds were used primarily for pedestrian improvements and bus service enhancements such as bus shelters.

Construction of pedestrian and intersection improvements began in the summer of 2006. The continuous planning, acquisition of funds and implementation of the initiative is done by a team of staff from various county agencies and a private transportation consultant. Phase I of the pedestrian and intersection improvements was completed in October 2007. The design of improvements identified in Phase II of the project is scheduled to be completed during the summer of 2008.

The ultimate goal for Richmond Highway is to have a full priority bus system with supportive roadway and facilities and, at some point in the future, rail in the corridor. This goal will serve to increase transit ridership, improve pedestrian safety, improve effectiveness and efficiency of transit operations, improve air quality, and complement community development and highway initiatives in the corridor.

### **Resources**

The Richmond Highway Public Transportation Initiative is funded by a variety of funding sources. They include, but are not limited to, state funds (such as Virginia Department of Transportation's Revenue Sharing); federal funds (including CMAQ funds, Job Access/Reverse Commute (JARC) funds, and FHWA and FTA appropriations); and County Funds (Board of Supervisors' Environmental funding, General Fund support, Commercial and Industrial Property Tax for Transportation, and General Obligation Bonds). Since 2002, the project has identified \$34.5 million from a variety of funding sources, including federal funds, state funds, County general funds, and County General Obligation Bonds. An estimated \$20.5 million in additional funding is needed to fund the initiative fully. There is a continuous effort by the initiative's planning team to seek funding from these and other sources until the entire project is funded.

## **EIP10-AQ07-09(B). Air Quality Outreach**

### **Description of Action**

Develop and distribute air quality outreach materials. Employees and residents need to be provided information to educate them on air quality issues and to provide them with voluntary actions they can take to improve the county's air quality. The county currently does not meet the federal standards for ozone or fine particulate matter. This important step is needed so residents and employees can make every effort to help the region meet the Clean Air Act National Ambient Air Quality Standards.

### **Environmental Agenda Objectives Supported**

Air Quality and Transportation 2 and General  
Environmental Stewardship (General)  
Global Climate Change Initiative

### **Other Plans or Documents where this action appears or that it supports**

Air Quality Management Plan

### **Lead Agency**

Office of Public Affairs and Health Department

### **Status/Plans/Outcomes**

The Office of Public Affairs and Health Department partnered with Clean Air Partners again in 2008 to continue a county media sponsorship that was started in 2005. Clean Air Partners, a public-private partnership chartered by the Metropolitan Washington Council of Governments, provides a comprehensive regional media campaign to build awareness of air quality issues and to promote voluntary actions individuals and employers can take to reduce air pollution and to improve health and quality of life in the region. The campaign includes radio and television announcements, brochures, flyers, fact sheets, press releases, Metrorail placards, Metrorail fare card ads and web resources. The Office of Public Affairs and the Health Department have developed additional outreach materials to be used at public gatherings such as the Fairfax Fair and placed in public locations including county buildings, recreation sites and libraries. To ensure a broad audience, articles are distributed through internal County publications and external outreach, including e-mail, Courier, Web sites, cable Channel 16 and homeowners associations. In 2008 the available materials were again offered to county school staff where the response continues to be extremely positive, and we expanded the provision of these materials to the Fairfax County Public Library Summer Reading Program. Staff will continue to research and to develop new outreach materials and methods of distribution to reach as many residents as possible. A county staff member is on Clean Air Partners' Education Committee, which celebrated great success this year when the air quality educational curriculum it is developing

Continued

reached its pilot phase that included schools in Fairfax County. These materials are now implemented in all county schools, and a shortened version is used in childcare programs and summer camps. FCPS' spring 2008 *Familygram* newsletter also featured an article we provided on vehicle engine idling. Staff plans to continue the media sponsorship with Clean Air Partners.

### **Resources**

The cost for 2008 actions totaled \$30,000, which included \$15,000 for the Clean Air Partners media sponsorship and \$15,000 for the air quality education and outreach endeavors. Funding comes from the county's Environmental Fund.

# **EIP10-AQ07-10(B). Dulles Corridor Metrorail**

## **Description of Action**

The Dulles Metrorail Extension-Phase I to Wiehle Avenue is expected to become operational in late 2013. The Commonwealth has shifted management of the project to the Metropolitan Washington Airports Authority (MWAA) as an initial step in the transfer of the operation and maintenance of the Dulles Toll road to MWAA. Phase II is expected to be operational in late 2015 or early 2016. In May of 2008, the Federal Transit Administration (FTA) authorized the project to conduct final design for Phase 1. This is the last step before the project can file an application for a full funding grant agreement with the FTA. An FFGA is anticipated during the 1<sup>st</sup> quarter of CY 2009.

Station Access Management Plans for the Wiehle Avenue station and the Reston Parkway station (a Phase 2 station) have been completed by DOT. The study recommends approximately \$105 million in access improvements for pedestrians, bicycles, buses and automobiles by 2030. These improvements are necessary to address efficient and effective movement of pedestrians, bicycles, transit buses, and automobiles within the station areas and in the surrounding communities. A multi-year capital program is being developed for consideration by the Board of Supervisors.

## **Environmental Agenda Objectives Supported**

Growth and Land Use 4, 7  
Air Quality and Transportation 1, 3  
Global Climate Change Initiative

## **Other Plans or Documents where this action appears or that it supports**

Board of Supervisors Four-Year Transportation Program  
Fairfax County Vision – Core Purpose and Desired Results  
Fairfax County Comprehensive Plan: Transportation Section  
    Objective 2: Policy a. Policy b., Policy i., Policy j.; Objective 9: Policy b.; Objective 10:  
    Policy a.; Objective 11: Policy c.  
Washington Metropolitan Area Transit Authority (WMATA) Regional System  
Metropolitan Washington Council of Governments Constrained Long-Range Plan (CLRP)

## **Lead Agency**

Department of Transportation

## **Status/Plans/Outcomes**

- Metropolitan Washington Airports Authority assumed management of the project in the spring of 2007
- Phase I of the Dulles Rail project (Extension to Wiehle Avenue) is currently in Final Design

- Opening year ridership to Wiehle Avenue in late 2013 is projected at 63,000 daily person trips
- The county is continuing to work with western land owners to secure funding for Phase II.

**Resources**

- Total Capital Cost is \$5.3 billion; Phase I cost is \$2.64 billion.
- Non-federal funding for Phase I is in place through Dulles Rail Phase I Special Improvement District (Fairfax County), state, and Dulles Toll Road revenues.
- Cost allocation for Phase I is: 34 percent federal; 66 percent state, Dulles Toll Road, and Fairfax County.
- Board of Supervisors approved funding agreement with MWAA in July 2007.

## **EIP10-AQ07-11(B). Fleet User Forums**

### **Description of Action**

Maintain active membership and participation in: the Metropolitan Washington Alternative Fuels Clean Cities Partnership; three sector working groups (School Bus, Urban Fleet, and Construction Equipment) of the Mid-Atlantic Diesel Collaborative; AFV work groups of the Technology and Maintenance Council of the American Trucking Associations; and Light Duty Hybrid Work Truck Action Group of the National Truck Equipment Association.

### **Environmental Agenda Objectives Supported**

Air Quality and Transportation 6

### **Other Plans or Documents where this action appears or that it supports**

None

### **Lead Agency**

Department of Vehicle Services

### **Status/Plans/Outcomes**

Continue active participation in activities of the Clean Cities Partnership. The organization primarily maintains a channel of information among local jurisdictions regarding development and use of alternative fuel vehicles and their supporting infrastructures. Through it, we obtain early and authoritative information on industry developments. We also share first-hand experiences among those who have researched and used various alternatives.

US EPA Region 3 sponsors the Mid-Atlantic Diesel Collaborative comprising fleet, supplier, regulatory, and other interested organizations exploring and exchanging means of reducing diesel exhaust emissions. The discussions can lead to implementation of locally successful programs in new areas, to regionally coordinated projects, and to development of candidate projects for grant funding. DVS participates in three of the collaborative's sector working groups.

DVS also has a member on the Technology and Maintenance Council's Hybrid Power Trains Task Force. Another DVS representative serves as chair of the National Truck Equipment Association's Light Duty Hybrid Work Truck Action Group.

As other user organizations become visible, DVS will evaluate the benefits and costs of participation, joining those deemed most valuable as staff resources permit.

This action is established and ongoing, requiring no further funding or developmental work.

**Resources**

DVS absorbs participation costs with currently authorized staff. No funding requirements are anticipated beyond local meetings, out of area meetings in conjunction with other scheduled events, and other communications. The Clean Cities Partnership is sponsored by the Metropolitan Washington Council of Governments.

# **EIP10-AQ07-13(B). Purchase of Wind Power**

## **Description of Action**

The Board of Supervisors first approved the purchase of 5 percent of the county's electricity needs from the Mountaineer Wind Farm in West Virginia in April 2005. The county followed the original two-year contract with a three-year contract starting on April 1, 2007 and ending on March 31, 2010 for wind power generated at the Locust Ridge Wind Farm in Schuylkill County, PA. The new contract commits to a progressive rise in wind energy usage, reaching 10 percent in the third year.

## **Environmental Agenda Objectives Supported**

Air Quality and Transportation 4 and General  
Cool Counties Initiative

## **Other Plans or Documents where this action appears or that it supports**

Air Quality Management Plan

## **Lead Agency**

Department of Cable Communications and Consumer Protection

## **Status/Plans/Outcomes**

Staff worked with the Virginia Energy Purchasing Governmental Association (VEPGA) to change the by-laws to allow this purchase. It was the first wind energy initiative in Virginia. The current contract is a 3-year joint purchase with other Virginia counties.

## **Funding sources**

Fairfax County's cost is approximately \$130,500 in 2007-2008; \$163,250 in 2008-2009; and \$261,000 in 2009-2010. FY 2009 funding is available within the Facilities Management Department budget. Future funding will be requested as required to continue this level of effort or to increase the percentage of wind energy purchased.

# **EIP10-AQ07-14(B). Participation on the Metropolitan Washington Air Quality Committee (MWAQC)**

## **Description of Action**

The Metropolitan Washington Air Quality Committee (MWAQC) is a regional planning group created to conduct interstate air quality attainment and maintenance planning for the Metropolitan Washington region. The authority of MWAQC is derived from the certifications made by the Governors of Virginia, Maryland and the Mayor of the District of Columbia. Fairfax County currently has three Board members serving on the committee: Supervisors Sharon Bulova, Patrick Herrity, and Linda Smyth.

## **Environmental Agenda Objectives Supported**

Air Quality and Transportation 1, 2, and 4  
Global Climate Change Initiative

## **Other Plans or Documents where this action appears or that it supports**

Air Quality Management Plan

## **Lead Agency**

Board of Supervisors

## **Status/Plans/Outcomes**

Three members of the Fairfax County Board of Supervisors continue to participate on this committee to conduct regional air quality planning toward meeting the requirements of the Clean Air Act. Other county staff members attend these meetings, including the Environmental Coordinator, Air Quality Program Manager and DOT staff. County staff members also participate in and contribute to MWAQC's various subcommittees and work groups.

## **Funding sources**

None

# **EIP10-AQ07-15(B). Evaluation and Purchase of Hybrid Drive Vehicles**

## **Description of Action**

As vehicles retire from the county and FCPS fleets, replace them with production hybrid drive vehicles when the mission and budget permit. Evaluate and contribute to the advancement of plug-in and other types of hybrids as appropriate to county vehicle functions.

## **Environmental Agenda Objectives Supported**

Air Quality and Transportation (general)  
Environmental Stewardship (general)

## **Other Plans or Documents where this action appears or that it supports**

Air Quality Management Plan  
Global Climate Change Initiative

## **Lead Agency**

Department of Vehicle Services

## **Status/Plans/Outcomes**

Hybrid drive trains are expected to reduce all regulated emissions and CO<sub>2</sub> significantly due to higher fuel efficiency operation leading to lower fuel consumption. Plug-in hybrids enhance that advantage by shifting part of the fuel requirement to the electrical grid, which is more easily regulated than millions of individual tailpipes. As electrical power generation becomes cleaner, the vehicles using the grid power contribute less to harmful emissions.

As DVS and user agencies plan vehicle replacements, they consider commercially available hybrid drive vehicles where practical. The fleet now includes 55 Toyota Priuses and 49 Ford Escape Hybrids.

The county operates one plug-in hybrid electric vehicle (PHEV), a modified Toyota Prius, which carries an additional, larger battery pack that is recharged from grid power. During the first approximately 30 miles of operation, the electrical power the car uses comes from the grid instead of from the engine-driven motor-generator. When the additional battery depletes, the vehicle automatically reverts to its normal hybrid mode to continue operation until the vehicle can be plugged in again. Fuel economy is improved as part of the fuel requirement is shifted to the electrical grid, where energy cost is equivalent to about 75 cents per gallon of gas.

The county and FCPS jointly are a member of the Evaluation Committee (formerly the Buyers' Consortium) of the Hybrid Electric School Bus Project, which is coordinated by Advanced

## EIP10-AQ07-15(B). Purchase of Hybrid Drive Vehicles

Continued

Energy, a state-chartered non-profit in North Carolina. We contributed to development of a specification and evaluation of bids to supply up to 20 PHEV buses for member jurisdictions around the country. That purchase is complete without our having bought one due to lack of funds. We seek grant funding to participate fully in the purchase of a more advanced version of the bus in the project's second phase. DVS is also exploring the possibility of incorporating a hybrid drive system into a new delivery truck. As other prototype or early production vehicles become available, DVS will consider whether to conduct demonstrations with those vehicles.

### **Resources**

Through FY 2007, the county was able to fund the incremental cost of fleet hybrid drive vehicles through the Vehicle Replacement Fund. Budgets in FY 2008 and 2009 will severely limit our ability to meet the incremental capital cost of production hybrid vehicles. The Ford Escape Hybrid is the only such vehicle on state contract. Its incremental cost is now \$11,000. Incremental cost of the plug-in Hybrid-Electric School Bus is \$120,000.

# **EIP10-AQ07-16(B). Support for Reductions in Ozone Transport**

## **Description of Action**

Communicate by letters, testimony, and other available means with the Governor, congressional delegation and state and federal regulatory agencies to advocate actions to reduce transport of ozone precursors and other pollution from upwind regions along the east coast and the Ohio River valley.

## **Environmental Agenda Objectives Supported**

Air Quality and Transportation 4

## **Lead Agency**

Board of Supervisors  
Office of the County Executive – Environmental Coordinator  
Health Department

## **Status/Plans/Outcomes**

Ozone transport is both a local and regional issue and it is being handled through actions by the Board of Supervisors and the Metropolitan Washington Air Quality Committee through letters and other means of communication.

## **Resources**

Continuing efforts require allocation of available staff time. No new resource requirements are anticipated.

# **EIP10-AQ07-18(B). Board of Supervisors' Four Year Transportation Plan**

## **Description of Action**

On October 15, 2007, the Board of Supervisors approved their Second Four-Year Transportation Plan (FY08-FY11). Supported by the \$110 million Transportation Bond approved by voters in November 2007, the Second Four-Year Plan is multi-modal and includes projects for major roadways, pedestrian and spot improvements, and transit. The Plan also includes innovative project design and delivery and programs designed to serve special populations. In addition to the 2007 Transportation Bond Projects, the Second Four-Year Plan also includes a number of projects funded through partnerships with state, federal, and regional agencies. The Second Four-Year Transportation Plan is designed to enhance mobility, promote safety, and create choices for the commuting public. The Plan seeks to follow an ambitious schedule to implement these projects and programs within a four-year timeframe.

## **Environmental Agenda Objectives Supported**

Air Quality and Transportation 1  
Global Climate Change Initiative

## **Other Plans or Documents where this action appears or that it support**

Comprehensive Plan

## **Lead Agency**

Department of Transportation

## **Status/Plans/Outcomes**

DOT provides the Board of Supervisors with a Four-Year Transportation Plan status report on a quarterly basis. Seventeen projects have been completed and twelve projects included in the Plan are in the bid or construction phase, including the Burke Centre VRE Parking Expansion (to be completed in summer 2008) and the West Ox Bus Operations Center.

## **Resources**

Funding for the capital program is a combination of \$32 million in Federal Regional Surface Transportation Program (RSTP) and Congestion Mitigation and Air Quality (CMAQ) funds anticipated to be received by the County as well as \$162 million in County General Obligation (G.O.) bonds approved by the voters on November 2, 2004. The total funding is \$194 million.

# **EIP10-AQ07-20(B). Fairfax County Transit Program**

## **Description of Action**

Fairfax County's transit system, as part of a multi-modal transportation system, is provided by the Fairfax Connector bus service, Metrobus, Metrorail, MetroAccess, CUE Bus, and Virginia Railway Express (VRE). The Fairfax Connector bus service operates 68 routes, providing service to the County's six Metrorail stations. Metrobus has 87 bus routes in the County providing express bus service along Richmond Highway corridor, and service to six Metrorail stations. The County also subsidizes heavy rail service by Metrorail and commuter rail services operated by the Virginia Railway Express (VRE). In addition, the County FY 2007 bond sale provides for expansion of park-and-ride lots, implementation of two transit centers and bus stop and pedestrian improvements at various locations throughout the County to support the various transit carriers.

## **Environmental Agenda Objectives supported**

Air Quality and Transportation 1  
Growth and Land Use 1, 3 and 7  
Global Climate Change Initiative

## **Other Plans or Documents where this action appears or that it supports**

Comprehensive Plan

## **Lead Agency**

Department of Transportation

## **Status/Plans/Outcomes**

Fairfax County's transit system, as part of a multi-modal transportation system, continues to enhance customer service through implementation of new technologies, customer care initiatives and implementation of bus service such as "Richmond Highway Express" (REX). As part of the County's multi-modal transportation program strong support continues for Metro and VRE service. Funding has been identified for purchase of new trains and rehabilitation of existing train cars allowing for expansion to eight car Metrorail trains under the Metro Matters Funding Agreement approved by the Board in November 2004. Financial support for VRE has contributed toward the purchase of new bi-level passenger cars and purchase of new locomotives. The County subsidizes CUE bus service within Fairfax County for bus service to the Vienna/Fairfax GMU Metro Station. Ridership on all transit systems serving Fairfax County has increased with Fairfax Connector FY 08 ridership projected to be 10 million, Metrobus ridership 9.4 million, Metrorail boardings in Fairfax County 29.4 million and VRE boardings 872,200. To encourage further use of mass transit during Code Red air quality alert days the entire region's transit systems offer free rides to all passengers.

**Resources**

Fairfax County supports our multi-modal transit system with annual general fund and general obligation bond support of \$59.1 million for Fairfax Connector; \$68.6 million for Metrobus, Metrorail and Metro Access service; and \$5.69 million for VRE commuter rail service.

# **EIP10-AQ07-22(C). Fuel Economy and Emissions Standards**

## **Description of Action**

Develop a formal federal advocacy strategy within the context of the Metropolitan Washington Air Quality Committee (MWAQC) collaborative process to increase fuel economy and emission standards for cars and light trucks. More stringent standards would reduce emissions of ozone precursors. Build upon previous county correspondence with the Virginia congressional delegation.

## **Environmental Agenda Objectives Supported**

Air Quality and Transportation 5  
Global Climate Change Initiative

## **Lead Agency**

Office of the County Executive – Environmental Coordinator

## **Status/Plans/Outcomes**

Draft an advocacy plan for the County's MWAQC representatives to propose to the Committee. The intent would be to enact progressively stricter standards for fuel economy and emissions as a means of mitigating the production of ozone precursors. MWAQC might correspond with Congress to revise existing laws and with the Environmental Protection Agency and Department of Energy to initiate or accelerate rulemakings under current laws to advance this objective. MWAQC could also invite speakers and conduct workshops to facilitate and encourage coordinated efforts by members to communicate on their own authorities a unified message to Congress and the federal agencies.

## **Resources**

Continuing efforts will require allocation of current staff time. No new resources are required.

# **EIP10-AQ07-23(B). Periodic Assessment of Alternative Fuel Vehicle Technology**

## **Description of Action**

DVS conducts a literature review and consultation with industry and government sources and fleet users to evaluate the advisability of incorporating developing alternatives to petroleum fuels in the county fleet. The objective is to identify ways to reduce the regulated and greenhouse gas emissions and the dependence on non-renewable resources of current vehicle and equipment systems. This evaluation will occur in the summer of each year or alternate years until an avenue away from petroleum fuels becomes clear.

## **Environmental Agenda Objectives Supported**

Air Quality and Transportation 6  
Environmental Stewardship (general)

## **Other Plans or Documents where this action appears or that it supports**

Air Quality Management Plan

## **Lead Agency**

Department of Vehicle Services

## **Status/Plans/Outcomes**

The first formal assessment was completed in September 2006. DVS will update assessments each year or every other year until one or more effective and economically sound concepts emerges. At that point, DVS would recommend redirecting efforts to implementing use of that alternative. As alternative fuels and the vehicles that use them continue development, we expect to identify one or more fuels that could displace some, and possibly eventually all, of our petroleum fuel usage. We would recommend paying some premium if necessary over the cost of current vehicles and fuels in order to achieve reductions in emissions of regulated pollutants and greenhouse gases and to reduce oil dependence. The course or courses we recommend would also demonstrate a viable strategy for other public and private sector fleets.

## **Resources**

DVS will absorb the cost of annual assessments with currently authorized staffing. Resources required for implementation of a future plan could be substantial, but will be unknown until the plan begins to take shape. No funding sources are yet identified. Federal grants are often available by competitive application for demonstration projects. Pursuit of grant funding would likely be part of the implementation effort once a concept is adopted. Significant levels of county funding over many years will also almost certainly be required.

# **EIP10-AQ08-01(B). Regional Urban Forestry SIP** **Working Group**

## **Description of Action**

This working group, organized by the Washington Metropolitan Council of Governments, comprises state and local urban forestry officials from Virginia, Maryland and the District of Columbia. It has been tasked by the Metropolitan Washington Air Quality Committee to identify specific urban forestry practices in the various jurisdictions that can be bundled and included as one or more credited measures in future Metropolitan Washington Air Quality Plans.

## **Environmental Agenda Objectives Supported**

Air Quality and Transportation 7  
Environmental Stewardship (General)  
Global Climate Change Initiative

## **Other Plans or Documents where this action appears or that it supports**

Comprehensive Plan  
Fairfax County Tree Action Plan  
Fairfax County 30-year Tree Canopy Goal  
Plan to Improve Air Quality in the Metropolitan Washington, DC-MD-VA Region: State Implementation Plan (SIP) for 8-Hour Ozone Standard, May 23, 2007, published by Metropolitan Washington Council of Governments

## **Lead Agency**

DPWES, Urban Forest Management Division (UFMD)

## **Status/Plans/Outcomes**

In late 2005, the United States Environmental Protection Agency approved tree-related measures such as tree planting and tree preservation programs as “promising and emerging” voluntary measures that can receive limited offset credits (up to 6% of total) in ozone mitigation programs. The Urban Forestry SIP Working Group identified urban forestry-related ordinances, policies, practices, programs, and community efforts throughout the region that could be combined into a credited voluntary measure for future air quality plans. The Urban Forestry SIP Working Group is among the first in the nation to work to define an urban forestry SIP measure.

In May 2007, MWAQC approved its regional SIP (as a prerequisite for state air agencies to submit the plan to the U.S. Environmental Protection Agency for approval). The MWAQC approved 2007 SIP includes a voluntary tree conservation measure that contains tree preservation and planting practices from several jurisdictions including Fairfax County (entitled “Urban Heat Island Mitigation/Tree Planting/Canopy Conservation and Management” see page 6-93 of the

May 23, 2007 MWAQC Ozone SIP document). Fairfax County's contribution to this measure specifically identifies the following urban forestry practices and programs, some of which are actions in the FY 2010 Environmental Improvement Program:

- Fairfax County tree canopy requirement for new development (Tree Cover Requirements of the Zoning Ordinance and Public Facilities Manual)
- Fairfax County parking lot canopy ordinance (Interior and Peripheral Parking Lot Landscaping Requirements of Zoning Ordinance and Public Facilities Manual)
- Fairfax County government land planting program (EIP10-PT08-07(B) and EIP10-AQ08-05(B))
- Fairfax County countywide nonprofit tree planting program (EIP10-ES08-10(B))

The Urban Forestry SIP Working Group will quantify the discrete impacts of specific urban forestry practices on air quality in an attempt to gain significantly higher levels of ozone offset credits in the 2009 regional ozone SIP.

### **Resources**

UFMD absorbs the workload for this action with existing staff. Future activities of this group could require extensive staff time not separately funded.

# **EIP10-AQ08-04(B). Fire Equipment Diesel Exhaust Retrofit**

## **Description of Action**

Retrofit all eligible fire equipment in the county fleet with diesel oxidation catalysts or other emissions reducing technology. Eligibility criteria include age and projected use.

## **Environmental Agenda Objectives Supported**

Air Quality and Transportation General

## **Lead Agency**

Department of Vehicle Services

## **Status/Plans/Outcomes**

School buses and class 8 heavy trucks were completed in previous years. This project is a continuation of the Diesel Retrofit Program to retrofit all diesel vehicles in the county fleet.

## **Resources**

Preliminary estimate of cost is \$300,000. This project is funded from the *FY 2003 Carryover*. We have been successful in the first two phases in getting state and federal grant money to cover part of the cost. Grants are competitive, so while we will pursue further financial assistance, none can be guaranteed.

# **EIP10-AQ08-05(B). Tree Planting at Governmental Building and Parking Facilities**

## **Description of Action**

This project places shade trees at governmental buildings and parking areas along with educational signs to demonstrate how shade from tree canopy can be used to reduce energy usage to improve air quality in both publicly and privately owned settings. Shade trees can:

- Reduce levels of volatile organic compounds (VOCs) associated with the evaporation of unspent fuels from parked vehicles
- Reduce air temperatures in urbanized environments associated with the formation of ambient ozone
- Reduce the need for and expense of maintenance practices that produce VOCs and other air and water pollutants from the operation of grounds maintenance equipment and the use of fertilizers, pesticides and herbicides.
- Reduce air pollution levels through the ability of tree canopy to absorb significant levels of ozone and other pollutants
- Reduce the energy needed to cool buildings
- Improve aesthetics.
- Sequester relatively large amounts of carbon.

This action implements an energy conservation practice recommended by the Natural Landscape Committee (NLC). It also supports the 30-year Tree Canopy Goal adopted by the Board in June 2007 and recommendations of the Tree Action Plan.

This action incorporates action PT08-07 from EIP09. The two projects have related objectives and nearly identical implementation practices. They are managed jointly and are now reflected here as one action.

## **Environmental Agenda Objectives Supported**

Air Quality and Transportation 7  
Water Quality (General)  
Parks Trails and Open Space (General)  
Environmental Stewardship 6  
Global Climate Change Initiative

## **Other Plans or Documents where this action appears or that it supports**

Fairfax County Tree Action Plan  
Fairfax County 30-year Tree Canopy Goal  
Benefits and Application of Natural Landscaping and Five-Year Implementation Plan  
Cool Counties Climate Change Initiative

EIP10-AQ08-05(B). Tree Planting at Governmental Building and Parking Facilities  
Continued

Plan to Improve Air Quality in the Metropolitan Washington, DC-MD-VA Region: State Implementation Plan (SIP) for 8-Hour Ozone Standard, May 23, 2007, published by Metropolitan Washington Council of Governments

**Lead Agency**

DPWES – Urban Forest Management

**Status/Plans/Outcomes**

The strategic placement of shade trees adjacent to one and two story buildings will conserve energy used to cool those building and will lower the cost of utility bills. Well-placed deciduous trees on the western and southwestern sides of buildings provide shade from summer sun and can lower cooling costs by 10 to 50 percent. In addition to energy cost savings, the reduction of energy used to cool the building directly translates to less carbon dioxide produced during the generation of electrical power. Shade in parking areas reduces evaporation of fuel from the parked vehicles. UFMD identified planting opportunities at certain buildings and parking areas in county facilities, schools and parks. In FY 2008, the Urban Forest Management Division used \$170,000 from *FY2007 Carryover* to plant 377 shade trees at governmental facilities to demonstrate to the public how trees can be used as an air quality improvement and energy conservation practice. The program included measures to protect plantings from herbivory. UFMD also installed 20 associated educational signs in these locations. This action supports efforts of the Natural Landscaping Committee (NLC) and is identified as part of the tree conservation measure in the 2007 DC/MD/VA Metropolitan Area Air Quality Plan.

**Resources**

Funded for FY 2008 at \$170,000 through the *FY 2007 Carryover*.

Funding request for FY 2010: \$220,000 to plant approximately 500 more shade trees and 20 more educational signs on County property in support of air quality objectives in the 2007 SIP, conservation recommendations of the NLC, and the 30-year Tree Canopy Goal. This action is intended to be on-going for about 25 years.

# **EIP10-AQ08-06(B). Telework Initiatives**

## **Description of Action**

The Board of Supervisors and the County Executive continue to champion this effort. The goal is to continue to increase the number of Fairfax County government employees who telework with a focus on Continuity of Operations.

## **Environmental Agenda Objectives Supported**

Air Quality and Transportation 2  
Global Climate Change Initiative

## **Other Plans or Documents where this action appears or that it supports**

Air Quality Management Plan

## **Lead Agency**

Office of the County Executive

## **Status/Plans/Outcomes**

The Fairfax County Board of Supervisors and the County Executive have supported telework as a work option for the county workforce since 1996 and endorsed the Metropolitan Washington Council of Governments (MWCOC) goal of 20% of the eligible area workforce teleworking by 2005. In October 2001, the county launched the Telework Expansion Project to increase county government employee participation to reach a goal of 1,000 teleworkers by the end of 2005. Fairfax County government reached its goal in January 2006. The Telework Expansion Project continues, and today almost every county department has teleworkers. The number of teleworkers rose from 138 in December 2001 to 1,275 at the end of 2007. The goal is to continue to increase the number of staff teleworking with a focus on Continuity of Operations.

## **Funding sources**

Funds for the Telework Expansion Project are contained in the departmental budgets of the Department of Information Technology (software licenses and loaner PCs); the Department of Human Resources (printing costs of training materials/Telework sign-up forms); and the Department of Transportation (Employer Services materials).

# **EIP10-AQ09-01(B). Transportation Funding Bill**

## **Description of Action**

Within the next twenty five years the Washington metropolitan area is expected to attract highly educated professionals as the area absorbs 641,400 new jobs and 918,500 new residents with over fifty percent of those expected to relocate in Northern Virginia. State legislation passed in the 2007 session (House Bill 3202) creating regional funding for transportation improvements was struck down by the Virginia Supreme Court, eliminating all provisions for regional funding. Local funding from fees and taxes enacted by Fairfax County, provided under HB3202, will provide increased road and transit capacity and better connections between activity centers, use technology for more efficient system operations, maintain the existing system for maximum performance and provide a multi-modal solution.

## **Environmental Agenda Objectives supported**

Air Quality and Transportation (general)  
Global Climate Change Initiative

## **Lead Agency**

Department of Transportation

## **Status/Plans/Outcomes**

Fairfax County is moving forward with local transportation improvements with annual revenue authorized under HB3202 from increased fees and taxes.

## **Resources**

Nine Northern Virginia cities and counties have the authority to raise commercial real estate taxes and a local vehicle registration fee, as well as establish impact fees on new developments. Fairfax County has implemented a commercial real estate tax rate of \$0.11/\$100 valuation. This tax will raise an additional \$52 million per year for transportation.

# **EIP10-AQ09-02(B). Comprehensive Bicycle Initiative**

## **Description of Action**

In 2006, the Fairfax County Board of Supervisors approved the Comprehensive Bicycle Infrastructure Program, a program that encompasses a variety of initiatives directed at making Fairfax County “bicycle friendly.”

This program includes:

- Creating the position of Bicycle Program Coordinator within DOT
- Establishing a network of on-road bicycle lanes countywide
- Establish a demonstration project of interconnected bicycle routes in an area to be determined
- Creating a County bicycle route map
- Development of standards and specifications for design, quantity, and location (bike related)
- Bike racks on Fairfax Connector Buses- purchase and installation of 300 racks
- Bicycle locker rental program at county owned/maintained park and ride lots
- Assisting County TDM Coordinator with developing bicycle component of TDM Toolbox
- Outreach and coordination – work with bicycle advocacy groups, area-wide bicycle coordinators to promote development of bicycle facilities

## **Environmental Agenda Objectives Supported**

Air Quality and Transportation (general)  
Global Climate Change Initiative

## **Lead Agency**

Department of Transportation

## **Status/Plans/Outcomes**

The intent of the program is to increase the modal-split of trips by bike. The program focuses on measures to make bicycling a commuter choice by: increasing the number of on-road bike lane miles; providing bicycle lockers at park and ride lots; equipping Fairfax Connector buses with bicycle racks; and connecting activity centers and transit facilities with a continuous network of bicycle routes.

## **Resources**

The BOS has earmarked general fund revenue of \$247,000 for the development and printing of the County Bicycle Route Map. Transit funding was previously available for purchase and installation of bike racks on buses. CMAQ funding in the amount of \$300,000 is available to launch the on-road bike lane initiative. Grant funding of \$750,000 per year is anticipated for the next three years.

# **EIP10-AQ09-03(C). Waiver of GVW Limit for Idle Reduction Equipment**

## **Description of Action**

Evaluate the cost and benefit of offering a waiver to gross vehicle and axle weight limits on Virginia highways for vehicles that incorporate certain idle-reduction technologies. If beneficial, recommend board action leading to new state legislation. Shutting the engine off instead of idling would reduce regulated pollutants and greenhouse gases and would conserve fuel.

## **Environmental Agenda Objectives Supported**

Air Quality and Transportation 1  
Environmental Stewardship (general)  
Global Climate Change Initiative

## **Lead Agency**

DVS

## **Status/Plans/Outcomes**

A provision of the Federal Energy Act of 2005 allows states to permit up to a 400 pound exemption from gross and axle weight limits on vehicles equipped with an idle reduction technology. Under current law, installing idle reduction equipment reduces the weight capacity of the truck available for payload. Loss of carrying capacity could be an obstacle to owners installing such equipment. This action would evaluate the potential cost and benefit of such an exemption for highways in Virginia. Consultation with VDOT would be included in the process to help assure all costs and benefits are considered. If the analysis shows an exemption to be worthwhile, staff would recommend board initiation or support of appropriate state legislation.

## **Resources**

No new funding is required. Existing staff would conduct this analysis.

# **EIP10-AQ10-01(B). Columbia Pike Rail Initiative**

## **Description of Action**

The Columbia Pike Transit Alternatives Analysis (Pike Transit Initiative) was conducted by WMATA and its engineering consultants with the cooperation of Arlington and Fairfax Counties from spring 2004 to spring 2006. WMATA undertook the Pike Transit Initiative to consider the development of an advanced transit system connecting the Pentagon/Pentagon Crystal City area with Bailey's Crossroads. In May 2006, the Fairfax County Board of Supervisors endorsed the "Modified Streetcar Alternative" recommended in the Columbia Pike Transit Alternatives Analysis as the preferred transit alternative for the Columbia Pike corridor. The endorsement allowed the project to advance to the next phase of project development in which the project team developed a financial strategy. Currently, the Columbia Pike Streetcar Project is poised to enter the environmental documentation and preliminary engineering phase of project development.

The Columbia Pike Streetcar is expected to have a total daily ridership of 20,670.

## **Environmental Agenda Objectives supported**

Air Quality and Transportation 1  
Growth and Land Use 1, 3 and 7  
Global Climate Change Initiative

## **Other Plans or Documents where this action appears or that it supports**

Board of Supervisors Four-Year Transportation Plan  
Fairfax County Comprehensive Plan

## **Lead Agency**

Department of Transportation

## **Status/Plans/Outcomes**

- Currently, the Columbia Pike Streetcar Project is poised to enter the environmental documentation and preliminary engineering phase of project development.
- The project team will redevelop the financial strategy depending on the outcome of Virginia legislative action regarding NVTAF funding. Assumptions have changed due to the state Supreme Court decision regarding NVTAF authority to generate revenues.

## **Resources**

Funding for this project is anticipated from federal earmarks, local and state transportation fund fees and taxes, including \$2 million dollars approved in the FY 09 budget from the Commercial and Industrial Real Estate Tax revenue. Fairfax County's estimated anticipated commitment is

EIP10-AQ10-01(B). Columbia Pike Rail Initiative  
Continued

15 percent of the total capital and operating expenses. Total capital costs including systems, facilities, and vehicle procurement but not including row or parking structures were projected to be \$110 to \$120 million (2005 dollars). The annual operations and maintenance costs based on assumed operating plans and fleet sizes were estimated to be \$5 million (2005 dollars).

# **EIP10-AQ10-02(C). Reduce Fuel Consumption in Heavy Duty Vehicles**

## **Description of Action**

This initiative would explore a series of measures that could reduce fuel consumption in normal operations of heavy duty vehicles in the county fleet. Most and probably all of these measures would return a modest reduction, but the cumulative effect could be significant. Areas holding out some promise are in idle reduction, reduced rolling and aerodynamic resistance, and transmission shift schedules.

## **Environmental Agenda Objectives Supported**

Air Quality and Transportation 4  
Air Quality and Transportation (general)  
Global Climate Change Initiative

## **Other Plans or Documents where this action appears or that it supports**

Air Quality Management Plan

## **Lead Agency**

Department of Vehicle Services

## **Status/Plans/Outcomes**

- The movement of solid waste transfer tractors over the same route day after day could present opportunity to optimize the transmission shift schedule by tailoring it to the route profile.
- Single-wide tires in place of dual mounts have been shown to reduce rolling resistance and therefore fuel consumption in some applications.
- Certain fairings added to trailers have been shown to reduce air resistance and therefore fuel consumption in some applications.
- Examination of mission segments high in idle time may point to methods to reduce unproductive engine operating time.
- Hydraulic and electric launch assist systems are appearing on the market that could reduce fuel consumption in repetitive stop-and-go operations like trash pickup.

## **Resources**

Exploration of possible measures would involve staff time of currently assigned members of DVS. The cost of implementing promising technologies or procedures would be one of the criteria in selecting the ones to be incorporated in the fleet. The costs are unknown and would depend on what measures are chosen.

# **EIP10-AQ10-03(C). Continuing Purchase of Wind Power**

## **Description of Action**

The Board of Supervisors first approved the purchase of 5 percent of the county's electricity needs from the Mountaineer Wind Farm in West Virginia in April 2005. The county followed the original two-year contract with a three-year contract starting on April 1, 2007 and ending on March 31, 2010 for wind power generated at the Locust Ridge Wind Farm in Schuylkill County, PA. The second contract provided a progressive rise in wind energy usage, reaching 10 percent in the third year. This action projects continued purchase of wind power at the 10 percent level for an additional three years.

## **Environmental Agenda Objectives Supported**

Air Quality and Transportation 4 and General  
Global Climate Change Initiative

## **Other Plans or Documents where this action appears or that it supports**

Air Quality Management Plan  
Cool Counties Initiative

## **Lead Agency**

Department of Cable Communications and Consumer Protection

## **Status/Plans/Outcomes**

Staff worked with the Virginia Energy Purchasing Governmental Association (VEPGA) to change the by-laws to allow this purchase. It was the first wind energy initiative in Virginia. The current contract, a three-year joint purchase with other Virginia counties, concludes at the end of the third quarter of FY 2010. This action will initiate a new, follow-on contract envisioned to sustain at least a 10 percent level for three additional years.

## **Funding sources**

A new contract continuous with the current one would begin at the start of the fourth quarter of FY2010 on April 1, 2010. Based on the currently contracted price and volume, a new contract would require funding of \$65,250 for the fourth quarter of FY 2010, the first quarter of the new contract. The remaining time on a 10-percent, 3-year contract would require an additional \$717,750 for a total contract value of \$783,000. Funding would be requested within the Facilities Management Department budget.

# **EIP10-WQ07-01(B). Watershed Management Planning**

## **Description of Action**

Starting in FY 2002, the County began the development of comprehensive watershed management plans for thirty (30) watersheds. These watershed plans will be used to establish the Capital Improvement Program investment needs for protection of water quality and stream health as well as plan an important role in permit compliance and Total Maximum Daily Load (TMDL) strategies. The Plans will generate project recommendations, policy recommendations and county-wide strategies with a planning horizon of twenty years.

During the Watershed Planning process a number of policy-related recommendations have been provided by the citizen-based steering committees as well as the consultants completing the plans. It is anticipated that additional policy-related recommendations will be generated as the watershed management planning process continues. Once the planning process has progressed sufficiently, it will be important to compile and review all the policy recommendations to determine their viability and to address other strategies recommended that may require changes in policy and/or regulation to be implemented.

## **Environmental Agenda Objectives Supported:**

Water Quality 1, 2, 3, 5, 6, 7, 8, 9, 10 and 11.  
Growth and Land Use 5

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan

## **Lead Agency:**

DPWES

## **Status/Plans/Outcomes**

To date, six watershed management plans have been completed and adopted by the Fairfax County Board of Supervisors:

- Little Hunting Creek Watershed Management Plan (adopted February 7, 2005)
- Popes Head Creek Watershed Management Plan (adopted January 23, 2006)
- Cub Run and Bull Run Watershed Management Plan (adopted February 26, 2007)
- Difficult Run Watershed Management Plan (adopted February 26, 2007)
- Cameron Run Watershed Management Plan (adopted August 6, 2007)
- Middle Potomac Watershed Management Plan (adopted May 5, 2008)

Combined, these six plans will cover approximately 50 percent of the land area in the county. Work on the other watershed management plans for the remaining 50 percent continues, with all plans anticipated to be completed by 2010. The watershed plans provide an assessment of watershed conditions, encourage public involvement, and prioritize recommendations for implementation of stormwater management projects.

Periodically, the County will review the BMPs and technologies identified in the Plans, utilizing the Stream Physical Assessment and other tools to measure effectiveness of their implementation.

### **Resources**

Contracts have been negotiated and the monies encumbered to complete the remaining watershed plans. The cost to complete the watershed plans is \$8.97 million, plus an estimated \$1 million per year over the next two years to cover the costs of a technical services task order contract.

# **EIP10-WQ07-02(B). Stormwater Management Implementation Plan**

## **Description of Action**

This initiative includes implementation of the County's Stormwater Management draft program implementation plan, including strategies addressing the Regional Pond Report and follow up actions. One key element of the Plan is an expanded Capital Improvement Program, including a reinvestment strategy for the existing infrastructure. Fairfax County's stormwater management program includes responsibilities for runoff controls, including management of an extensive drainage system composed of pipe, open channels, stormwater management facilities, detention and retention ponds and natural waterways. In addition, the County is a regulator of development practices and the management of stormwater by private property owners.

## **Environmental Agenda Objectives Supported:**

Water Quality 1, 2, 3, 5, 7, 8, 9, 10 and 11;  
Growth and Land Use 5.

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Watershed Plans

## **Lead Agency:**

DPWES

## **Status/Plans/Outcomes**

The County continued its capital improvement and infrastructure reinvestment strategies during calendar year 2007, with capital expenditures totaling \$21,502,464. However, a more realistic reinvestment cycle needs to be established. It is anticipated that the on-going services for Stormwater management will grow annually. A continued reinvestment is required to maintain the Stormwater infrastructure, both natural and man-made. Priorities will continue to be established through the watershed master planning process, through physical inspections and as additional needs are identified through other methods. The current funding means, which includes the penny on the real estate tax rate and pro-rata funds collected for new development, is expected to face increasing demands over the next few years and the foreseeable future, as inventory and newly identified priorities continue to grow.

**Resources**

The current funding distribution structure within Stormwater Management has necessitated a 50% reduction in watershed plan implementation and infrastructural reinvestment since FY 2006 when the dedicated penny was first allocated. That reduction effectively doubles the reinvestment cycle of Stormwater facilities from an estimated 75-100 years to over 200 years. Since design standards typically provide only an estimated 30-50 year service life for facilities, there is concern that the current reinvestment cycle is not sustainable. Funding alternatives should be identified over the next couple years to ensure that implementation and reinvestment goals are met.

## **EIP10-WQ07-03(B). Stormwater Retrofits**

### **Description of Action**

Retrofitting existing stormwater management facilities to provide improved stormwater management and water quality controls is a key goal for the on-going maintenance and operation of the system under county responsibility. The County is the owner or operator of over one thousand (1,000) stormwater management facilities. Management of the drainage system for long-term effectiveness and for environmental protection includes, where appropriate, addressing both quantity control (detention) to water quality controls. During the completion of the watershed planning process, opportunities will be identified for retrofitting existing stormwater facilities to provide new or additional water quality protection within the targeted watershed. These projects will include converting existing dry detention facilities by the addition of vegetation and wet pools.

### **Environmental Agenda Objectives Supported:**

Water Quality 3, 5

### **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Watershed Management Plans

### **Lead Agency:**

DPWES

### **Status/Plans/Outcomes**

In 2007, the county retrofitted seventeen stormwater management facilities to provide enhanced water quality. The retrofits included excavation of silt, planting wetland species in dry ponds, installation of BMP plates, creation of fore-bays and shallow wetlands, and construction of bioretention swales and basins (rain gardens). The retrofits are designed to reduce the volume of nutrients discharged, and to reduce the impacts of storm flows downstream. These water quality retrofits enhance nutrient uptake, provide an increase in water infiltration, uptake and transpiration, and create habitat for wildlife. Retrofits also include structural repairs or improvements to principal and emergency spillways, outfall pipes, and dams.

Two regional stormwater management facilities, D-37 and R-17, also were completed in 2007. Combined, they provide BMP control for a total of 396 acres and control stormwater runoff from a total of 762 acres of land. BMP control for additional acreage is provided through the use of smaller stormwater management facilities. Two other regional ponds, D-17 and D-46, are still in construction.

EIP10-WQ07-03(B). Stormwater Retrofits  
Continued

One site retrofit took place at Fairfax County's Sherwood Regional Library. Additionally, a privately owned site (a church) was retrofitted for water quality through the use of rain gardens and water quality swales.

**Resources**

Resource demands will be quantified as potential projects are identified. Funding would be provided in the overall stormwater program budget each fiscal year.

# **EIP10-WQ07-04(B). Riparian Buffer Restoration**

## **Description of Action**

As part of the watershed planning effort, a countywide stream physical assessment was conducted of over 800 miles of stream. Several aspects of stream habitat conditions were evaluated including the identification of deficient riparian buffers. A total of 40 sites, mostly on public land, were identified for planting projects to be completed by 2007.

## **Environmental Agenda Objectives Supported:**

Water Quality 3, 7 and 8.

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Watershed Management Plans

## **Lead Agency:**

DPWES

## **Status/Plans/Outcomes**

Fairfax County continued its countywide riparian buffer restoration project in collaboration with various partners to mitigate stormwater runoff into local streams and to support the Board of Supervisors' adopted Environmental Agenda. Since the program's inception in 2004, the county, the Northern Virginia Soil and Water Conservation District, regional partners (including the Fairfax County Park Authority, Earth Sangha, Fairfax ReLeaf, and McLean Trees), and many volunteers have restored 32 stream buffer areas. Invasive plants were removed and over 8,420 trees or shrubs have been planted by 1,481 volunteers.

To date there are 31 ongoing projects on parkland throughout the county. These projects have focused on the conversion of mowed grass to areas of native trees and shrubs typical of riparian areas. Project size has varied from a few trees to hundreds of trees. In 2007, 7.73 acres were planted with over 1600 native trees and shrubs.

The Park Authority also works to restore riparian areas as part of their non-native invasive plant removal efforts. For more information see ES08-06 (B) Invasive Management Area (IMA) Program.

On February 25, 2008, the Board of Supervisors adopted an amendment to the Policy Plan to strengthen Comprehensive Plan guidance regarding the protection and restoration of streams and associated buffer areas along stream channels upstream of Resource Protection Areas and Environmental Quality Corridors. This new guidance augments the EQC policy by explicitly

EIP10-WQ07-04(B). Riparian Buffer Restoration  
Continued

encouraging stream and buffer area protection and restoration in these headwaters areas. The Planning Commission's Environment Committee is currently reviewing potential regulatory approaches to strengthening protection of these streams.

It is anticipated that this project will ultimately result in considerable reductions in nutrient and sediment loadings beyond those being achieved through existing ordinances. More information is available online at [www.fairfaxcounty.gov/dpwes/stormwater/riparianbuffer/](http://www.fairfaxcounty.gov/dpwes/stormwater/riparianbuffer/).

**Resources**

The Board of Supervisors approved and allocated \$300,000 of funding for implementation of the riparian buffer restoration project which supports the Board's adopted Environmental Agenda.

# EIP10-WQ07-05(B). Stream Stabilization and Restoration Projects

## Description of Action

Stream stabilization and restoration is an important objective in achieved improvement in the overall health of the stream system throughout the County. The Stream Physical Assessment completed in 2003 defines the needs along various stream segments. The current condition of the streams varies throughout the County and as watershed plans are completed, specific projects are being identified to address these situations. Interdisciplinary scoping, planning, design and construction processes are being developed and utilized to address the evaluation process as well as implementation strategies.

## Environmental Agenda Objectives Supported:

Water Quality 8.

## Other Plans or Documents where this action appears or that it supports:

Comprehensive Plan

## Lead Agency:

DPWES

## Status/Plans/Outcomes

In 2007, the county completed 12 restoration projects with the assistance of various non-profit organizations and volunteers. The project types, locations and partners are as follows:

<i><b>Project Name</b></i>	<i><b>Problem</b></i>	<i><b>Solution</b></i>	<i><b>Partners</b></i>
Pleasant Ridge	Streambank Erosion	Installed 125 LF of 76" x 48" elliptical storm pipe, 4 storm structures and site restoration work	DPWES
Hunters Branch	Stream Channel Blockage	Clean-up and blockage removal	DPWES
Runnymede	Streambank Erosion	Installed riffles, pools, rock weirs/vanes, energy dissipaters, rock revetments and vegetation to re-establish stream buffer.	DPWES

EIP10-WQ07-05(B). Stream Stabilization and Restoration Projects

Continued

<b><i>Project Name</i></b>	<b><i>Problem</i></b>	<b><i>Solution</i></b>	<b><i>Partners</i></b>
Governor's Run Phase 1 & 2	Severe Sedimentation	Constructed access road, fore-bay, stream restoration, landscaping and tree plantings at Lake Martin	DPWES
County-wide	Stream Channel Blockage	Remove debris from stream channels	DPWES
Americana Drive	Streambank Erosion	Restored 50 LF of stream bank	DPWES
Woodland Avenue	Streambank Erosion	Installed 80 LF of riprap	DPWES
Balmacara Phase II	Streambank Erosion	Stabilized streambank with gabion basket walls, riprap and soil stabilization	DPWES
Colonies at Scott Run	Streambank Erosion	Stabilized streambank with gabion basket walls, riprap and soil stabilization	DPWES
English Hills	Streambank Erosion	Stabilized 175 LF of streambank with gabion basket walls, riprap and soil stabilization	DPWES
Little Pimmit Run	Severe Stream Erosion with Exposed and Threatened Sewer Lines	Restored 675 LF using natural stream channel design. Construction included two imbricated stone walls, 5 J-hooks, cobble, bankful benches, riffles and pools, an integrated trail crossing, floodplain and upland grading, and planting with native grasses, shrubs and trees.	NVSWCD (project lead), FCPA, DPWES/WCD, Dranesville District Supervisor, private engineering firm, private construction company
Waverly Park Culvert Replacement	Severe Stream Erosion around Culvert Pipes	Removed 4 x 48" corrugated culvert pipes on Wolfrap Creek at two trail stream crossings and replaced with two fiberglass bridges (35' and 45' in length)	FCPA

Reestablishing stream corridors will contribute to long-term stabilization, aquatic improvements, increased habitat and healthier streams. Evaluation of stream restorations will occur in the overall program assessment process. Environmental consulting firms have been engaged through a multi-year contract to assist with these projects. In addition, construction contracts with qualified contractors are in place and restoration work in progress in various locations, based on their designated priority. All of the capital improvement projects utilize environmentally sensitive construction strategies to stabilize a stream bed and stream bank while

EIP10-WQ07-05(B). Stream Stabilization and Restoration Projects  
Continued

replanting appropriate native species to ensure long-term viability of the restoration. It is anticipated that additional projects will be identified in the watershed plans.

**Resources**

Current funding levels are adequate to support these initiatives.

# **EIP10-WQ07-06(B). Septic System Tracking and Assistance Program**

## **Description of Action**

Review Health Department's inspection of septic systems and their requirement for septic system pump-out and maintenance on a regular basis, for example, every five years. Develop a management and tracking program for existing onsite sewage disposal systems, which:

- Establishes a process for routine inspections of the existing 30,000 existing disposal systems to identify systems that have failed or are in the process of failure due to neglect or overuse.
- Notifies property owners of the septic tank pump-out requirement and tracks compliance.
- Completes in depth surveillance and monitoring of high-tech alternative disposal systems.
- Completes in depth surveillance and monitoring of systems located in marginal to poor soils.
- Develops an outreach program to educate the new home buyer of the type of disposal system that they have purchased and the necessary maintenance issues associated with that type of system.
- Develops an outreach program that targets the real estate industry to educate realtors on the different disposal systems and the specific needs of each.
- Aids in the overall protection of groundwater and the Chesapeake Bay from runoff and contamination.

## **Environmental Agenda Objectives Supported:**

Water Quality 10, 11

## **Other Plans or Documents where this action appears or that it supports:**

VPDES MS4 Permit

## **Lead Agency:**

Health Department

## **Status/Plans/Outcomes**

Health Department staff and representatives from American Water / Applied Water Management have established a project schedule and a phased approach for accomplishing the tasks necessary:

**Phase 1: Background Research:**

- Research, identify, and benchmark existing nation-wide and local “management authorities” and/or Responsible Management Entities (RMEs).
- Research how existing “management authorities” or RMEs are funded and how these various alternatives apply to Fairfax County.
- Research the need for state enabling legislation and/or local ordinances.

**Phase 2: Implementation Method:**

- Determine the steps necessary to create and implement the “management authority”.
- Conduct a study for the creation of the commission.
- Identify and recommend potential members of the commission.

**Phase 3: Service Methods Alternatives:**

- Determine the service levels necessary for the different types of disposal systems.
- Research and define the benefit of a “management authority” to the developer, property owner, tenant, and to the county.

**Phase 4: Findings and Recommendations:**

- Provide a report of the findings with a presentation to the Environmental Coordinating Committee and to the Board of Supervisors at the request of the ECC.
- Provide a recommendation concerning the movement of Fairfax County into an EPA Level 4 management program and the creation of the commission and/or the “management authority”.

Phases 1, 2, and 3 of the project have been completed with draft technical reports provided to Health Department staff for review and comment. It is anticipated that the final feasibility study report will be completed and submitted to the Health Department within the first quarter of FY2009. A briefing of ECC is also anticipated within this time frame.

**Resources**

Funding in the amount of \$178K was approved in the FY 2006 Adopted Budget and carried over for FY 2007 and FY 2008.

# **EIP10-WQ07-08(B). Soil Survey Project**

## **Description of Action**

Fairfax County initiated the completion and update of the Fairfax County Soil Survey, which is being done under the leadership of the USDA's Natural Resources Conservation Service, in partnership with the county and NVSWCD. Originally published in 1963, the Soil Survey was based on field work completed in 1955 and covered 60% of the county. Over the last 45 years, county land use has changed immensely and the science of soils has progressed, particularly in the area of soil taxonomy. Much of the information used to describe soils in the 1963 survey has become less useful in the densely populated urban county Fairfax has become. Additional soils work was done by the county between 1966 and 1990, but was never completed nor certified to national standards. The part of the county that was not surveyed will be mapped. All previously mapped areas will be checked and updated. The updated soil survey will reclassify the soils and provide updated and expanded interpretive information, including the type of information needed for urban/suburban land-uses and development. It also will include information on soils that have been disturbed, such as by development. This will be one of the first instances in the nation of surveying disturbed soils. The survey will be certified to USDA National Cooperative Soil Survey standards and incorporated into the USDA's National Soils Information System database. The new soil survey will be published in its entirety (maps, descriptions, interpretations and data tables) and available on the USDA's Web Soil Survey website, in CD format, and integrated into the County's GIS system.

## **Environmental Agenda Objectives Supported:**

Growth & Land Use 5  
Water Quality 2, 5

## **Other Plans or Documents where this action appears or that it supports:**

Watershed Plans

## **Lead Agency:**

NVSWCD, GIS, DPWES

## **Status/Plans/Outcomes**

The mapping and data collection have been completed and have undergone quality control and assurance processes, and scanning and digitization, by the USDA-NRCS state office in Richmond. The 40% of the county that was not mapped in the original survey has been mapped. Everything that was mapped previously has been checked and updated. There will be a significant increase in the amount and type of information available about soils in the County. Because of advances and refinements in the science of soils, certain soils will be renamed and there will be a few newly created soil names, such as 'Gunston.' In addition, the special study to

characterize the large percentage of disturbed soils in the County has been completed. Disturbed soils no longer have their original structure, are generally denser and less permeable than undisturbed soils, and create more runoff than undisturbed soils. Knowing the behavior and characteristics of human disturbed soils is vital for understanding the stormwater management, water quality and erosion issues that will affect Fairfax County in the future, especially as efforts towards meeting the Chesapeake Bay Agreement intensify.

A Soil Survey Users Group facilitates ongoing communication. It is comprised of county staff from: DPWES – LDS (ESRD, EFID, Building Plan Review and Permits Division, Code Services Division), SWPD, MSMD, UFMD; DPZ; Health; Tax Administration; FCPA; DIT –GIS; and staff from Virginia Cooperative Extension, NVSWCD and NRCS.

The new soil survey has been integrated into the county's GIS system. A template has been created that shows soils lines, locations of problematic soils, water features, property boundaries, addresses, tax ID numbers and roads by tax map grid. The template will be reproduced for all tax map grids and each map will be converted to PDF format and uploaded onto the county's website where it can be accessed by the public. The soil map already is available online at the USDA-NRCS's Web Soil Survey website, but without much of the supporting data such as property boundaries that make it easier for the public to use the survey maps.

A draft reformulation of the soil problem classes has been completed and applied to all soil types in the new survey. The new problem classes will more closely resemble those employed in Loudoun and Prince William counties so as to cause less confusion for private industry. One major difference will be that disturbed soils, which are mapped only in Fairfax, have their own separate problem class.

Work continues on four other major tasks of the soil survey transition:

- Making the necessary changes to the County Code;
- Providing training to county staff who deal with soil issues on the use of the new soil survey
- Educating the private sector on the new soil survey information and its appropriate and effective use;
- Developing a process for maintaining and updating the soil survey as land uses change.

The expertise of a soil scientist, familiar with the County's soils and the County soil survey, is needed beyond the completion of the soil survey update to:

- Maintain and update the County's soil survey, including coordinating with USDA-NRCS and GIS;
- Evaluate and interpret complex and inter-related soils information, including the emerging field of disturbed soils;
- Conduct soils investigations;
- Retrieve and apply the appropriate soils information for given situations;
- Conduct soils-related research in order to meet county needs, especially to expand knowledge on the behavior of human disturbed soils;

EIP10-WQ07-08(B). Soil Survey Project  
Continued

- Evaluate and test soils for infiltration capability to assist with the design of rain gardens, swales and other low impact development techniques;
- Monitor and evaluate the function of installed infiltration measures;
- Provide scientific, unbiased advice in the public interest to internal and external customers, and;
- Develop and lead training and education programs on soils and the appropriate and effective use of soil maps and soils information.

**Resources**

The County and NRCS provided the funding to update the soil survey. The county's contribution to the project over a five year period was approximately \$755,000.

In FY 2008 and FY 2009, the Board of Supervisors approved funding for NVSWCD to continue to support a soil scientist to carry out the responsibilities outlined above. Continuation of this support will be sought as part of the NVSWCD annual funding request.

# **EIP10-WQ07-09(B). Soil and Water Quality Conservation Planning for Horse Operations and Other Land in Agriculture**

## **Description of Action**

Soil and Water Quality Conservation Plans are developed for all land in agricultural use, which in most cases are horse-keeping operations. The plans are written to comply with the Chesapeake Bay Preservation Act guidelines. They include best management practices to reduce: sediment pollution from erosion on pastures and stable areas; excess nutrients from animal waste and fertilizers; and the misuse of pesticides and herbicides. The plans also include the establishment and maintenance of vegetated riparian buffers next to all streams and other Resource Protection Areas. As required by county ordinance, soil and water quality conservation plans are developed for all agricultural and forestal districts in the county. Plans are updated and technical assistance is provided by NVSWCD as needed. Conservation plans are developed for landowners receiving state cost-share money to install BMPs such as manure storage and composting structures, to fence animals out of stream, and to design pastures and watering systems that make more efficient use of the land and protect natural resources. An on-going outreach and education program encourages land owners to manage their land in an environmentally responsible way. This includes presentations at community events and distribution of the publication, *Agricultural Best Management Practices for Horse Operations in Suburban Communities*.

In addition, nutrient management and integrated pest management plans are reviewed, or developed, for nursery operations, golf courses, and other land uses.

## **Environmental Agenda Objectives Supported:**

Water Quality 1, 7, 10  
Environmental Stewardship 2

## **Other Plans or Documents where this action appears or that it supports:**

Chesapeake Bay Preservation Ordinance  
Agricultural and Forestal District Ordinance  
New Millennium Occoquan Watershed Task Force Report

## **Lead Agency:**

NVSWCD

### **Status/Plans/Outcomes**

In addition to those mentioned in earlier status reports, in 2007, NVSWCD prepared Soil and Water Quality Conservation Plans for seventeen parcels, comprising 355 acres of land in agricultural use, and included 7,700 linear feet of vegetated buffers for Chesapeake Bay Resource Protection Areas (RPA). Cumulatively, 11,138 acres and 303,986 linear feet of RPA are included in conservation plans that have been developed since the program began in 1994. Under the 2007 VA State Agricultural Best Management Program, NVSWCD coordinated the design and construction of an 8' X 32' manure composting facility for a six-horse operation in the Occoquan watershed. The program provided 75% (\$8,500) of the cost of the facility, and the landowner provided the remaining 25%.

Outreach initiatives to help agricultural land users become knowledgeable about how they can reduce the non-point source pollution contributions is ongoing. This is done through newsletter articles, contributions to articles in equestrian community newsletters and participation in programs, and meeting with individual landowners.

### **Resources**

This work is supported as part of the annual funding allocation to NVSWCD.

# **EIP10-WQ07-11(B). Standard Operating Procedure for Stormwater Management Reviews During the Comprehensive Plan Amendment Process**

## **Description of Action**

Establishment of a standard operating procedure for stormwater management reviews during the Comprehensive Plan amendment process.

A standard procedure for review of the Comprehensive Plan amendments with regard to impacts on stormwater management within the county needs to be developed. Currently, staff from the Department of Public Works and Environmental Services (DPWES) participates during the Area Plans Review (APR) and Out-of-Turn Plan Amendment (OTPA) processes on an *ad hoc* basis as initiated by individual DPZ staff members. In light of increasing State and Federal stormwater management initiatives and regulatory mandates, and in light of the development of watershed management plans and the implications of land use changes to conditions and recommendations identified within these plans, a more consistent and formal process is suggested.

## **Environmental Agenda Objectives Supported:**

Water Quality 1, 2, 3, 5, 7, 8, 9, and 10;  
Growth and Land Use 5

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Watershed Management Planning

## **Lead Agencies:**

DPWES and DPZ

## **Status/Plans/Outcomes**

Ongoing.

## **Resources**

While past Area Plans Review processes have not included DPWES reviews of all nominations, all such nominations are now being referred to the Stormwater Planning and Assessment Branch for review and comment. Costs of the enhanced DPWES coordination are being absorbed into the agency's operating budget. Experiences with this review process will be gauged upon completion of the current APR cycle and modifications will be made as needed.

## **EIP10-WQ08-02(B). Radio Ad Campaign**

### **Description of Action**

Conduct an outreach campaign in partnership with the Northern Virginia Regional Commission and surrounding local jurisdictions to educate citizens about the new storm drain marking program. Measure the effectiveness of the campaign by means of a pre-ad survey and a post-ad survey.

### **Environmental Agenda Objectives Supported:**

Water Quality 1, 8, 9 and 10  
Environmental Stewardship 2;

### **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Watershed Management Plans  
VPDES MS4 Permit

### **Lead Agency:**

DPWES

### **Status/Plans/Outcomes**

This is an ongoing campaign that currently airs on eight area radio stations with a total of 1,064 spots.

### **Resources**

\$93,450 per year is allocated. No additional funding needs are anticipated.

# **EIP10-WQ08-03(B). Stormwater Management Review Process**

## **Description of Action**

Increased involvement in the review of stormwater management issues during the zoning process by the staff of the Department of Public Works and Environmental Services (DPWES).

In 2004, the Board of Supervisors adopted an amendment to the Zoning Ordinance that required more substantial stormwater management information for rezoning, special exception, and special permit applications (see EIP07-WQ-A-1 in Appendix 1). Appropriate staff needs to review the additional information in order to ensure that effective controls and practices are incorporated into site designs; the involvement of DPWES in the review of stormwater management information submitted during the zoning process has, therefore, increased.

The rezoning reviews and comments by NVSWCD also scrutinize stormwater management issues. Following a site visit, comments are sent to DPZ regarding soils, slopes, vegetation and other natural resources and the potential environmental impacts of the proposed land-use change. Recommendations are made for better site design and stormwater management practices that will improve the protection of streams and other natural resources, both on-site and off-site.

## **Environmental Agenda Objectives Supported:**

Water Quality 1, 2, 3, 5, 7, 8, 9, 10, 11;  
Growth and Land Use 5.

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Infill and Residential Development Study  
Watershed Management Planning

## **Lead Agencies:**

DPWES and DPZ

## **Status/Plans/Outcomes**

The increased involvement in the zoning process by DPWES staff, as well as continued technical guidance provided by the Northern Virginia Soil and Water Conservation District, have facilitated, and will continue to facilitate, the identification and pursuit of viable site design and stormwater management approaches. Increased DPWES involvement in the zoning process is also providing for improved continuity from the zoning process to the site plan/subdivision plan review process. Additionally, as previously noted, new Stream Assessment Tool software has been brought on line that will enhance Stormwater management reviews by revealing downstream physical conditions to plan reviewers during the plan review stage. Additional guidance in the use of the new software is being provided to LDS and DPZ.

EIP10-WQ08-03(B). Stormwater Management Review Process  
Continued

**Resources**

Staff review time for this function is currently provided within the operating budgets of DPWES and DPZ.

# **EIP10-WQ08-04(B). Low Impact Development Initiatives**

## **Description of Action**

Review County codes, regulations and policies to develop recommendations for amendments to the Public Facilities Manual that will encourage the use of low impact development (LID) practices. Develop a Design Manual that contains design and construction standards for LID practices. The manual will be recommended for adoption into the Public Facilities Manual (PFM) by reference either in its entirety or with minor specified differences. Construct projects throughout the County to demonstrate LID designs and practices.

## **Environmental Agenda Objectives Supported:**

Water Quality 1, 2, 3, 5, 7, 8, 9, and 10;  
Growth and Land Use 5.

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Infill and Residential Development Study  
Watershed Management Planning  
MS4 Permit

## **Lead Agency:**

DPWES

## **Status/Plans/Outcomes**

In 2007, six low impact development practices were approved by the Board of Supervisors for incorporation into the Public Facilities Manual. The six practices are: bioretention basins and filters (rain gardens), water quality (vegetated) swales, tree box filters, vegetated roofs (green roofs), permeable pavers, and reforestation. A draft Design Manual, prepared by the Northern Virginia Regional Commission, currently is under review by the contributing jurisdictions.

Under the Board of Supervisor's Environmental Improvement Program, DPWES continued to partner with NVSWCD and FCPA on LID demonstration projects at the Mount Vernon Recreation Center and the Cub Run Recreation Center. These and other ongoing LID projects are summarized in the following table.

## EIP10-WQ08-04(B). Low Impact Development Initiatives

Continued

<i>Project</i>	<i>Description</i>	<i>Partners</i>
Cub Run Recreation Center LID Demonstration	Construction began in Fall 2006 on vegetated swales, soil amendments and bioretention basins with underground storage to decrease the volume, peak discharge and phosphorus concentration of stormwater runoff from the 1.91-acre site. Construction was completed in 2007 with planting of trees and shrubs and placement of an interpretive sign. Monitoring will be conducted in 2008.	DPWES, NVSWCD, FCPA
Mount Vernon Recreation Center LID Demonstration	Construction began in Fall 2006 on vegetated swales, soil amendments and bioretention basins with underground storage to decrease the volume, peak discharge and phosphorus concentration of stormwater runoff from this 1.61-acre site. Construction was completed in 2007 with planting of trees and shrubs and placement of an interpretive sign. Currently design is underway for reforestation of a 3-acre turf area.	DPWES, NVSWCD, FCPA
Mount Vernon Unitarian Church	Installed two bio-retention basins, check dams, soil amendment and native seeding.	DPWES, NVSWCD
Sherwood Library	Installed tree box filters and 2 bio-retention basins, infiltration trench and impervious pavers.	DPWES
Herrity Building Parking Garage Vegetated Roof Demonstration Project	Construction complete, with ongoing monitoring and interpretive signage to be installed in 2008.	DPWES
Patriot Park Rain Garden and BMP Pond	The park development includes multiple innovative features including the largest artificial turf field in the region and a multiple cell rain garden in tandem with a BMP pond.	FCPA
Hidden Oaks Nature Center LID Parking Lot	The parking lot renovation incorporated pervious pavers and a rain garden to provide both detention and BMP benefits.	FCPA
Waples Mill Elementary School	Installed bio-retention basin, converted .25 acre turf area to wild flowers and native grasses.	NVSWCD, DPWES, County Extension, DPZ, FMD, FCPA
Marie Butler Levin Park Demonstration Rain Garden and Arboretum	Design and installation commenced in 2006. Completed in 2007, Earth Sangha is planting the preserve as a native plant arboretum.	NVSWCD, Earth Sangha, FCPA

<i>Project</i>	<i>Description</i>	<i>Partners</i>
Artificial Turf Fields (14 total fields) with Detention at various park and school sites	Construction of new fields and renovation of existing fields using artificial turf with an open-graded aggregate base to provide storage capacity which reduces peak flows during large storm events and eliminate the need for fertilizers and pesticides.	FCPA, CRS, FCPS
Wakefield Park/Audrey Moore Recreation Center Rain Garden	A rain garden was designed and installed at an existing SWM pond site. It controls runoff from 2.43 acres, including a .22 acre parking lot. Construction was completed in December 2007. The site was planted and an interpretive sign installed in the spring of 2008.	NVSWCD, FCPA

In 2007, using a grant from DCR, NVSWCD conducted a study of 20 existing rain gardens in the county, three to five years old, both publicly and privately maintained. The evaluation focused on their physical characteristics, in relation to how well they were functioning. The analysis included infiltration tests and lab analyses of soil texture, organic matter content and bulk density. The filter media were examined to determine the type and level of pollutants retained and their relationship to the area drained. The actual installation was compared to the approved design. In general, publicly maintained rain gardens fared better than private ones, as did those built according to their approved designs. The findings led to recommendations for design specifications, as well as for training and education initiatives that would ensure rain gardens are properly installed and well-maintained.

DPWES staff continues to collaborate with DPZ to incorporate LID into zoning cases, where appropriate. SWPD staff provides technical expertise in the form of recommendations regarding the ways in which a site may be developed in a more environmentally-sensitive manner. Additionally, NVSWCD visits all sites for which there is a rezoning or special exception application and provides comments to DPZ. The comments include suggestions for better site design to protect natural resources, both on-site and off-site, and include the incorporation of LID techniques when appropriate.

### **Resources**

\$250K in consultant services will be needed to develop Phase II amendments to PFM.

# **EIP10-WQ08-05(B). Benchmarking Watershed Tree Cover Levels**

## **Description of Action:**

This action is an effort to identify the level of tree cover that exists in the County's major watersheds and to make that data available for use in a wide-range of natural resource management and land-use planning efforts. This action supports components of the Tree Action Plan, and the Chesapeake Bay Program's Riparian Forest Buffer Directive, which encourages communities to complete an assessment of their urban forest, adopt local goals to increase urban tree canopy cover, and encourage measures to attain the established goals in order to enhance and extend forest buffer functions in urban areas. Watershed-based tree cover data can be used:

- as a watershed planning tool
- to identify the location of riparian buffer restoration projects
- to identify the location of tree plantings for air quality purposes
- to establish watershed-based tree cover goals (See EIP10-WQ08-09(B))
- to support attainment of a countywide tree cover goal (see EIP10-ES09-08(B))
- to conduct geographic information system (GIS) analyses for natural resource management purposes
- to provide information relevant to land use planning and the review of proposed zoning cases

## **Environmental Agenda Objectives Supported:**

Water Quality 11  
Growth & Land Use (General)  
Air Quality and Transportation (General)

## **Other Plans or Documents where this action appears or that it supports:**

Fairfax County Tree Action Plan  
Fairfax County's 30-year Tree Canopy Goal  
The Chesapeake Bay Program's Riparian Forest Buffer Directive No. 03-01

## **Lead Agency:**

DPWES, Urban Forest Management Division

**Status/Plans/Outcomes:**

This effort has been funded and is underway. This action supports a recommendation of the Tree Action Plan. Urban Forest Management Division is conducting a tree cover analysis using high-resolution satellite imagery acquired in 2002 and 2003 to establish tree cover percentage levels for the 30 major watersheds in Fairfax County. The 2002/2003 tree cover data will also be used to support periodic countywide canopy change detection analyses. The end product of this analysis will be a GIS dataset that can be utilized in conjunction with other GIS datasets such as streets, building footprints, and topography for a wide variety of uses including watershed planning. It is anticipated that tree cover analysis for all watersheds will be completed by June 2009. In addition to providing information for watershed planning efforts, benchmarking tree cover levels could provide data critical to tracking and verification procedures that may be required for tree preservation and planting air measures in future air quality plans.

**Resources:**

No additional resources for this action are required; however, future efforts to update tree cover levels are likely to require additional funding to purchase new satellite imagery. The estimated one-time cost to update high-resolution satellite imagery on a countywide basis is \$30,000.

# **EIP10-WQ08-06(B). Stream Flow Gauge Monitoring**

## **Description of Action**

Partner with USGS to install stream flow gauges, which can assist in evaluation of SWM facilities, pollutant loadings and in restoration design.

## **Environmental Agenda Objectives Supported:**

Water Quality 1, 3, 8, 10

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Watershed Planning  
VPDES MS4 Permit

## **Lead Agency:**

DPWES

## **Status/Plans/Outcomes**

During 2007, the county partnered with the US Geological Survey to install a water resources monitoring network. Both dry and wet weather (storm event) nutrient data are being collected by means of 4 USGS water gauging stations throughout the County. The data is posted to a USGS web page, typically within 1 to 2 hours after collection. To supplement the data from these gauged stations, 10 less-intensely monitored locations also will be established throughout the county.

## **Resources**

This project is funded by existing Stormwater Management Implementation Plan funding levels.

# **EIP10-WQ08-07(B). VPDES MS4 Permit Application**

## **Description of Action**

Review and update the MS4 Program to ensure compliance with the county's current MS4 Permit.

## **Environmental Agenda Objectives Supported:**

Growth and Land Use 5  
Water Quality 1, 3, 4, 5, 6, 7, 8, 9, 10  
Environmental Stewardship 1, 2, 3, 4

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Watershed Planning  
VPDES MS4 Permit

## **Lead Agency:**

DPWES

## **Status/Plans/Outcomes**

Negotiations are currently underway. DCR has submitted a second preliminary draft of the Permit to the county and the county, in consultation with AMEC, responded on April 11, 2008, with a list of requested clarifications, questions and comments. The FCPS Permit is being coordinated with the County Permit, with the addition of five new positions, approved in the FY 2008 adopted budget.

## **Resources**

Currently authorized funding is adequate to complete the project as planned.

# **EIP10-WQ08-08(B). Outreach and Education Program**

## **Description of Action**

Continue to implement an outreach and education program that complies with the provisions of the VPDES MS4 Permit.

## **Environmental Agenda Objectives Supported:**

Water Quality 3  
Environmental Stewardship 1, 2, 3, 4

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Watershed Management Plans  
VPDES MS4 Permit

## **Lead Agency:**

DPWES

## **Status/Plans/Outcomes**

The county continues to collaborate with its partners to sponsor events promoting watershed and stormwater management awareness to its residents. In 2007, the following organizations partnered with DPWES for various outreach efforts:

- Alice Ferguson Foundation: organizes the Potomac River Watershed Cleanup ([www.potomaccleanup.org](http://www.potomaccleanup.org)).
- Audubon Naturalist Society: stream monitoring program ([www.audobonnaturalist.org](http://www.audobonnaturalist.org)).
- Earth Sangha: Assists and provides volunteers for tree plantings ([www.earthsanga.org](http://www.earthsanga.org)).
- Friends of the Occoquan: organizes two Occoquan river cleanup events per year ([www.friendoftheoccoquan.org](http://www.friendoftheoccoquan.org)).
- Fairfax Watershed Network: promotes several events, such as the Potomac River Watershed Cleanup.
- Fairfax ReLeaf: assists with tree plantings ([www.fairfaxreleaf.org](http://www.fairfaxreleaf.org)).
- Ocean Conservancy: organizes the International Coastal Cleanup ([www.oceanconservancy.org](http://www.oceanconservancy.org)).
- Northern Virginia Soil and Water Conservation District: provides support for various activities ([www.fairfaxcounty.gov/nvswcd/](http://www.fairfaxcounty.gov/nvswcd/)).
- Northern Virginia Regional Commission: coordinates Regional Pollution Prevention Outreach Strategy through use of a radio campaign ([www.novaregion.org](http://www.novaregion.org)).

- Reston Association: provides support for various activities ([www.reston.org](http://www.reston.org)).
- Virginia Department of Conservation and Recreation – Adopt-A-Stream Program: Provides information and assistance to individuals or groups to clean an adopted reach of stream twice a year ([www.dcr.state.va.us](http://www.dcr.state.va.us)).
- Virginia Department of Forestry: assists with tree plantings ([www.dof.virginia.gov](http://www.dof.virginia.gov)).
- The Fairfax County Park Authority: organizes, supports and promotes numerous events and activities including tree plantings, stream clean-ups and an environmental stewardship campaign (including several clean water themed materials) as described in the Environmental Stewardship section.

Fairfax County makes presentations to various groups throughout the county regarding stormwater management and watershed basics. The presentations include an overview of watersheds, stormwater management, and actions that residents can take to protect the water quality of local streams, the Occoquan Reservoir, the Potomac River, and the Chesapeake Bay. In 2007, the county presented this information to homeowner's associations, school groups (teachers and students), civic associations, Fairfax Master Naturalist trainees, Master Gardeners, Northern Virginia Community College students, and others. In addition, the county works with residents on each stormwater project, of which education is a component.

Fairfax County hosts educational booths at several public events annually to raise awareness among residents about stormwater issues and to encourage watershed-friendly behaviors. In 2007, Fairfax County participated as an exhibitor or environmental educator at Celebrate Fairfax, Boy Scout Camporee at Lake Fairfax Park, and Fall for Fairfax.

In partnership with the Northern Virginia Regional Commission and surrounding jurisdictions, Fairfax County implemented a region-wide radio outreach campaign to raise awareness among residents about harmful non-point source pollutants and actions residents can take to help protect the water quality of local streams and the Chesapeake Bay. The radio campaign first aired in July 2005. Calendar year 2007 marked the third consecutive year of the campaign, with "The Call" radio advertisement airing 926 times on nine radio stations, including one Spanish-speaking station.

A related program is the storm drain education – pollution prevention program, which is coordinated by the Northern Virginia Soil and Water Conservation District. DPWES partners in this program, as part of its watershed implementation program, by purchasing the storm drain markers and glue. In 2007, 48 community education programs were carried out by county residents who educated their neighbors about the connection between storm drains and waterways and then glued pre-printed decals, reading "No Dumping - Drains to Potomac River [or local watershed]," to the top of storm drain inlets. As a result, over 21,297 homes in Fairfax County received non-point source pollution prevention education and, as a reminder, 5,210 storm drains were labeled. 909 volunteers, including scout groups, home owner associations, middle and high school students and individuals, gave more than 2,000 hours as part of this pollution prevention effort.

## EIP10-WQ08-08(B). Outreach and Education Program

Continued

Fairfax County Stormwater Management continues to partner with Fairfax County Public Schools to implement the Meaningful Watershed Field Experience (MWFE) Program. The program incorporates field trips for students in the seventh grade “Investigations in Environmental Science” course and creates a hands-on learning experience that calls for the students to collect data on and analyze a variety of water quality parameters.

NVSWCD made 26 presentations to groups ranging from 20 to more than 125 on topics of interest to engineers (stream restoration), to landscaping companies (rain gardens), and to the general public (non-point source pollution and rain barrels). It manned exhibits at 6 events with information on topics such as environmental landscaping, stream restoration, solutions for drainage problems. Staff also provided technical advice and made 136 on-site visits to help citizens solve stormwater management problems on their property. The watershed model was demonstrated 13 times, reaching an audience of 443 youth and adults. Articles in *Conservation Currents*, the NVSWCD quarterly newsletter, raise awareness about topics and ways the public can help to protect water quality. The bi-monthly Green Breakfasts feature topics of environmental interest and often include presentations about county programs.

Fairfax County Stormwater Management Program has partnered with the county’s Wastewater Management Program to implement a Sewer Science program for high school students. The program promotes an understanding of stormwater, its relationship to wastewater, how the water and the land are connected, and how each individual can make a difference in the health of the environment. This program was presented to over 981 students in 7 schools in 2007.

In 2007, NVSWCD continued its successful Volunteer Stream Monitoring Program, which supplements the county’s stream bioassessment program. Twenty sites are monitored quarterly by trained volunteers who conduct biological monitoring to assess the ecological health of streams using the Virginia Save Our Streams protocol. They also monitor changes in the surrounding habitat. The program also hosted 40 related educational workshops.

Eleven Rain Barrel Workshops were sponsored by NVSWCD where citizens made rain barrels and learned about water conservation and reducing stormwater runoff. In 2007, 243 individuals participated and took home 260 rain barrels.

County residents participated in three workshops to learn about the design and installation of rain gardens. Two of the workshops included hands-on participation in building a rain garden.

In 2007, a variety of 8,250 native tree and shrub seedlings were purchased from NVSWCD by county residents to help promote urban reforestation, habitat enhancement and water quality protection.

### **Resources**

This work is supported as part of the annual funding allocation to the partnering entities.

# **EIP10-WQ08-09(B). Establishing Tree Cover Goals for Watersheds**

## **Description of Action:**

The successful management of Fairfax County's water resources and stormwater concerns is dependent upon our ability to protect and manage the County's urban forest and other vegetation resources. As in all parts of the Chesapeake Bay watershed, Fairfax County's tree canopy and soil conditions associated with forested areas deliver significant water quality and stormwater management benefits. Fairfax County's tree canopy is estimated to intercept and absorb one million pounds of nitrogen annually that could eventually enter the Chesapeake Bay, and to intercept and slow the velocity of 370 million cubic feet of stormwater annually.

This action addresses a recommendation of the Tree Action Plan to identify tree cover goals for all major watersheds in the County, along with the policies, practices, actions and funding needed to achieve these goals; and then, to use the tree cover goals to support both watershed planning efforts and land use decisions. This action also supports regional efforts of the Chesapeake Bay Program that encourage communities to set urban tree canopy goals. The Chesapeake Bay Program's Riparian Forest Buffer Directive No. 03-01 (Chesapeake Executive Council) signed in December 2003, expands the previous riparian buffer directive by recognizing that tree canopy offers stormwater control and water quality benefits for municipalities in the Chesapeake Bay watershed, and can extend many riparian forest buffer functions to urban settings. The Riparian Forest Buffer Directive states following program goals related to tree cover:

- By 2010, work with at least 5 local jurisdictions and communities in each state to complete an assessment of urban forests, adopt a local goal to increase urban tree canopy cover and encourage measures to attain the established goals in order to enhance and extend forest buffer functions in urban areas; and,
- Encourage increases in the amount of tree canopy in all urban and suburban areas by promoting the adoption of tree canopy goals as a tool for communities in watershed planning.

## **Environmental Agenda Objectives Supported:**

Water Quality 11  
Growth & Land Use (General)

## **Other Plans or Documents where this action appears or that it supports:**

Fairfax County Tree Action Plan  
Fairfax County's 30-year Tree Canopy Goal  
The Chesapeake Bay Program's Riparian Forest Buffer Directive No. 03-01

## **Lead Agency:**

DPWES, Urban Forest Management Division

**Status/Plans/Outcomes:**

This action supports a recommendation of the Tree Action Plan. Several of the steps necessary to complete this action are underway. Urban Forest Management Division is currently working to quantify tree cover levels in all 30 major watersheds. The majority of the activities needed to support this action will begin during CY 2009. These activities will require participation from several agencies and business areas including Urban Forest Management Division, the Stormwater Planning Division, DPWES, the Planning and Zoning Evaluation Divisions of DPZ, and the Resource Management Division, FCPA.

The following actions are prerequisite to generating achievable tree cover goals:

- Benchmarking existing tree cover levels (underway)
- Assessing the potential for tree cover gains and losses in critical watershed and sub-watersheds
- Assessing the potential for tree cover gains and losses on public properties, developed private property and commonly-owned open space.
- Assessing potential for additional canopy loss through development of under utilized parcels
- Analyzing the potential of using easements and other deed-restrictions as canopy protection mechanisms
- Analyzing policies and ordinances that affect tree conservation (underway through multiple actions of the Tree Action Plan)
- Identifying ways to link tree cover goals and related policies to the practices contained in a Countywide urban forest management plan
- Identifying grant opportunities and alternative funding sources that could be used to support tree planting and preservation activities
- Identifying ways to engage non-profit tree planting groups, private property owners, homeowners associations and civic associations
- Identifying how tree cover goals can be used effectively within the context of land use planning, and how the goals can be applied during the review of proposed zoning cases
- Identifying ways to engage and partner with the land development industry
- Identifying ways to engage and partner with commercial property management groups
- Setting specific tree cover goals for all major watersheds and critical sub-watersheds within the context of an overall Countywide tree cover goal (See EIP10-ES09-08(B))
- Identifying target dates to achieve those goals
- Identifying ways to assess gain or loss of social and ecological benefits resulting from changes to tree cover on watershed and Countywide basis

This action will identify realistic and achievable tree cover goals for all major watersheds, along with the policies, practices, actions and funding needed to support those goals. In addition the action will investigate ways to use tree cover goals in the support of watershed management and planning efforts. It is anticipated that tree cover goals could be generated by CY 2009.

**Resources:**

Considerable staff hours will be needed to accomplish this action. No additional funding is requested to support the action in FY 2010; however, future funding and additional staff resources may be needed to support the implementation of associated policies and projects.

# **EIP10-WQ07-10(C). Comprehensive Review of the County's Code and Zoning Requirements**

## **Description of Action**

This action would be a comprehensive review of site design requirements within the context of better site design principles (i.e., the Model Development Principles developed by the Center for Watershed Protection through its Site Planning Roundtable). The goals of the effort would be to identify regulatory impediments to a broader application of better site design principles in Fairfax County, to identify potential policy conflicts between better site design and other issues (e.g., the desire for adequate parking capacity vs. the desire to minimize impervious cover), and to draft appropriate Zoning Ordinance and/or other County Code amendments for consideration by the Planning Commission and Board of Supervisors.

## **Environmental Agenda Objectives Supported:**

Water Quality 1, 2, 3, 5, 7, 8, 9, and 10;  
Growth and Land Use 5

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Infill and Residential Development Study  
Watershed Management Planning

## **Lead Agency:**

DPWES and DPZ

## **Status/Plans/Outcomes**

This review has not yet been initiated. A number of approaches could be taken to the implementation of this action. This could be done through an internal review by appropriate County agencies (DPZ, DPWES, and Department of Transportation), with coordination with the Planning Commission and Board of Supervisors and with stakeholder outreach at appropriate steps in the process, through a consultant contract, or through the Center for Watershed Protection's "Builders for the Bay" program (involving the establishment of a Local Site Planning Roundtable consisting of a diversity of stakeholders).

**Resources**

This would be a significant effort involving considerable staff time and resources regardless of the approach that is taken. If this effort is to be pursued through an internal staff review, other initiatives would need to be delayed—it is anticipated that the effort would need to be pursued by existing staff and that new staff resources would not be sought (the process will, by necessity, require considerable institutional knowledge). A very broad, order of magnitude estimate of what it might cost to hire a qualified consultant to conduct and complete this review would be \$100,000. Additional resources would likely be needed for a “roundtable” type program (estimated to total between \$200,000 and \$250,000). However, it should also be noted that there are numerous opportunities to apply for grants to fund such efforts, and staff anticipates that this funding would be sought for any efforts to implement this action.

# **EIP10-WQ07-12(C). Review of Standards and Guidelines for Special Permit, Special Exception, and Public Uses in the Resource Conservation (R-C) District**

## **Description of Action**

As recommended in the New Millennium Occoquan Watershed Task Force report, this action would provide for a review of standards and guidelines associated with Special Permit, Special Exception, and public uses that may be approved in the R-C District. R-C zoned land is generally confined to the Occoquan Watershed (with Fort Belvoir being a major exception, albeit one that is not subject to County zoning requirements). Included in this review would be:

- Maximum allowable floor-area ratios;
- A consideration of development of standards and/or guidelines for impervious cover and/or undisturbed open space;
- Impacts of facility footprints and total impervious cover, including parking; and
- A consideration as to whether more specific guidance should be established in the Comprehensive Plan regarding mitigation of impacts on the water quality impacts of the Occoquan Reservoir.

The process through which such a review would occur has yet to have been determined. The New Millennium Occoquan Watershed Task Force has recommended that a broad-based advisory committee be established. More efficient approaches that still provide for significant stakeholder involvement may be available, and County staff has recommended coordination with the Planning Commission on the definition and scope of this effort.

## **Environmental Agenda Objectives Supported:**

Growth and Land Use 5  
Water Quality 1, 2, and 10

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan

## **Lead Agency:**

DPZ

### **Status/Plans/Outcomes**

This review has not yet been initiated. However, this item is included on the Priority 1 Zoning Ordinance Amendment Work Program for 2008. There is no projected timeline for completion, and the ability to pursue this effort is dependent on competing demands on staff resources for other amendments. Anticipated outcomes would be clarity regarding expectations governing Special Permit, Special Exception, and public uses that may be pursued in the R-C District in the Occoquan Watershed.

### **Resources**

Resource needs will depend on the specific process that is pursued. However, even under the most efficient process, substantial staff resources will be needed; between two and four professional-level planners would need to devote a considerable portion of their work hours to this effort for a year or more. Additional clerical and supervisory resources would be needed, and a number of County agencies beyond DPZ would need to become involved to some extent (e.g., DPWES; Fairfax County Park Authority; Fairfax County Public Schools).

# **EIP10-WQ10-01(C). Riparian Buffer Maintenance**

## **Description of Action**

Between 2005 and 2007, a project funded by the Board of Supervisors supported the initial planting of trees and shrubs at 31 park sites totaling over 20 acres and 7,200 plants. This new project is to maintain and supplement the 31 riparian buffer restoration projects on parkland throughout the County. Maintenance activities may include watering, invasive species removal, amendment of plantings with additional shrub, herbaceous and trees as needed, expansion of buffer projects to adjacent areas and monitoring of restoration projects.

## **Environmental Agenda Objectives Supported:**

Environmental Stewardship 1, 2, 3, 4, 5 and 6  
Parks Trails, and Open Space (General)  
Water Quality 1, 2, 3, 5, 7, 8, and 10

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
MS-4 Permit  
Natural Landscaping Committee Work Plan  
Park Authority Strategic Plan  
Park Authority Policy Manual  
Park Authority Natural Resource Management Plan  
Watershed Management Plans  
Fairfax County Chesapeake Bay Preservation Ordinance

## **Lead Agency:**

Fairfax County Park Authority

## **Status/Plans/Outcomes**

This new project is designed to support healthy riparian buffers that are important for stream quality (water quality, biodiversity indicators and ecological processes such as nutrient cycling) and terrestrial habitat (bird and wildlife diversity). At 31 sites we are well on our way to developing these healthy systems. However, as mowing decreases to allow for natural regeneration, the restoration sites are subject to invasion by non-native vines that could kill the young seedlings before they are fully established. Additional plantings in the herbaceous, shrub and canopy layer can fill in gaps created by severe flooding (June 06) and drought (August 06 and August 07) that have killed some of the initial plants. Initial funding did not include a monitoring and maintenance plan which is now needed. The Park Authority attempts to solicit volunteers (the "Tree Keepers") to take on the monitoring and maintenance and have not been successful. We estimate a recurring funding need for \$55,000 to maintain the sites.

## **Resources**

Funding needed: \$55,000 for FY2010.

# **EIP10-SW07-2(B) Expand Recycling Programs**

## **Description of Action**

Continue the emphasis on recycling for residents and businesses; continue the County's current recycling program of curbside pickup of recyclable bottles, cans, and newspaper. Curbside recycling for single-family homes and townhouses expanded to include additional materials for which markets exist, such as mixed paper, corrugated cardboard, and plastic bottles and jugs. Recycling opportunities need to be improved for County businesses also. The business recycling improvement program will focus on increasing the quantity of "traditional" recyclables collected from businesses (paper, cardboard, etc.), developing opportunities to recycle construction and demolition debris (CDD), and increasing recycling of special wastes such as electronics.

## **Environmental Agenda Objectives Supported:**

Solid Waste IV

## **Other Plans or Documents where this action appears or that it supports:**

20-year Solid Waste Management Plan for Fairfax County, published 2004  
Solid Waste Management Program Strategic Plan (2006-2011)  
Department of Public Works and Environmental Services Strategic Plan (2006-2011)  
Board of Supervisors Environmental Agenda, published 2005

## **Lead Agency:**

DPWES-DSWDRR and DSWCR (collectively, the Solid Waste Management Program)

## **Status/Plans/Outcomes:**

Mixed paper, flattened cardboard and plastic bottles and jugs have been added to the recyclables that are required to be collected at the curb from single-family homes and town homes in Fairfax County. The Solid Waste Management Program is focusing on a coordinated outreach program to notify residents about the changes and provide education about what materials can be placed at the curb for recycling. Advertisements were placed in local newspapers and changes to the county website (to reflect the expanded list of recyclable materials) have been made.

## **Resources**

Annual program costs are approximately \$100,000. Program expansion may increase these costs to approximately \$175,000 per year. These costs are solely for the public outreach and assistance aspects of the County's recycling program: actual materials collection and recycling costs are borne by the individual waste generator. Future costs assume ongoing support of the new initiatives over several years. General Fund support was eliminated in FY 2009.

# **EIP10-SW07-3(B) Encourage Use of Recycled Products through Environmentally Preferable Purchasing (EPP)**

## **Description of Action**

Encourage use of recycled products to expand the market by developing an Environmentally Preferable Purchasing (EPP) Program for use by county purchasing staff. This will provide information to potential buyers about products that include recycled content and/or has the least impact on the environment. It is widely accepted that promoting the purchase of environmentally-friendly products will in turn stimulate and expand markets for recyclables.

## **Environmental Agenda Objectives Supported:**

Solid Waste IV

## **Other Plans or Documents where this action appears or that it supports:**

N/A

## **Lead Agency:**

DPWES-DSWDRR and DSWCR (collectively, the Solid Waste Management Program)  
Department of Purchasing and Supply Management (DPSM)

## **Status/Plans/Outcomes:**

Environmentally preferable purchasing is a practice that is managed by the Department of Purchasing and Supply Management (DPSM). The Solid Waste Management Program is supportive of environmentally preferable purchasing, but cannot take the lead on this issue. The Solid Waste Management Program has provided DPSM with technical support on the issue of trying to develop such a program for the county, but to date it has not evolved. The Solid Waste Management Program will continue to support the DPSM as it moves forward to implement this practice within the county.

## **Resources**

Annual program costs are estimated at approximately \$50,000. Since this program would be managed and implemented by the DPSM, it is suggested this item be directed to DPSM for this action to be implemented.

# **EIP10-SW07-4(B) Increase County Use of Recycled Products**

## **Description of Action**

Two County Procedural Memoranda (PM) regarding the use of recycled-content products were developed and issued in 1994. They are:

1. PM 143 – Bid Specifications to Include Recycled Content; and
2. PM 144 – Waste Reduction and Recycling Policies Concerning the Use of Paper in County Agencies.

Revisions are necessary to update these PMs and re-issue them in an effort to reinvigorate participation by county agencies (currently, few agencies participate). This will require visible and active support for these policies from the Board and the County Executive. The Solid Waste Management Program will attempt to revisit these issues with the Board of Supervisors and the County Executive. However, the Department of Purchasing and Supply Management must be involved to a great degree, in order to actually implement these policies in the county.

Staff will request a formal statement of support from the Board of Supervisors and the County Executive to be distributed to and implemented by all county agencies. However, the Solid Waste Management Program cannot implement these policies without input, staff effort, and support from the Department of Purchasing and Supply Management.

## **Environmental Agenda Objectives Supported:**

Solid Waste IV

## **Other Plans or Documents where this action appears or that it supports:**

20-year Solid Waste Management Plan for Fairfax County, published 2004

Solid Waste Management Program Strategic Plan (2006-2011)

Department of Public Works and Environmental Services Strategic Plan (2006-2011)

Board of Supervisors Environmental Agenda, published 2005

## **Lead Agency:**

DPWES-DSWDRR and DSWCR (collectively, the Solid Waste Management Program)

## **Status/Plans/Outcomes:**

The Solid Waste Management Program will continue exploring ways to communicate the benefits of using materials with recycled content with key staff. Ongoing communication strategies need to better link this initiative to the county's environmental policy, to draw staff support, and place the need to comply in the context of the larger environmental improvement work undertaken by the county. The Employee Recycling Committee could have a role in this effort, if supported by county management.

EIP10-SW07-4(B). Increase County Use of Recycled Products

Continued

**Resources**

Both the Board of Supervisors' and the County Executive's visible and active support of this policy will be critical in creating an atmosphere where county agencies will implement this program. Annual program costs are estimated at approximately \$10,000. Funding sources will include a request to the general fund. It is also critical that the Board of Supervisors and the County Executive ask the Department of Purchasing and Supply Management to prioritize this issue and implement these policies within the purchasing practices implemented by the county.

# **EIP10-SW07-5(B) Remote HHW Collection Events**

## **Description of Action**

Fund five remote Household Hazardous Waste (HHW) collection events per year. The County currently has two permanent HHW collection sites.

## **Environmental Agenda Objectives Supported:**

Solid Waste IV

## **Other Plans or Documents where this action appears or that it supports**

Solid Waste Management Program Strategic Plan, (2006-2011)

## **Lead Agency:**

DPWES-DSWDRR and DSWCR (collectively, the Solid Waste Management Program)

## **Status/Plans/Outcomes:**

The County routinely received requests for remote HHW collections. This project responds to such requests. Another outcome of remote collection sites is a reduction in the amounts of toxicity from refuse being processed by the E/RRF. This in turn reduces the load on the facility's pollution control systems and ultimately results in less net pollution from the facility.

## **Resources:**

The fourth consecutive year of remote events is in progress. Funding in the amount \$75,000 from FY 2009 used to fund five (5) scheduled events in 2008/2009. Anticipated actual cost for FY 2009 events is \$100,000 (\$108,000 including staff expenses and advertising). Anticipated cost for 5 scheduled events in FY 2010 is \$115,000.

# **EIP10-SW07-6(B) Develop Long-Term Plans to Manage Electronic Waste within Fairfax County**

## **Description of Action:**

Opportunities to promote reuse/recycling of electronic waste within Fairfax County will be continued to the extent possible. The ultimate goal is to provide a permanent program where county residents can drop off their unwanted electronic waste so that it can be kept out of the county's waste stream.

## **Environmental Agenda Objectives Supported:**

Solid Waste IV

## **Other Plans or Documents where this action appears or that it supports:**

Fairfax County's 20-year Solid Waste Management Plan  
Solid Waste Management Program Strategic Plan (2006-2011)

## **Lead Agency:**

DPWES-DSWDRR and DSWCR (collectively, the Solid Waste Management Program)

## **Status/Plans/Outcomes**

Fairfax County currently provides electronic recycling opportunities to residents in the form of recycling events held around the county at various locations annually. This activity is conducted in conjunction with ServiceSource's Keep it Green Program. They have partnered with a computer recycling firm that uses ServiceSource's labor pool to disassemble computers and peripherals. They take used electronic equipment at no charge *except* for computer monitors for which \$10 donations are requested for each monitor. This is to pay for management of the leaded glass that is contained in the cathode ray tube. The leaded glass is the material we are attempting to keep out of the waste stream.

## **Resources:**

Annual program costs for a permanent location to collect electronic waste are estimated at approximately \$225,000 per year. Funding sources have not yet been identified.

# **EIP10-SW07-7(B) Develop a Toxics Reduction Campaign**

## **Description of Action:**

Opportunities to educate businesses to properly manage everyday products when disposed of within Fairfax County will be continued. The ultimate goal is to create a regional campaign about how to properly manage end-of-life fluorescent lamps, rechargeable batteries and obsolete electronics.

## **Environmental Agenda Objectives Supported:**

Air Quality and Transportation II  
Solid Waste IV

## **Other Plans or Documents where this action appears or that it supports:**

Fairfax County's 20-year Solid Waste Management Plan  
Solid Waste Management Program Strategic Plan (2006-2011)

## **Lead Agency:**

DPWES-DSWDRR and DSWCR (collectively, the Solid Waste Management Program)

## **Status/Plans/Outcomes:**

Fairfax County is working in cooperation with NVRC to develop a regional approach to providing information about recycling electronics and other items that contain toxic components. Items targeted for this outreach program are fluorescent lamps, rechargeable batteries, and obsolete electronics. The program is comprised of a website entitled "KnowToxics.com" and brochures that will be distributed within communities to businesses and residents.

## **Resources**

Annual program costs will be approximately \$50,000 per year. Funding sources have not yet been identified.

# **EIP10-SW08-1(B) Maximize Recovery of Energy From Landfill Gas (LFG) Resources**

## **Description of Action**

The County has two closed municipal solid waste (MSW) landfills, one each at the I-95 and I-66 solid waste management facilities. These facilities generate landfill gas (LFG) as a natural part of the process by which MSW buried at these sites decays.

LFG consists of approximately 50 percent methane, and can be used as a substitute for natural gas (following minimum treatment). The energy in LFG can also be recovered by powering engine-generator or other energy recovery technologies. This action continues the emphasis placed on maximizing the energy recovery potential from our LFG resources.

## **Environmental Agenda Objectives Supported:**

Air Quality and Transportation II  
Solid Waste IV  
Environmental Stewardship VI

## **Other Plans or Documents where this action appears or that it supports:**

USEPA Landfill Methane Outreach Program (LMOP)

## **Lead Agency:**

DPWES-DSWDRR and DSWCR (collectively, the Solid Waste Management Program)

## **Status/Plans/Outcomes:**

In one of the earlier projects, funded in partnership with DWWM, the Solid Waste Management Program (SWMP) teamed with the County's Noman Cole Waste Water Treatment Plant (WWTP) to transport by pipeline up to 1,000 cube feet per minute (cfm) of LFG for the incineration of sludge at the WWTP, three miles away in Lorton.

Construction of the necessary infrastructure to use landfill gas from the I-66 Transfer Station Complex (closed landfill) as a source of renewable energy to heat the Administration Building is complete. Usage at the Department of Vehicle Services maintenance garage in a similar manner is anticipated for the 2008/09 heating season..

## **Resources**

\$300,000 of EIP funds used for project design and construction cost.

# **EIP10-SW08-2(B) Effluent Reuse at Covanta E/RRF from Noman Cole WWTP**

## **Description of Action:**

The Energy Resource Recovery Facility (ERRF) uses approximately two million gallons (2.0 MGD) of potable water for process purposes. This project will reduce consumption of potable water at the E/RRF through the reuse of WWTP effluent, as a substitute, which will also allow WWTP to further reduce nutrients in their effluent discharge. This action will provide both facilities with cost savings.

## **Environmental Agenda Objectives Supported:**

Water Quality III  
Solid Waste IV

## **Other Plans or Documents where this action appears or that it supports:**

Wastewater Management Program Strategic Plan (2006-2011)  
Development of the Nutrient Reduction Program at the Noman M. Cole Jr. Pollution control Plant  
Solid Waste Management Program Strategic Plan (2006-2011)  
Department of Public Works and Environmental Services Strategic Plan (2006-2011)  
Board of Supervisors Environmental Agenda, published 2005

## **Lead Agency:**

Wastewater Management Program (WWM)  
DPWES-DSWDRR and DSWCR (collectively, the Solid Waste Management Program)

## **Status/Plans/Outcomes:**

Project is technically and economically feasible, consisting of constructing a pipeline and pumping station to convey effluent from Noman Cole WWTP to Covanta E/RRF. Efforts must now focus on negotiating attractive terms with Covanta, modifying the existing Service Agreement to incorporate the new project, and identifying additional water users that can further improve project economics.

## **Resources:**

DWWM's work to develop attractive contract terms and finalize the project design is ongoing.

# **EIP10-SW08-3(A) Standby Power from Covanta E/RRF to Griffith WTP and Noman Cole WWTP**

## **Description of Action:**

The Covanta Energy Resource Recovery Facility (E/RRF), at the I-95 Landfill Complex, as a source of standby electrical power to the Griffith WTP and Noman Cole WWTP during protracted periods of imminent or actual interruptions in utility service.

## **Environmental Agenda Objectives Supported:**

Solid Waste IV

## **Other Plans or Documents where this action appears or that it supports:**

Board of Supervisors Environmental Agenda, published 2005  
Department of Public Works and Environmental Services Strategic Plan (2006-2011)

## **Lead Agency:**

DPWES-DSWDRR and DSWCR (collectively, the Solid Waste Management Program)

## **Status/Plans/Outcomes:**

Project will not go forward.

## **Resources:**

None

# **EIP10-SW08-4(B) Clean Streets Initiative**

## **Description of Action:**

Delegate provisions of authority to the Directors of the Solid Waste Management Program (SWMP) to enforce provisions of Chapter 46 of the Fairfax County Code that relate to unsanitary or improper disposal of trash, garbage, refuse, debris, other solid waste, or hazardous waste, also to pursue penalties for trash violations authorized by Section 46-1-6.

## **Environmental Agenda Objectives Supported:**

Solid Waste IV

## **Other Plans or Documents where this action appears or that it supports:**

N/A

## **Lead Agency:**

DPWES-DSWDRR and DSWCR (collectively, the Solid Waste Management Program)

## **Status /Plans /Outcomes:**

In response to complaints originating from the Board of Supervisors about persons who improperly dispose of their waste, garbage, debris, and similar materials, and do not have the materials removed, DPWES staff requested the ability to take the lead in these cases. Since they are engaged daily in waste removal and have the ability to react to these situations, it would be beneficial for DPWES to take the lead in enforcing Chapter 46 when material is not removed from curbside and it violates provisions of Chapter 46.

## **Resources:**

Annual costs would be approximately \$45,000 per year for outreach and support.

# **EIP10-SW09-1(C) SUPPORT TRASH-FREE POTOMAC WATERSHED INITIATIVE**

## **Description of Action:**

This is a regional program to reduce litter and increase recycling, education and awareness of solid waste issues in the Potomac Watershed. The Program commitments are summarized in the Potomac Watershed Treaty to which the Board is a signatory.

## **Environmental Agenda Objectives Supported:**

Water Quality III  
Solid Waste IV

## **Other Plans or Documents where this action appears or that it supports:**

Potomac Watershed Treaty (2006)  
Department of Public Works and Environmental Services Strategic Plan (2006-2011)  
Board of Supervisors Environmental Agenda (2005)

## **Lead Agency:**

DPWES-DSWDRR and DSWCR (collectively, the Solid Waste Management Program)

## **Status/Plans/Outcomes:**

The Solid Waste Management Program will support the Trash-Free Potomac Watershed Initiative through donations to the Alice Ferguson Foundation. The foundation holds annual summits to gather talented and visionary people to promote thinking and dialogue, which in turn identifies and recommends key steps to achieve the goal of a Trash-Free Potomac by 2013.

## **Resources:**

The Solid Waste Management program will donate \$50,000 to the Alice Ferguson Foundation in FY 2010.

# **EIP10-SW09-2(C) RENEWABLE ENERGY DEMONSTRATION PARK**

## **Description of Action:**

This is an initial feasibility study to identify a set of modest renewable energy projects that can be demonstrated as technically and economically feasible. Projects are to be installed at the I-95 Landfill Complex as part of the continued reclamation project for the site.

## **Environmental Agenda Objectives Supported:**

Growth and Land Use I  
Solid Waste IV  
Environmental Stewardship VI

## **Other Plans or Documents where this action appears or supports:**

Solid Waste Management Program Strategic Plan (2006-2011)  
Department of Public Works and Environmental Services Strategic Plan (2006-2011)  
Board of Supervisors Environmental Agenda (2005)

## **Lead Agency:**

DPWES-DSWDRR and DSWCR (collectively, the Solid Waste Management Program)

## **Status/Plans/Outcomes:**

Efforts will initially focus on identifying technologies and scope for one or more simplistic projects that can be constructed at the landfill within the next 6 to 12 months. Existing/completed renewable energy projects will be considered Phase I of the Demonstration. The first new project, Phase II, will likely be the installation of a solar water heater in the truck driver's restroom at the facility. Later Phases may include a windmill and solar panel array.

## **Resources:**

Approximately \$5,000 in equipment and staff time to install the water heater, with a matching donation from Covanta Fairfax, Inc. Funding in the amount of approximately \$45,000 to complete initial feasibility study and overall Park concept/design. Additional start-up funding may be necessary to complete specific projects in later Phases.

# **EIP10-PT08-02(A). Park Trail Mapping**

## **Description of Action**

The Board of Supervisors designated \$160,000 at FY 2005 carryover for park trail mapping. The Park Authority has extensive trails in its almost 400 parks. This comprehensive mapping program will allow the Park Authority to better manage and plan the trail system. This project includes coordination with DPZ and DPWES to capture and integrate data that is already available.

## **Environmental Agenda Objectives Supported:**

Parks Trails, and Open Space 3 and 5

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Park Authority Strategic Plan  
Park Authority Policy Manual

## **Lead Agency:**

Park Authority

## **Status/Plans/Outcomes**

This project was completed in the fall of 2007. Over 300 miles of Park Authority maintained trails, including data pertaining to surface material, width, stream crossing structures, culverts and signs, were mapped using Global Positioning System (GPS) devices. The data was integrated into a data layer in the County's Geographic Information Systems database that contains all County trails and sidewalks.

## **Resources**

\$160,000 funded

# **EIP10-PT08-04(A). Developing Natural Landscaping Guidelines and Policies for County Properties**

## **Description of Action**

This action focuses on the development of guidelines, policies and tracking mechanisms needed to successfully implement natural landscaping techniques and practices on County properties.

On June 21, 2004 the BOS directed staff to identify County properties where natural landscaping could be used to reduce maintenance practices that can cause harmful environmental impacts such as air pollution; to reduce the need and expense of mowing, pruning, edging, and using fertilizers, pesticides, and herbicides; and, to prepare a report with a proposed Countywide implementation plan. In response, a Natural Landscaping Committee (NLC) was formed to identify practices, policies and a Countywide implementation plan. A final report and recommendations was prepared and presented to the Board's Environmental Committee and approved by the BOS on July 11, 2005. The Board directed the County Executive to commission a multi-agency group to:

- Update the palette of natural landscaping techniques and practices as new information and research emerges
- Establish formal guidelines for retrofitting the landscapes of County properties both with and without developed facilities
- Develop natural landscaping guidelines and specifications for new facilities
- Draft a Countywide Natural Landscaping Policy to communicate the purpose, goals and importance of natural landscaping features on County properties
- Implement a five-year natural landscaping plan in an aggressive but cooperative fashion
- Produce an annual progress report that evaluates the level of cost-effectiveness and benefits that specific natural landscaping practices, techniques and projects are likely to provide
- Submit natural landscaping projects to the ECC for possible inclusion into the annual Environmental Improvement Program

## **Environmental Agenda Objectives Supported:**

Parks Trails and Open Space (General)  
Air Quality & Transportation (General)  
Environmental Stewardship 5  
Water Quality (General)

**Other Plans or Documents where this action appears or that it supports:**

Fairfax County Tree Action Plan  
Benefits and Application of Natural Landscaping and Five-year Implementation Plan (The report prepared for the BOS by the NLC)  
The Cool Counties Climate Change Initiative

**Lead Agency:**

DPWES—Urban Forest Management

**Status/Plans/Outcomes**

This effort has been completed. The Natural Landscaping Committee finalized guidelines and policies in FY 2008.

**Resources**

No additional resources were needed to generate natural landscaping-related guidelines and policies; however, additional funding is needed in order to implement practices and projects on County properties. See related AQ08-01(B), PT08-06(C) and ES08-09(C).

# **EIP10-PT07-01(B). 10-Year Pedestrian Capital Plan**

## **Description of Action**

The pedestrian task force final report was presented to the Board in January 2006, recommending a safety awareness campaign and a 10 year pedestrian capital plan. Seek funding to implement.

## **Environmental Agenda Objectives Supported:**

Parks Trails and Open Space 3; Growth & Land Use 2, 4, & 7; Air Quality and Transportation 1

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan

## **Lead Agency:**

DOT

## **Status/Plans/Outcomes**

Underway

## **Resources**

Programmed funding to meet the goals of the Pedestrian Task Force Report totals approximately \$46 million through 2011.

# **EIP10-PT07-02(B). Trail Projects/Pedestrian Improvements**

## **Description of Action**

In FY 2004, the Board of Supervisors appropriated, as part of the FY 2004 Third Quarter Budget Review, \$2.5 million and \$2.0 million, as part of the FY 2004 Carryover, for streetlight, drainage and walkways, for a total of \$4.5 million in general funds. Of this general fund amount, \$1,174,000 was earmarked for sidewalks and trails construction. The Trails and Sidewalks Committee has, in the past, developed a list of trail project priorities, and the Pedestrian Task Force has prioritized funding needs based on pedestrian safety. On November 2, 2004, county voters approved a \$165 million General Obligation Bond Referendum as part of the Board's four-year Transportation Plan. Within the Board's four-year Transportation Plan, \$10.8 million was designated to fund countywide pedestrian improvements such as sidewalks and trails, and improvements for bus stops and crosswalks, as well as pedestrian improvements for the Richmond Highway Initiative. \$15 million for pedestrian projects was included in the 2007 Transportation Bond.

## **Environmental Agenda Objectives Supported:**

Parks, Trails and Open Space 3; Growth & Land Use 2, 4, and 7; Air Quality & Transportation 1

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan

## **Lead Agency:**

DPZ/DOT

## **Status/Plans/Outcomes**

Underway

## **Resources**

Annual Cost: \$2,000,000

The budget should continue to provide an annual commitment for funding missing links to the sidewalk and trail system. An annual fund of at least \$2,000,000 should be available for this purpose. Because the inventory of trail needs is not complete, the total construction cost to complete an interconnected trail network in the County is unknown.

# **EIP10-PT07-03(B). Pedestrian Improvements in the Four Year Transportation Plan**

## **Description of Action**

The Fairfax County Board of Supervisors Four Year Transportation Plan, highlighted by the Route 1 Initiative, provides funding of nearly \$11 million for pedestrian improvements.

## **Environmental Agenda Objectives Supported:**

Parks, Trails and Open Space 3; Air Quality & Transportation 1; Growth & Land Use 7

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Board of Supervisors Four Year Transportation Plan

## **Lead Agency:**

DOT

## **Status/Plans/Outcomes**

Underway

## **Resources**

\$16,000,000 funded

Approximately \$16 million for pedestrian improvements, particularly related to the Route 1 Initiative, as provided in Board's Four Year Transportation Plan.

Actual expenditures on yearly basis undetermined; approximately \$16 million total available for timeframe of late 2004 into 2008 primarily. Board of Supervisors Four Year Transportation Plan provides necessary funding of \$16 million to accomplish the future plans noted above.

# **EIP10-PT07-04(B). Pedestrian Improvements as part of the State's Secondary Construction Program**

## **Description of Action**

The Board of Supervisors prioritized funding for pedestrians within the State's Secondary Construction Program for pedestrian improvement projects at priority intersections throughout the County, such as locations with high numbers of pedestrian crashes.

## **Environmental Agenda Objectives Supported:**

Parks Trails and Open Space 3; Air Quality and Transportation 1; Growth & Land Use 7

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan

## **Lead Agency:**

DOT

## **Status/Plans/Outcomes**

Underway

## **Resources**

\$2,900,000 funded through FY 2009

# **EIP10-PT07-05(B). Trails Inventory and Planning**

## **Description of Action**

Continue to update the existing trails map to help identify missing trail links. Inventory and prioritize the missing links for trail construction in conjunction with other priority projects considered by the Trails and Sidewalks Committee.

Use the most current aerial imagery available from County orthophotography data set and field checks to identify the missing links of the major commuting or recreational trail routes and prioritize which links should be completed first.

## **Environmental Agenda Objectives Supported:**

Parks Trails, and Open Space 3; Air Quality and Transportation 1; Growth & Land Use 7

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan

## **Lead Agency:**

DPZ

## **Status/Plans/Outcomes**

Underway

The Department of Public Works and Environmental Services and the Park Authority are working to update GIS data and routines are being developed to update information from new developments. The Department of Planning and Zoning will utilize this data for trail planning and to develop trail maps. See project PT08-02 (A).

Update of the existing trails map will continue as long as aerial imagery is updated on schedule.

## **Resources**

The current costs of this effort are being absorbed within staff's routine work schedule. However, an annual fund of at least \$2,000,000 should be available for continued trail development in order to make progress on the bridging of gaps in the system (see PT07-02 (B)). With respect to future costs, because the inventory is not complete, the total construction cost can not yet be determined.

# **EIP10–PT07-06(B). Upgrades for the Cross County Trail**

## **Description of Action**

After 6 years of work the Cross County Trail was completed in December 2005. The trail is more than 41 miles long, stretching from the Potomac River at Great Falls Park to the Occoquan River and passing through all nine magisterial districts. The trail forms a north-south trail spine for county trail users. An amount of \$450,000 for upgrades for the Cross County Trail was requested for the FY 08 budget, but not allocated, to continue improvements for this countywide trail.

This funding was requested to provide a match for grant money for a much needed re-route of the trail in the Springfield, Lee and Braddock Districts between Hunter Village Drive and the dam at Lake Accotink to ensure safe walking conditions and provide for the transportation needs of pedestrians and bicyclists in the County. This segment of the trail consists of more than 2 miles of trail and will include 3 bridges. The funds were requested to match existing Transportation Enhancement grant funds and other federal grant funds of more than \$1,500,000.

## **Environmental Agenda Objectives Supported:**

Park Trails and Open Space 3; Air Quality and Transportation 1; Growth & Land Use 7

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan

## **Lead Agency:**

FCPA

## **Status/Plans/Outcomes**

Underway

## **Resources**

In future years, additional funding in the amount of \$4,000,000 will be needed for improvements to the existing trail. These improvements will include re-routed sections, additional and improved stream crossings, improved and relocated road crossings, additional signs to identify trail connections, rest stop locations, drinking water sources, etc., and additional upgrades to trail surfacing. Funding sources for this additional amount have not yet been identified, but could include grant funds, Park Authority bond funding, and general funds.

# **EIP10-PT07-7(B). Park Authority Trail System**

## **Description of Action**

The Park Authority trail system continues to be developed through the park bond program and through volunteer efforts. Current and future efforts include evaluating missing links and providing needed trail network connections. In addition, trail plans need to be completed for Laurel Hill and Sully Woodlands where the complexity and breadth of the land and variety of uses will require careful planning.

## **Environmental Agenda Objectives Supported:**

Parks Trails, and Open Space 3; Air Quality and Transportation 1; Growth & Land Use 7

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan

## **Lead Agency:**

FCPA

## **Status/Plans/Outcomes**

Continue to implement the countywide trails plan in stream valley parks and within local-serving and other managed parks. Connect parks via trails to population centers and other trails in the trail network.

## **Resources**

Funded: \$5 million

Funds Needed: Approximately \$70 million

\$5 million for trails was included in the interim park bond that was approved in November 2006. A bond is also planned for 2008 which will include increased trail funds.

An additional 70 miles of trail are needed in the park system during the next eight years. These trails will be developed with a combination of county funds, bond funds, volunteer efforts, and grant funding. At an average cost of \$1 million per mile, \$70 million will be needed to implement this trail program to its fullest extent. Park Authority trails form the main off-road countywide trail system. It is essential to continue to develop these trails at a quick pace to attempt to meet the desire for trails as expressed in the needs assessment.

# **EIP10-PT07-08(B). Interpretive Signs Along FCPA Trail System**

## **Description of Action**

It has been estimated that over 50,000 people use park trails every day. The newly completed Cross County Trail, which stretches over 40 miles from the Potomac River in the north to the Occoquan River in the south, mostly within stream valley parkland, presents an ideal way to provide trail users with information about natural and cultural features found in Fairfax County.

In the past, interpretive signs have been added as funding and time allow, but a recent grant allowed an interpretive program to be developed for the entire trail. The goal for these first signs was to educate the public about the value stream valley parks provide to our history, present and future. More funding is needed to produce more of these signs and to develop new themes.

## **Environmental Agenda Objectives Supported:**

Parks Trails, and Open Space 3; Environmental Stewardship (General)

## **Other Plans or Documents where this action appears or that it supports:**

Park Authority Strategic Plan  
Park Authority Policy Manual  
Park Authority Natural Resource Management Plan

## **Lead Agency:**

FCPA

## **Status/Plans/Outcomes**

Five interpretive signs have been developed, incorporating themes from the natural and cultural components of this trail. Themes have been outlined and prioritized for new signs as funding allows. Thirty-five signs were installed in 2006 along the CCT.

We focused on natural topics like the benefits that vegetated stream valleys provide, buffering developed areas from wetlands and streams and the concept that the watershed we live in links us to our streams and to the Chesapeake Bay. These topics are in addition to existing signs focusing on the wildlife found within our stream valleys and the hazards and benefits of poison ivy. Not ignoring the cultural history of our stream valleys, we stress that stream valleys have been used for generations, and it is careful stewardship of these stream valleys which will allow them to remain.

EIP10-PT07-08(B). Interpretive Signs Along FCPA Trail System  
Continued

**Resources**

Needed: \$750,000

Interpretive signs cost in the neighborhood of \$500 to \$1,000 to develop and an additional \$500 to \$1,000 to produce. Estimating 250 total miles of trail, and estimating two signs per mile, the program would cost between \$500,000 and \$1 million to complete. Because trails are the most heavily used facility within the park system, there is an opportunity for stewardship education. Many of the one million people in the county would be exposed to this sign program and benefit from it.

## **EIP10-PT07-09 (B). FCPA Urban Parks**

### **Description of Action**

The Park Authority has an ongoing program to acquire new park lands and develop/redevelop park sites based on demonstrated need through the Needs Assessment evaluation process. Urban Parks are a subset of local-serving parkland of which there is a deficiency across the county, in particular in many of the urbanizing areas.

Diminishing land availability and an emphasis on “town center” and “transit oriented” development argues for the provision of smaller, publicly accessible open space areas that are integrated into compact new developments with higher intensities. More urban development concentrates more residents in integrated, compact locations without private yards. Therefore, the need for public outdoor open space and recreation facilities increases.

Some of the park acquisitions currently under consideration would qualify as urban parks based on their size (less than two acres) and location (in densely developed areas). Most, however, will be dedicated and perhaps built by private developers who proffer urban park space through rezonings. For instance, an urban park was recently completed in the Merrifield Town Center that will be dedicated to the Park Authority as a complete turnkey facility. Another turnkey urban park at the Parkcrest will be under development in Tyson's Corner in the next year or so. Ossian Hall Park in Annandale is an example of how the Park Authority has incorporated urban park features, such as plazas and performance space, into an existing community park located in a changing and urbanizing area of the County. As shown in these examples, strong public/private partnerships are necessary to provide adequate facilities for urbanizing areas.

There is a need to shift the emphasis from land acquisition or dedication of park land in urban areas to a more functional and integrated design of public open space within development plans. These public parks should be accessible to everyone, and can either be owned by the developer or the Park Authority, depending upon site considerations. Open spaces should not be considered “left over” areas deemed unusable for any other purpose – rather, they should be well-designed, integral pieces of the urban fabric. There may be opportunities to provide public open space near transit hubs or other civic uses or centers (such as libraries or other public facilities), providing multiple services in one location. In order to provide a community with adequate gathering spaces for various activities, public parks should vary in size and programmatic elements to create distinct urban experiences. Programmatic elements may include farmer's markets, a rotation of public art displays, or international street fairs. With an area as culturally diverse as Fairfax County, there are many opportunities to use public spaces as a showcase for the multi-faceted characteristics of the community.

### **Environmental Agenda Objectives Supported:**

Parks Trails, and Open Space 1, 2

### **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan

Park Policy Manual

**Lead Agency:**

FCPA

**Status/Plans/Outcomes**

Ongoing

Two significant acquisitions were made with funding from the 2004 Bond that will serve County urban areas, one in Bailey's and one in Merrifield. The Park Authority will continue to pursue acquisition in urban areas as funding is made available, through bond dollars and proffers in the land development process and through a variety of partnerships in Tysons Corner, transit-oriented development (TOD) areas, and revitalization areas. The Park Authority is actively working with the Tysons Land Use Task Force as it develops a preferred future development scenario for Tysons Corner. In addition, Park Authority planning staff is actively working with County revitalization staff to encourage urban parks in revitalization districts. As a result of staff better understanding urban parks and how they should be integrated into Tysons and other emerging mixed use centers in the County, staff recommendations to the Tysons Task Force included urban parkland service level standards that are more appropriate to urban areas. The Park Authority Board recently approved an urban parkland standard of 1.5 acre per 1,000 population and 1 acre per 10,000 employees. The Park Authority also recommended development of a three-tiered park system within Tysons Corner that includes urban pocket parks, urban recreation nodes and a central park. These standards support County policy language concerning urban parks.

It is challenging to acquire and develop these types of parks due to the high cost of land in urban and other mixed use areas and low land availability. It can also be more expensive to develop these types of parks as the intensity of use requires higher quality landscaping and hard surfacing and a concentration of facilities. The Park Authority is actively pursuing acquisition and creation of new urban park sites in urbanizing areas of the County. Opportunities to leverage funding for new public urban parks are currently being explored cooperatively with other County agencies and private developers.

**Resources**

Cost: \$1,000,000 for acquisition (funded)

Future Cost: \$10,000,000+ to acquire and develop 2-3 urban pocket parks in urban areas or 1 central park in Tysons.

\$10,000,000 will develop 2 - 3 of urban parks in locations to be determined. Two significant acquisitions were made with funding from the 2004 Bond that will serve County urban areas, one in Bailey's and one in Merrifield. The Park Authority has little remaining acquisition funds available from the 2006 Park Bond program. Further needs will be identified with the 2008 Park Bond program. With the cost of acquiring park land in these urban areas currently ranging from \$0.5 - \$1.0 million per acre, there is no adequate source of funding available. Privately owned pocket parks established as part of the land development process with public access are an effective alternative to meet a portion of this need.

# **EIP10-PT07-10(B). Parks and Recreation Needs Assessment Process**

## **Description of Action**

A Parks and Recreation Needs Assessment provides a 10-year Capital Improvement Plan for new park facilities, renovations and land acquisition that seek to meet the park and recreation needs of Fairfax County residents. A 2003 cost estimate for Capital Improvements needed through 2013 was \$376 million and is now valued at \$435 million. Implementation of the plan is primarily through General Obligation Bonds. Park Bond approved since 2004 total \$90 million with an additional \$50 million bond referendum scheduled for 2008. The plan serves as a decision-making guide to ensure direct projects included in the bonds are consistent with citizen needs.

## **Environmental Agenda Objectives Supported:**

Parks Trails, and Open Space 1, 2, 4, 5

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
FCPA Policy Manual  
FCPA Strategic Plan

## **Lead Agency:**

FCPA

## **Status/Plans/Outcomes**

Underway

Implementation of the Needs Assessment is ongoing through the Capital Improvement Program, Comprehensive Plan Amendments, and Long Range Park Planning.

The Needs Assessment process should be updated every 5-7 years and should take place in FY 2009/10 in order to capitalize on changes in the County demographics as well as coincide with funding cycles.

## **Resources**

Cost: TBD

Hiring a consultant for the 2002-2004 Needs Assessment cost approximately \$300,000. Update to the Needs Assessment is planned in FY 2010, at which time a resource cost will be assessed. It is anticipated that the cost to hire a consultant will be at least \$300,000.

The Needs Assessment is the primary tool used by the Planning and Development Division of the Park Authority to recognize park land and facility deficiency in the County and is the first step in planning the location of facilities in new or existing parks. The implementation of actions recommended in the Needs Assessment is addressed in PT07-11(B).

# **EIP10-PT07-11(B). Parks and Recreation Needs Assessment Implementation**

## **Description of Action**

The Park Authority has conducted a comprehensive needs assessment to guide park planning and development. The final product of the Park Authority Needs Assessment Project was the development of a 10-Year Needs-Based Capital Improvement Plan. This Plan outlines the cost of meeting the County's park and recreation deficiencies presently and projected through 2013. The CIP has three cost areas: Land Acquisition, New Development, and Renovation, and breaks the timeframe into Near Term, Intermediate Term and Long Term. The Plan is implemented through the annual Capital Improvement Program and funded through Park Bonds, donations, proffers and other sources.

## **Environmental Agenda Objectives Supported:**

Parks Trails, and Open Space 1, 2, 4, 5

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
2004 Park and Recreation Needs Assessment  
FCPA Strategic Plan

## **Lead Agency:**

FCPA

## **Status/Plans/Outcomes**

Underway

The 2004 Park Authority Needs Assessment identified \$111,838,000 needed in the near term (2004-2007) and \$377,000,000 needed through 2013 for land acquisition, facility renovation, and new capital improvements. A portion of the Near Term Needs will be satisfied through the acquisition and build out of the current and upcoming Capital Improvement Plans. The approved 2004 and 2006 Park Bonds total \$90 million and will meet a portion of the funding need. A 2008 Park Bond Referendum is scheduled for November 2008 that will fund additional land acquisition, stewardship and renovation projects.

Intermediate Term (2008-2010) Needs identified in the 2004 Needs Assessment (not including Land Acquisition) total \$93,258,403 of the \$377,000,000 needed through 2013. The next park bond is scheduled for 2008 for \$50 million.

Continued

**Resources**

Cost for new development and renovation: \$68,000,000 has been funded through the 2004 and 2006 Park Bonds. In addition, a \$50 million park bond referendum is scheduled for November 2008 that will fund additional land acquisition, stewardship and renovation projects.

Future Cost: Unfunded Near Term Park Needs (2004-2007) \$ 27,583,995 This amount represents the balance of near term new development and renovation costs (\$86,583,995) minus the \$53,000,000 in the 2004 Park Bond and \$15,000,000 in the 2006 Park Bond. (This does not include land acquisition,). The 2008 Park Bond, should it be approved in the voter referendum in November, will fund a portion (approximately \$20 million) of the renovation needs identified in the Needs Assessment. Unfunded Intermediate Term Park Needs (2008-2010) \$93,258,403. The scheduled 2008 Park Bond in the amount of \$50 million will address a limited amount of the Intermediate Term Park Needs.

Land Acquisition is addressed in PT07-12(B).

# **EIP10-PT07-12(B). Parkland Acquisition**

## **Description of Action**

The Park Authority has an ongoing program for acquisition of property, including vacant and underutilized parcels, for open space. Parcels identified must be suitable for active recreation uses, natural or cultural resource preservation, or trail connectivity. Chairman Connolly has challenged the Park Authority to acquire 10% of the land in the county. Current land holdings account for 9.5% of the county land mass, with over 1,000 acres needed to reach the 10% target.

## **Environmental Agenda Objectives Supported:**

Parks Trails, and Open Space 1, 2, 3, 4, 5, and 6

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan

## **Lead Agency:**

FCPA

## **Status/Plans/Outcomes**

Underway

The Park Authority will continue to identify and acquire land suitable for public open space through a variety of methods. This will include active pursuit of: purchases of private land, purchase of trail and conservation easements on occupied land, transfers of open space land from the County and other organizations, dedications of land through the land development process, and donations of land and funding from both private entities and public organizations.

The adopted Land Acquisition Criteria and the Needs Assessment will continue to guide the planning of the land acquisition program where open space and developable land for active recreational uses is needed most throughout the county. As critical land acquisition decisions arise from unsolicited sources (offers of bargain land sales, targeted properties appear on the market for sale), the Park Authority will evaluate proposals and consider options to alter its current program course to take advantage of such opportunities.

**Resources**

Funded: \$2,000,000 (remaining to date from 2006 bond)

Funding Needed: \$100,000,000 (identified in the Park Authority Board approved Land Acquisition work plan).

The cost of resources needed to fully accomplish this objective has not yet been identified, as the price of land varies significantly throughout the county. While some acquisitions are made at no cost to the Park Authority, such as a transfer of county land, the properties that are most important to fill deficiencies in open space countywide must be purchased. With the rapidly dwindling availability of open space in the County, and continually rising cost of land, adequate land acquisition funding is needed for the Park Authority to acquire open space. The recent downturn in the housing market has created opportunities to purchase land at a lower cost. With the support of the County Executive and the Dept. of Management and Budget, creative financing opportunities can be created which will allow the Park Authority to purchase open space before it is too late.

# **EIP10-PT07-13(B). Open Space Easements/NVCT Partnership**

## **Description of Action**

Through the Open Space Easements Program coordinated by the Dept. of Planning and Zoning, donation or purchase of conservation easements has been encouraged for a number of purposes, including open space, historic preservation and trails. The public is encouraged to work with any qualified non-profit land trust, or with the Fairfax County Park Authority or the Northern Virginia Regional Park Authority.

There are several non-profit land trusts that work locally, including the Northern Virginia Conservation Trust (NVCT) and the Potomac Conservancy. The County entered into a public-private partnership with NVCT in FY 2001. Through this partnership, NVCT has obtained 33 conservation easements, four land gifts and assisted projects protecting over 650 acres in Fairfax County. NVCT estimates a value of over \$50 million in protection through this program. The Potomac Conservancy seeks easements to protect the Potomac River in four states and the District of Columbia, and has six easements in Northern Virginia (Arlington and Fairfax Counties).

NVCT proactively identifies properties with high natural resource or historical value and promotes donations of easements or fee simple interests in the land. Using the Fairfax County Park Authority's Green Infrastructure Model and the Inventory of Historic Sites, the Trust contacts landowners of significant properties and encourages donation of conservation easements or fee simple interest. By using federal and state tax incentives NVCT has been able to facilitate the donation of over \$50 million worth of conservation lands in Fairfax County.

## **Environmental Agenda Objectives Supported:**

Parks Trails, and Open Space 4, 6

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan

## **Lead Agency:**

DPZ/FCPA/NVCT

## **Status/Plans/Outcomes**

Underway

EIP10-PT07-13(B). Open Space Easements/NVCT Partnership  
Continued

**Resources**

Cost: \$282,047 (Approved County Contribution for FY 2009)

Future Cost: \$282,047 + CPI (annual cost)

# **EIP10-PT07-14(B). Park Authority Conservation Easement Initiatives**

## **Description of Action**

Park Authority conservation easement initiatives are utilized for preservation of open space, historic and natural resources, and to facilitate trail connections throughout the County.

The Fairfax County Park Authority (Park Authority) is a leader in conservation and preservation of open space and is dedicated to protecting natural, cultural and historic resources in Fairfax County. The Park Authority and the Board of Supervisors have acquired a 41-acre conservation easement and purchase options on the historic property known as “Salona.” The Salona homestead and grounds comprise 7.8 acres within the 52.4 acre site, and is already protected in perpetuity by a 1971 easement to the Board of Supervisors. Salona derives its name from the circa 1805 homestead associated with this site. Salona has significant cultural history of local, state and national importance that spans centuries. This was the home of Henry “Light Horse Harry” Lee, a Revolutionary War hero; it was to Salona that Dolley Madison fled in 1814 when British troops were burning the White House; and during the Civil War, Salona served as a part of the headquarters for the Union Army. The Northern Virginia Conservation Trust has the role of easement enforcement, and collaborated on the acquisition of the easement. Several other key acquisitions of conservation easements include the Elklick Woodland Natural Area Preserve, which protected over 200 acres of rare oak hickory forest from development, and the preservation of Oak Hill, the last remaining residence with a connection to the Fitzhugh family (the Fitzhugh's owned the largest land grant in Fairfax County in the 1700's). In addition, the Park Authority completed the Cross County Trail, using acquisitions of open space, conservation easements and trail easements as mechanisms to complete the CCT.

The Park Authority has developed the Green Infrastructure Model for targeting land acquisition opportunities that have significant natural or cultural resources. The Green Infrastructure Model, along with the recently completed Park Authority Needs Assessment, has provided a blueprint for acquisition of parkland and preservation of open space, significant resources, and trail corridors in the County.

## **Environmental Agenda Objectives Supported:**

Parks Trails, and Open Space 1, 2, 4, 5

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Park Authority Strategic Plan  
Park Authority Policy Manual  
Park Authority Natural Resource Management Plan  
Park Authority Cultural Resource Management Plan

**Lead Agency:**

FCPA

**Status/Plans/Outcomes**

Ongoing

The Park Authority will continue to utilize the Green Infrastructure Model and Needs Assessment tools to cost effectively acquire additional open space, conservation easements and trail connections. Refinement of the Green Infrastructure Model and the implementation of the Agency Natural Resource Management Plan, which lays out strategies to evaluate natural resources on properties prior to acquisition, will allow the Park Authority to make more deliberate and effective decision in regards to open space protection through acquisitions and easements. With the rapidly dwindling availability of open space in the County, and continually rising cost of land, conservation easements will become a much more heavily relied upon tool for the Park Authority to protect open space.

**Resources**

Funded: \$2,000,000 (remaining to date from 2006 bond)

Funding Needed: \$10,000,000 would help establish a more aggressive Park Authority conservation easement program.

# **EIP10-PT07-17(B). Park Authority Natural Resource Management Plan Implementation--Encroachment Enforcement**

## **Description of Action**

The Park Authority has developed an Agency-wide Natural Resource Management Plan (NRMP), which was approved by the Park Authority Board in January 2004. The plan outlines strategies, actions and policy changes needed to appropriately plan, develop and manage parkland. The first phase of implementation of the Natural Resource Management Plan is focused on strategies that do not require additional resources such as reviewing policies and procedures, building partnerships and expanding education. To continue to implement this plan, funding is needed. The sixth year begins in FY 2010 and will show little progress without additional resources. In addition, in order to adequately manage and develop our parks, the Park Authority continues to stretch limited resources in the areas of acquisition, planning, development and maintenance.

The Park Authority has tens of thousands of park neighbors and these neighbors can have tremendous impacts on park resources through intentional and unintentional encroachments. The Park Authority addresses encroachment as they can with existing resources and has produced a brochure to educate park neighbors which is already in its second printing. This enhanced program will focus on encroachment detection, enforcement and elimination on parkland. A dedicated encroachment team will not only mitigate impacts from current encroachments, but also educate residents on how to be good park neighbors.

## **Environmental Agenda Objectives Supported:**

Parks Trails, and Open Space 5

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Park Authority Strategic Plan  
Park Authority Policy Manual  
Park Authority Natural Resource Management Plan

## **Lead Agency:**

FCPA

**Status/Plans/Outcomes**

Due to not having the focused resources to appropriately manage parkland encroachments there remains significant numbers of encroachments and limited ability to enforce the agency's encroachment policy. This program would allow focused encroachment detection, notification, enforcement and elimination to occur on all parklands with particular emphasis on 'unstaffed' parklands, such as stream valleys and new undeveloped parklands.

**Resources**

Funding Needed: \$200,000 (annual cost)

While this effort requires dedicated recurring funding and staff position/s to be fully implemented, significant progress can be made with one-time funding.

# **EIP10-PT08-01(B). Park Natural Resource Management**

## **Description of Action**

The Park Authority has developed an agency-wide Natural Resource Management Plan (NRMP), which was approved by the Park Authority Board in January 2004. The plan outlines strategies, actions and policy changes needed to appropriately plan, develop and manage parkland. Fiscal Year 2010 will mark the 6th year of plan implementation.

We are now at a critical stage in which we can not continue to make significant progress without additional staff and funding.

## **Our natural areas at risk**

- Invasive plants are crowding out native trees and taking over our forests.
- Deer are devouring young trees, leaving the future of the forests at risk.
- A lack of natural disturbance (such as fire) has left our forests unhealthy and stocked with too much fuel.
- If we do not act, our forests may not continue to regenerate at all and certainly will not be healthy, functioning systems.
- Without these functional systems our air quality will continue to degrade.
- Our streams will also continue to degrade. As the stewards of many of the county's stream valleys which ultimately protect the Chesapeake Bay we must act to protect and maintain these natural systems.

## **Environmental Agenda Objectives Supported:**

Parks Trails, and Open Space 1, 2, 3, 4, 5, and 6  
Environmental Stewardship 1, 2, 3, and 4

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Park Authority Strategic Plan  
Park Authority Policy Manual  
Park Authority Natural Resource Management Plan

## **Lead Agency:**

Park Authority

### **Status/Plans/Outcomes**

- As the steward of many of the county's natural areas and an educator, the Park Authority must take the lead in natural resource management.
- The Park Authority's Natural Resource Management Plan has been in place and under implementation for several years. The plan, when implemented, will strongly support the Board's 20-Year Environmental Vision.
- In anticipation of the plan, in 2003, the Natural Resource Group was restructured and one position was added from within.
- Five years into implementation (as of FY 2009), we are doing everything we can – making changes to policy and practices, educating staff and residents and asking all Fairfax County Park Authority staff to help where they can.

The intent of the Natural Resource Management Plan – to manage natural resources - can not occur without additional funding and staff.

### **Resources**

- To manage all of our natural areas, it is estimated that \$3 million per year and dozens of staff are needed.
- Some of the functions and capacity we are lacking include: natural land managers, ecologists, restoration specialists, water resource specialists, wildlife specialists, planners and project managers.
- A phased approach will allow us to manage the natural resources on at least 10 percent of our parkland. We'll use this first phase to learn how best to set up the program for all park land.

**Phase 1 cost:** \$650,000 recurring need includes six staff positions in technical and field disciplines, costs for consultant services, equipment and operating costs.

\$200,000 would fund a Resource Assessment Toolkit study that would be done by a consultant and would help us begin to address at least 20 of the 111 strategies in the NRMP.

# **EIP10-PT08-03(B). Park Information Systems**

## **Description of Action**

The goal of the project is to develop a framework for modeling ecologically significant resources to inform land use and development decisions in Fairfax County. The project will be an ecological modeling proof of concept to show what modeling options are available, how well they work and how much they would cost. If implemented, the model could help both the Park Authority and the County make more informed land use decisions.

While there are many robust models completed by local, regional and national agencies, many are not applicable to Fairfax County because it is urbanized and traditional conservation biology principles can not readily applied to the county. Therefore, the consultant, in coordination with the Park Authority, will need to develop principles and criteria for defining ecologically significant resources in Fairfax County. Areas with potential for restoration will also be identified.

## **Environmental Agenda Objectives Supported:**

Parks Trails, and Open Space 4, 5, and 6

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Park Authority Strategic Plan  
Park Authority Policy Manual  
Park Authority Natural Resource Management Plan

## **Lead Agency:**

Park Authority

## **Status/Plans/Outcomes**

The project was awarded to PlanGraphics, Inc in the fall of 2007 who has teamed up with George Mason University as a sub-consultant. The project is well underway and all but the demonstration of the model (which is unfunded) should be completed late in 2008.

A demonstration of the model to be conducted for the Sully Woodlands region and the results used to refine the model protocol is unfunded. The end product will be a detailed protocol including all analytical steps as well as data needed, sources and costs. Development of the model for the entire county will be considered based upon results of this study and availability of funding.

EIP10-PT08-03(B). Park Information Systems  
Continued

The Park Authority is leading this project and collaborating with the Department of Information Technology, the Department of Planning and Zoning, the Department of Public Works and Environmental Services and others.

**Resources**

\$180,000 funded by the Board of Supervisors

\$200,000-\$1,000,000 additional funding is needed to test and implement the model.

# **EIP10-PT09-01(B). Creation of District-Wide Park Plans**

## **Description of Action**

The Park Planning Branch of the FCPA will evaluate the existing park system systematically by planning district. For each planning district, data will be compiled about existing park conditions, existing and planned park facilities, resources and uses and how resources serve those who live in and around the district. Current park master plans will be reviewed to update park classifications consistent with the Park Policy Plan amendments adopted by the BOS in June 2005, and recommendations to achieve a more integrated park system will be proposed. Draft district-wide park plans will be considered by park stakeholders, the general public and approved by the Park Authority Board. These plans will then be used as a basis for amendments to the Park and Recreation recommendations within the Area Plans element of the Comprehensive Plan to be considered by the public, Planning Commission and approved by the Board of Supervisors.

The plan updates will compile information and recommendations from multiple sources, including GIS, Park Master Plans, Park Authority databases, the Comprehensive Plan, stream and watershed assessments through DPWES/NVSWCD, extensive stakeholder and public input, and county, state and federal inventories of cultural and natural resources..

## **Environmental Agenda Objectives Supported:**

Parks Trails and Open Space 2 and 3; Growth & Land Use 2, 4, & 7; Air Quality and Transportation 1

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Park Authority Needs Assessment  
Watershed Plans  
Park Authority Strategic Plan

## **Lead Agency:**

FCPA

## **Status/Plans/Outcomes**

Underway

The Park Authority has completed Existing Conditions Reports (XCR's) for each planning district and has posted them for public review. Public outreach and stakeholder identification has also occurred. Further issues analysis, additional public and stakeholder outreach, staff recommendations, and Park Authority Board review will occur throughout FY 2009-2010.

## **Resources**

Using available FCPA and DPZ staff time

## **EIP10-PT09-02(B). Energy Manager Park Authority**

This fact sheet has moved to Environmental Stewardship and is now called EIP10-ES09-18(B). Energy Manager, Park Authority

## **EIP10-PT09-03(B). Synthetic Turf Athletic Fields**

### **Description of Action**

In 2004, the FCPA developed its first synthetic athletic field turf conversion at Lewinsville Park #2, in partnership with a community user group. In 2005, the FCPA converted and lighted E.C. Lawrence Park #2. In 2006 Mason District Park #4 and Wakefield Park #5 underwent conversions utilizing the Synthetic Turf Field Development Program (STFDP), a matching fund type effort. In the summer of 2007, the conversion of Poplar Tree Park #3 & #4; South Run Park #5 & #6 and Carl Sandburg MS were completed.. The phase one development of Patriot Park which included the construction of a synthetic turf field and low impact stormwater management facilities was completed in the fall of 2007. Synthetic turf conversion projects upcoming for 2008 include Bryant MS; Franconia Park #4; Spring Hill Park #2 & #3 and a 60' diamond field at Nottoway Park #5. Synthetic turf athletic fields may be utilized by the community nearly year round, during and after most weather events, while maintaining a very high degree of playability and player safety.

The fields are environmentally friendly in a variety of ways. The carpet is perforated and installed on a 8"+ porous aggregate base providing excellent vertical drainage. This helps filter contaminants while slowly releasing storm water thorough its subsurface drainage system, minimizes peak flows typical of sheet drained fields. Relative to a natural turf field, these fields require reduced overall maintenance. Emissions are greatly reduced as mowing, aeration, top dressing, seeding, and several other natural turf management tasks performed with fuel powered equipment are eliminated. Applications of fertilizers, soil amendments, and pesticides are not needed, eliminating the potential for runoff, volatilization and ground water contamination. Supplemental irrigation is eliminated, saving this resource.

### **Environmental Agenda Objectives Supported:**

Air Quality (general), Parks, Trails, and Open Space (general) and Environmental Stewardship (general)

### **Other Plans or Documents where this action appears or that it supports:**

Air Quality Management Plan  
Comprehensive Plan  
Park Authority Strategic Plan  
Park Authority Policy Manual  
Park Authority Natural Resource Management Plan

### **Lead Agency:**

FCPA

### **Status/Plans/Outcomes**

Underway.

**Resources**

Patriot Park Phase One is funded by the 2004 Bond. Phase Two may include two to three additional synthetic turf fields and is currently not funded.

The 2006 Park Bond included \$10M for synthetic turf field development.

Additionally, STFDP is supported by use fees collected by Community Recreation Services (CRS) at approximately \$500K per year and community partnerships.

Funding also is made available as a result of developer proffers and direct community partnerships.

## **EIP10-PT08-07(A): Planting Trees for Energy Conservation at County Facilities**

**PT08-07(A) shown here and in EIP FY 2009, is now listed in Section D in the “A” category because it was absorbed into AQ08-05(B) shown in the Air Quality and Transportation section. That merging is recorded in the “Status” column of the Section D matrix for PT08-07(A) and in the fact sheet for AQ08-05(B).**

# **EIP10-PT07-21(C). Park Authority Natural Resource Management Plan Implementation--Boundary Survey and Marking**

## **Description of Action**

The Park Authority has developed an Agency-wide Natural Resource Management Plan (NRMP), which was approved by the Park Authority Board in January 2004. The plan outlines strategies, actions and policy changes needed to appropriately plan, develop and manage parkland. The first phase of implementation of the Natural Resource Management Plan is focused on strategies that do not require additional resources such as reviewing policies and procedures, building partnerships and expanding education. To continue to implement this plan, funding is needed. The sixth year begins in FY 2010 and will show little progress without additional resources. In addition, in order to adequately manage and develop our parks, the Park Authority continues to stretch limited resources in the areas of acquisition, planning, development and maintenance.

The Park Authority has more than 23,000 acres of land, most of which is not marked at its boundaries. As a result, boundaries are not clear and park neighbors can have tremendous impacts on park resources through unintended encroachments.

This program would survey and permanently mark park boundaries. This would make park property lines clear and help to prevent misunderstandings about property lines and discourage encroachments and their negative impacts.

## **Environmental Agenda Objectives Supported:**

Parks Trails, and Open Space 5

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Park Authority Strategic Plan  
Park Authority Policy Manual  
Park Authority Natural Resource Management Plan

## **Lead Agency:**

FCPA

**Status/Plans/Outcomes**

The majority of parkland boundaries are not marked. The continued lack survey and boundary marking allows undesired use of park land such as dumping, encroachments and poor land use practices such a off road biking, hunting and natural/cultural resource degradation. This program includes staff to conduct boundary surveying and marking with supplemental survey work by contract.

**Resources**

Funding: None

Funding Needed: \$250,000 (annual cost)

While this effort requires dedicated recurring funding and staff position/s to be fully implemented, significant progress can be made with one-time funding.

# **EIP10-PT08-05(C). Sully Woodlands Interpretive Center and Resource Management**

## **Description of Action**

The Park Authority has developed a regional master plan for all parkland located within the boundaries of the Cub Run and Bull Run watersheds. This Sully Woodlands Regional Master Plan was developed in close coordination with the watershed planning process. The goal was to produce a regional master plan that not only achieves park objectives for land use and resource management, but one that is in direct concert with, and rooted in, similar county watershed management objectives. This model approach will serve the Park Authority well in other areas of the County as well.

An interpretive center and resource management activities are recommended in the plan. Natural resource management research, plans and activities will need to occur to maintain the integrity of the natural resources and to continue to protect the Cub Run and Bull Run watersheds.

## **Environmental Agenda Objectives Supported:**

Water Quality 1, 2, and 3  
Parks, Trails and Open Space 1, 2, 3, 4, 5, and 6  
Environmental Stewardship 1, 2, 3 and 4

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Park Authority Strategic Plan  
Park Authority Policy Manual  
Park Authority Natural Resource Management Plan

## **Lead Agency:**

Park Authority

## **Status/Plans/Outcomes**

Not begun

## **Resources**

Amount to be determined.  
Funding will be needed for a nature center as well as interpretive staff and resource/land management staff.  
Funding for a conceptual plan is included in the proposed 2008 bond.

# **EIP10-PT08-06(C). Implementing Natural Landscaping Practices on County Properties**

## **Description of Action**

This action focuses on the implementation of natural landscaping techniques and practices on County properties. On June 21, 2004 the BOS directed staff to identify County properties where natural landscaping could be used to reduce maintenance practices that can cause harmful environmental impacts such as air pollution, and reduce the need and expense of mowing, pruning, edging, and using fertilizers, pesticides, and herbicides. In response, a Natural Landscaping Committee (NLC) was formed to identify practices, policies and a Countywide implementation plan. The final report and recommendations of the NCL was presented to the Board's Environmental Committee and approved by the BOS on July 11, 2005. The BOS directed the NLC to implement a five-year natural landscaping plan in an aggressive but cooperative fashion and submit natural landscaping projects to the ECC for possible inclusion into the EIP. The following projects are examples of specific natural landscaping projects that can be implemented on County properties:

- Establishing no-mow-zones and replanting these areas with tree seedlings and other alternative ground covers such as native wild flowers and grasses
- Planting riparian buffers with native trees and shrubs
- Installing Schoolyard Habitat Gardens
- Installing natural landscaping improvements using native plants around schools and governmental buildings
- Refitting stormwater management facilities using natural landscaping techniques
- Removing invasive plants that threaten native plant communities and replace with appropriate species trees and shrubs

## **Environmental Agenda Objectives Supported:**

Parks Trails and Open Space (General)  
Air Quality & Transportation (General)  
Water Quality (General)  
Environmental Stewardship 5

## **Other Plans or Documents where this action appears or that it supports:**

Fairfax County Tree Action Plan  
Benefits and Application of Natural Landscaping and Five-year Implementation Plan  
Cool Counties Climate Change Initiative

EIP10-PT08-06(C). Implementing Natural Landscaping Practices on County Properties  
Continued

**Lead Agency:**

DPWES—Urban Forest Management

**Status/Plans/Outcomes**

In alignment with BOS direction to pursue the “aggressive and widespread use of natural landscaping,” if funded this action will implement approximately 130 natural landscaping projects on County-owned properties such as governmental centers, libraries, fire stations, parks and schools over the next five fiscal years (FY 2008 through FY 2013).

These projects involve practices that will reduce mowing acreage and associated use of fertilizers, pesticides, gasoline and other petroleum based-fuels. Reduction of Volatile Organic Compounds (precursors to the formation of Ozone) emissions from reduce use of mowing equipment will result in improvement to air quality, especially during summer months when ambient Ozone levels become a critical air quality issue. The riparian buffer and stormwater management area projects will help to improve water quality.

Natural landscaping techniques can be used to reduce carbon dioxide emissions because they tend to require less fossil fuels to maintain than conventional landscaping, and they can also be used to provide energy conservation services for adjacent buildings. Most natural landscaping projects can be used to promote the use of natural landscaping on private properties (see related ES08-09(C) Promoting the use of Natural Landscaping).

**Resources**

FY 2010 funding needed: \$100,000

# **EIP10-PT10-01(C) Weather Stations for Efficient Water Use at Golf Courses**

## **Description of Action**

The Park Authority operates seven golf facilities with extensive automated irrigation systems. Providing irrigation water in an efficient manner is our goal not only to save on water costs, but also to reduce our impact to the environment by using less water. At present we do not have any weather stations in use to assist our managers in their operations. We are requesting funding to allow the installation of a weather station at both Twin Lakes and the Laurel Hill Golf Club. These stations will aid the site superintendent in administering their site specific irrigation programs using advanced technology. These systems will help to measure air temperature, relative humidity, barometric pressure, rainfall, solar radiation, wind direction and wind speed. These stations would assist our Wise Water Use initiatives at our two largest water consumer sites. Water consumption will be reduced as we have the necessary information to modify our watering programs. The data collected by the station will allow us to run shorter irrigation cycles, deliver water to areas in most need and even terminate irrigation cycles during un-staffed times.

## **Environmental Agenda Objectives Supported:**

Environmental Stewardship (General)  
Parks Trails and Open Space (General)

## **Other Plans or Documents where this action appears or that it supports:**

Park Authority Strategic Plan  
Park Authority Natural Resource Management Plan

## **Lead Agency:**

Park Authority

## **Status/Plans/Outcomes**

This project is ready to be implemented if funded.

## **Resources**

\$10,000 (unfunded) for two golf courses

Contracted price quotes have been received from John Deere Landscapes for \$5,000 per unit totaling \$10,000 for both Twin Lakes and Laurel Hill Golf Club.

# **EIP10-ES09-07(A) Development of a Green Building Policy for County Capital Projects**

## **Description of Action**

“Green building” refers to the design and construction of buildings and associated landscapes to minimize negative impacts of buildings on the environment and building occupants. Nationwide, building operations account for over 70% of electricity demand, over 50% of natural gas demand, and over 30% of total greenhouse gas emissions. The green building concept provides opportunities to reduce these and other impacts (e.g., water consumption, indoor air pollution, stormwater-related impacts). The Metropolitan Washington Council of Governments has adopted a resolution encouraging local jurisdictions in the Washington, D.C. area to incorporate green building design into public sector projects, to support the application of such practices in the private sector, and to provide public education and staff training on green building practices. Efforts to incorporate support for green building practices into the Comprehensive Plan and to consider green building incentives for private sector development are addressed by EIP10-GL08-03(A) and EIP10-GL09-01(B), respectively. EIP10-GL09-05(C) addresses the development of a county green building program through the establishment of a Green Building Coordinator position.

Over the last several years, Fairfax County has incorporated green building practices into most of its capital projects; since 2001, the Department of Public Works and Environmental Services (DPWES) has developed virtually all of its major building projects applying green building design practices, typically applying a goal of attaining the Silver certification level under the U.S. Green Building Council’s Leadership in Energy and Environmental Design® (LEED®) program (with two projects being developed under the Green Building Initiative’s Green Globes® program). DPWES currently has over 20 projects in the design or construction phase that are incorporating green building design approaches.

In February 2008, the Board of Supervisors adopted a Sustainable Development Policy for all major building projects that are owned and operated by the county. Based on that policy, DPWES is continuing to follow the LEED Green Building approach on all new development projects, and to pursue formal certification as required under the policy. In addition, the new Sustainable Development Policy establishes the LEED program as the framework that DPWES will utilize to implement the best balance of cost effective and impact sustainable development alternatives for each project.

While several buildings are now occupied that were designed for the LEED certification, only two projects, Fairfax Center and Crosspointe Fire Stations, have been occupied long enough to evaluate performance. Both have been in operation for over a year, and a review of the utility consumption indicates that their energy consumption falls on the lower end of consumption as compared to other Fairfax County fire stations. The energy consumption at both stations is substantially lower than consumption at North Point Fire Station, the most recently completed

EIP10-ES09-07 (A) Development of a Green Building Policy for County Capital Improvement Projects  
Continued

fire station prior to LEED design. Due to changes in the building code requirements that dictate introduction of more unconditioned outside air into occupied spaces, it is more challenging to reduce energy consumption under the current code than it was under previous code requirements. DPWES is continuing to evaluate the energy performance of recently completed LEED buildings against pre-existing facilities of the same type, and against the projected energy consumption from the LEED energy models created during design of the facilities.

**Environmental Agenda Objectives Supported:**

This action broadly supports the Environmental Agenda.

**Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Cool Counties Global Climate Change Initiative

**Lead Agency:**

DPWES

**Status/Plans/Outcomes**

The Sustainable Development Policy for Capital Projects was adopted on February 11, 2008 and is being implemented through the DPWES planning and design process.

Fairfax County will carry out the adopted policy by assuring that county personnel who administer projects fully understand sustainable development principles and by requiring the selected design teams to maintain and employ these principles through every phase of design, construction, and operations planning. Criteria for choosing designers, architects, engineers, construction managers, and consulting teams will include demonstrated knowledge of sustainable development practices in their specific fields and knowledge of the LEED rating system, Life Cycle Cost Analysis and Value Engineering.

**Resources**

Per the policy, consistent with the project scope and intent as identified in the approved Capital Improvement Program, the policy is to be implemented in conjunction with the Value Engineering Policy, the fundamental principles of value engineering and life-cycle cost analysis to assure cost effective implementation of sustainable development principals. The sustainable development principles in the areas of Sustainable Site Design, Water Efficiency, Energy and Atmosphere, Materials and Resources, and Indoor Air Quality, and existing county goals and policies will be evaluated and implemented such that the most cost effective means are taken to achieve the appropriate balance of environmental benefits, and such that the greatest overall environmental benefit is achieved for the cost. That being said, it is recognized that green

EIP10-ES09-07 (A) Development of a Green Building Policy for County Capital Improvement  
Projects  
Continued

building design requires additional up-front costs, and all capital construction subject to the policy will be budgeted in recognition of these costs. It is also recognized that building life cycle costs are typically lower with green buildings primarily due to substantial savings in energy costs. A life cycle cost analysis will be completed to determine the long-term benefit of using sustainable development practice

# **EIP10-ES10-01 (A) Calculate and Validate the Noman M. Cole, Jr. Pollution Control Plant's Carbon Footprint**

## **Description of Action**

This initiative was designed to determine the carbon footprint of the Noman M. Cole, Jr. Pollution Control Plant to define its baseline greenhouse gas emission. To ensure accuracy of the calculations they were validated by an independent third party. The footprint was calculated based on the World Resources Initiative and the World Business Council for Sustainable Development (WRI/WBCSD) protocol. Results from this analysis will be used to establish a baseline for reduction credits, identify areas to target reductions, and comply with the Board of Supervisors Cool Counties initiative.

## **Environmental Agenda Objectives Supported**

Air Quality and Transportation (General)  
Environmental Stewardship 5

## **Other Plans or Documents where this actions appears or that it supports**

Air Quality Management plan  
The Cool Counties Climate Change Initiative

## **Lead Agency**

DPWES

## **Status/Plans/Outcomes**

In the fall of 2007 the Plant Operations Branch Manager performed the calculations per the WRI/WBCSD protocol. These calculations were then sent to a consultant at CDM for third party validation. These calculations can now be used to generate new plant initiatives to target areas of greenhouse gas reduction.

## **Resources**

The effort required for performing the calculations was provided by plant staff. The third party validation was funded through Basic Ordering Agreement task order funding set at \$9,000.

# **EIP10-ES10-02 (A) Tree Planting at the Noman M. Cole, Jr. Pollution Control Plant**

## **Description of Action**

This initiative involved the partnering of Fairfax County's Wastewater Treatment Division with the volunteer group Earth Sangha to plant 1,000 trees at the plant's RR site.

## **Environmental Agenda Objectives Supported**

Growth and Land Use 5  
Air Quality and Transportation 7  
Water Quality 7, 10  
Environmental Stewardship 5, 6

## **Other Plans or Documents where this actions appears or that it supports**

Air Quality Management plan  
Benefits and Application of Natural Landscaping and Five-year Implementation Plan (The report prepared for the BOS by the Natural Landscaping Committee)  
The Cool Counties Climate Change Initiative  
Fairfax County Tree Action Plan

## **Lead Agency**

DPWES

## **Status/Plans/Outcomes**

In November 2007, the Wastewater Treatment Division hosted Earth Sangha volunteers at the Noman Cole, Jr. Pollution Control Plant to enable them to plant approximately 1,000 trees at the site of the RR Building at the plant.

## **Resources**

This initiative required minimal time from Wastewater Treatment Division staff to assist in coordination with Earth Sangha. Resources for the actual planting, including both labor and trees, were provided by Earth Sangha

# **EIP10-ES07-02 (B) Volunteer Stream Monitoring Program**

## **Description of Action**

The Northern Virginia Soil and Water Conservation District (NVSWCD) sponsors a volunteer stream monitoring program. The program provides training, certification, equipment, on-going support, data processing and quality control. Volunteers conduct biological monitoring to determine the general health of a stream, based on the composition and diversity of benthic macroinvertebrates. They also conduct chemical tests for turbidity and nitrate/nitrite and make observations about the stream physical conditions and surrounding habitat. Approximately 150 certified monitors collect data four times a year at approximately 25 sites throughout the county. Additional data is collected at other sites in warm seasons. The volunteer data complements the data that was collected for the DPWES Stream Monitoring Program and provides on-going water quality trend data. It also identifies emerging problems. Most importantly, it engages local residents in water resources issues, teaching them about how to lessen their impacts on water quality and reach out to their local community.

Park Authority staff and National Park Service interns also monitor streams in several parks. Staff and an intern conduct the annual Rapid Bio-Assessment II at Huntley Meadows Park.

## **Environmental Agenda Objectives Supported:**

Environmental Stewardship 1, 2, 3 and 4  
Water Quality 1, 3, 9 and 10

## **Other Plans or Documents where this action appears or that it supports:**

MS-4 Permit  
Watershed Management Plans  
New Millennium Occoquan Watershed Task Force Report  
Park Authority Strategic Plan  
Park Authority Natural Resource Management Plan

## **Lead Agency:**

Northern Virginia Soil and Water Conservation District

## **Other Agencies**

Fairfax County Park Authority  
Department of Public Works and Environmental Services

## **Status/Plans/Outcomes**

These programs are part of an on-going effort of the Northern Virginia Soil and Water Conservation District, and are supported by FCPA and DPWES.

## EIP10-ES07-02 (B). Volunteer Stream Monitoring Program

Continued

The volunteer data collected serves as important information for determining water quality trends in the county's streams. Volunteer data, along with the probabilistic stream monitoring data collected through DPWES-SWPD and other various monitoring programs are incorporated into an Annual Report on Fairfax County's Stream (June 2007), which allows for a comprehensive view of the conditions of Fairfax County's streams.

As part of the stream monitoring program, NVSWCD conducts programs in elementary, middle and high schools, which include stream monitoring training and educational programs about watershed issues. Annually, this includes 8 to 10 high schools. Certified stream monitors from Woodson High School's Science Honor Society continue to collect data at parks.

In addition to learning about stream monitoring, many volunteers also become involved in watershed groups, clean-up events, and educational programs. NVSWCD sends newsletters and monthly calendars about watershed events via email to 900 people who are interested in stream monitoring and related issues, many of whom forward the emails to others.

Certified stream monitors play an important role in leading watershed walks and watershed bike rides for watershed residents. They discuss streams, erosion, habitats, stormwater management, and what residents can do to improve their watersheds.

Starting in 2005, NVSWCD supported bacterial monitoring and temperature monitoring programs. A partnership, comprised of NVSWCD, FCPA, DPWES, USGS and volunteers, monitors temperatures in riparian areas to assess the impact of vegetation. Bacterial monitoring in Four Mile Run is conducted in partnership with the Department of Environmental Quality and Arlington County, as part of a study for a TMDL implementation.

In 2007, the Audubon Naturalist Society ended its stream monitoring program in Fairfax County. Its monitors and sites were integrated into the stream monitoring program coordinated by NVSWCD.

Fairfax County will continue to support the efforts of volunteers in support of the program and for the protection of water quality within the county.

### **Resources**

NVSWCD's watershed specialist coordinates the volunteer stream monitoring program and related education and outreach activities. This is valued at \$60,000 annually and is funded as part of the NVSWCD annual budget.

Monitoring equipment and supplies are funded through grants, which average \$2,000. The annual contribution of volunteers who participate in this program is valued at more than \$86,625 (150 x 35 hrs x \$16.05/hr).

FCPA and DPWES staff time and resources in support of volunteer monitoring efforts are provided as part of their annual funding.

# **EIP10-ES07-09 (B) FCPA “Adoption” Program for Natural Areas such as Parks, Trails and Stream Valleys.**

## **Description of Action**

The Park Authority's Adopt-A-Park program is administered by the agency's Park Operations Division and encourages citizens to adopt trails, small parks and playgrounds. Most 'adopters' are homeowner associations or churches located close to the park and typically the organization's members are frequent users of the selected park. The Park Authority and organization sign an agreement that outlines the scope of what will be done in the park. The development of an adoption program geared specifically to natural resources should be considered

## **Environmental Agenda Objectives Supported**

Environmental Stewardship 1, 2, 3, 4, 6  
Parks, Trails and Open Space (General)

## **Other Plans or Documents where this action appears or that it supports**

Park Authority Strategic Plan  
Park Authority Policy Manual  
Park Authority Natural Resource Management Plan

## **Lead Agency**

Fairfax County Park Authority

## **Status/Plans/Outcomes**

The program is ongoing. The Park Authority will explore how to best develop a comprehensive program for adoption of natural areas. One limitation foreseen is insufficient staff to manage the groups, especially staff with natural resource expertise. This program would be implemented by the Park Operations and Resource Management Divisions.

One way to engage young citizens in stewardship of natural areas may be to develop agreements with teachers, instructors and professors (e.g., biology, natural sciences) from local high schools and colleges to 'adopt' natural resource management projects. This would offer their students a practical, hands-on use of what has been learned in the classroom while the students provide a valuable community service.

Coordinating with “Friends Of” groups would provide benefits to both programs.

## **Resources**

Costs to implement this program will be developed in the future.

# **EIP10-ES07-10 (B) Storm Drain Marking-Pollution Prevention Program**

## **Description of Action**

NVSWCD sponsors a storm drain marking program, a neighborhood-based, volunteer-led initiative focused on limiting non-point source pollution via storm drains, which lead to nearby streams. The program emphasizes educating the community about how to properly dispose of used motor oil, fertilizer, pet waste, toxic chemicals, yard debris, trash and other pollutants and encouraging environmental stewardship by educating residents about their local watershed. This is done by volunteers who create and distribute brochures and door hangars, and place articles in their community newsletters. NVSWCD provides guidance to ensure accurate information is disseminated. It also coordinates with VDOT for the necessary permits and ensures that the storm drain markers, or stencils, are applied according to the standards and guidelines in the NVSWCD *Storm Drain Marking Project Guide*. Schools, community organizations, and watershed stewardship groups often are partners in implementing this program. In FY 2006, DPWES formed a partnership with NVSWCD to support this program as part of the county's watershed plan implementation program. DPWES provides the storm drain markers, glue and other supplies. NVSWCD committed more staff time to promote and oversee an expanded program.

## **Environmental Agenda Objectives Supported:**

Environmental Stewardship 1, 2, 3 and 4  
Water Quality 1, 3 and 10  
Solid Waste (General)

## **Other Plans or Documents where this action appears or that it supports:**

Watershed Management Plans  
New Millennium Occoquan Watershed Task Force Report  
MS-4 Permit

## **Lead Agency:**

Northern Virginia Soil and Water Conservation District

## **Other Agencies**

Department of Public Works and Environmental Services

**Status/Plans/Outcomes**

This is an on-going effort of the North Virginia Soil and Water Conservation District and DPWES. Prior to the current expanded program, the average number of projects was 6 per year. In FY 2006, 19 projects, and in FY 2007 37 projects, or 56 projects total, were carried out in neighborhoods throughout the county, resulting in the education of residents in approximately 70,000 households. The District received a grant to conduct a survey in four Pohick Creek Watershed communities. The findings showed that the program is very effective in influencing behaviors.

In the first half of FY 2008, 18 projects were carried out by 272 volunteers. They educated 6,788 households and labeled 1,900 storm drains. The Reston Association, Mason Neck Lions Club work closely with the District to implement this program. Also, in the fall of 2007, the Park Authority marked the storm drains at all of their staffed parks and developed educational materials for their staff and the public as part of this effort.

Since 2005, DPWES has joined with other local jurisdictions and the Northern Virginia Regional Commission to sponsor public service messages on local radio. The “sewer guy” (a talking storm sewer inlet) provides practical tips on how to prevent common pollutants – fertilizer, used motor oil, and pet waste – from entering the storm drains.

**Resources**

NVSWCD staff time, valued at \$35,000 is budgeted as part of its Annual Plan of Work

DPWES provides funding of \$15,000 - \$18,000 annually for supplies, including the storm drain markers, glue, cleaning supplies, safety equipment, and promotional fliers, as a public outreach project under its watershed plan implementation initiative. Funding is forecast to continue at this level in FY 2009.

# **EIP10-ES08-01 (B) Education and Outreach Programs and Activities**

## **Description of Action**

The County sponsors a variety of programs and activities that help to inform the public about watershed and environmental stewardship issues in Fairfax County. They provide the knowledge, and often the tools, needed to help protect streams, promote environmentally responsible behaviors, and conserve natural resources. The programs may be unique to an agency, or they may be carried out in cooperation with a few, or many, partners. They include brochures, newsletters, exhibits, videos, seminars and workshops, on-site and specialty programs, websites, and technical and educational advice. They provide ways that residents can learn about and participate in environmental stewardship.

## **Environmental Agenda Objectives Supported:**

Environmental Stewardship 1, 2, 3, 4 and 6  
Water Quality 1, 3, 9, and 10  
Solid Waste (General)  
Air Quality 7

## **Other Plans or Documents where this action appears or that it supports:**

Watershed Management Plans  
MS-4 Permit  
New Millennium Occoquan Watershed Task Force Report  
Park Authority Natural Resource Management Plan  
Fairfax County Tree Action Plan  
Cool Counties Global Climate Change Initiative  
Thirty-Year Tree Canopy Goal

## **Lead Agencies**

Northern Virginia Soil and Water Conservation District  
Fairfax County Park Authority  
Department of Public Works and Environmental Services

## **Other Agencies**

Health Department

**Status/Plans/Outcomes**

- FCPA Stewardship brochures and highway cards that are being distributed county-wide. Stewardship issues are highlighted in the quarterly *Parktakes*, which is mailed to many households.
- NVSWCD published *You and Your Land—A Homeowner’s Guide for the Potomac Watershed*. This handbook has a variety of practical information designed to aid homeowners in the economical care and maintenance of their property. It provides a simple step-by-step approach to solving common problems found in most yards, gardens or common areas. It is available on the county web site at <http://www.fairfaxcounty.gov/nvswcd/youyourland/intro.htm> The *Watershed Stewardship Guide*, available both in print and on the web, shows citizens ways they “can make a difference” in their local watersheds.
- *Conservation Currents* is the NVSWCD quarterly newsletter with articles homeowner associations are encouraged to reprint in their own newsletters. The variety of articles includes information about ponds, streams, stormwater management, hazardous waste, disposing of pet waste, proper lawn and garden fertilization, low impact development techniques, erosion and sediment controls on construction sites, native plants and managing invasives, and citizen stewardship activities.
- *ResOURces*, the FCPA Resource Management Division’s newsletter, reaches more than 16,000 readers quarterly, with a focus on natural and cultural resource stewardship within Fairfax County.
- Fifty-three wayside exhibits were installed along the Cross County Trail, with a focus on five environmental topics. A state grant from the Chesapeake Bay Restoration Fund allowed the majority of these signs to focus on watershed and riparian buffer issues.
- Hidden Pond Nature Center is working on a new watershed exhibit featuring the watershed of the Pohick Stream.
- The FCPA published the “I Spy” brochure to highlight natural and cultural resources.
- FCPA staffers continue to produce videos that educate the public on significant environmental resources. These videos are shown at nature centers.
- Education resource materials and watershed awareness programs (watershed basics) are part of the outreach program NVSWCD targets to teachers, youth groups and community groups. The *Enviroscape* watershed model is used to demonstrate to both adult and youth groups how a watershed functions and the sources and solutions for nonpoint source water pollution. In 2007, the watershed model was demonstrated 13 times to 443 people.
- The County’s website contains a broad array of environmental information. DPWES’s stormwater webpage includes information about codes and ordinances, reports and studies, and volunteer opportunities. The watersheds webpage includes announcements, information and updates on the watershed planning efforts, and reports such as the *Stream Physical Assessment*, the *Occoquan Watershed in the new Millennium* and the *MS-4 Annual Report*. [www.fairfaxcounty.gov/dpwes/watersheds](http://www.fairfaxcounty.gov/dpwes/watersheds). The FCPA’s *Nature Pages* provide resources and links to stewardship resources throughout the county. [www.fairfaxcounty.gov/parks/resources/stewardshiip.htm](http://www.fairfaxcounty.gov/parks/resources/stewardshiip.htm) The NVSWCD web page contains educational and technical information and articles on many environmental

topics—from lawn care, erosion and drainage, to recycling and litter, stream restoration and ponds, and rain gardens. It averages 6,000 visitors a month.

[www.fairfaxcounty.gov/nvswcd](http://www.fairfaxcounty.gov/nvswcd)

- The Volunteer Stream Monitoring program's monthly watershed calendar, and the Green Group's periodic announcements and bi-monthly Green Breakfasts help to keep public informed about environmental issues, meetings, and events.
- Many agencies attend town meetings and other community events, which provide an opportunity to take a display and literature and talk with the public. DPWES's Stormwater Program and Land Development Services sponsor two large exhibits at the Fairfax Fair. Stormwater Management participated as an exhibitor or environmental educator in more than 42 events. Solid Waste exhibited at 6 events. NVSWCD manned exhibits at 10 events, offering information about, riparian planting, rain gardens, responsible yard care, solutions for drainage problems, soils, streams, and stream restoration.
- The Health Department sent notices to 14,329 households to remind them to turn their flow diversion valve on their septic systems once a year, and to pump out their septic tank every three to five years.
- The Community Advisory Committees, which are formed as part of the public involvement component of the county-wide watershed planning, are provided with extensive information about their watersheds. Also, during each watershed planning effort, there is at least one watershed-wide seminar that provides an opportunity for all interested members of the community to learn about watershed issues and options for solutions.
- NVSWCD's community education programs include workshops on sediments and nutrients in streams, how to spot problems with erosion and sediment controls on construction sites, how to solve erosion and drainage problems around your home, pond management, stream stabilization projects, and infiltration techniques such as rain gardens. During the past year, 26 presentations were made to more than 1,200 county residents.
- NVSWCD and DPWES lead watershed bike rides. While exploring their watershed, participants learn about erosion, habitats, streams, stormwater ponds, monitoring, and what residents can do to improve their watershed.
- The DPWES Solid Waste Management Division participates in the *Know Toxics* program with Northern Virginia Regional Commission, an outreach program designed to educate the public about proper recycling or disposal of obsolete electronics.
- Fairfax County supports litter prevention activities through its partnership with Clean Fairfax Council.
- The annual World Water Monitoring Day, an initiative of America's Clean Waters Foundation, is coordinated by national and state agencies, and locally by NVSWCD. Public and private partners plan and carry out a day-long festival in the county.
- County agencies, businesses, environmental and non-profit groups, and Northern Virginia Community College partner to implement the county's annual Earth Day/Arbor Day celebration. The emphasis is on hands-on education and demonstrations and the event includes a ceremony where Clean Fairfax Council recognizes recycling and other

education programs in schools, the Tree Commission presents its *Friends of Trees* awards, and members of the Board of Supervisors plant a tree.

- “Parks are Priceless Treasurers” was the theme for the Park Authority display at the county’s Earth Day Employee Expo and Take Your Child to Work Day. Activities promoted the importance of agency and individual stewardship actions.
- Several Parks, DPWES-UFMD, and NVSWCD join with Potomac Conservancy, Fairfax ReLeaf, NVCT, and the Virginia Department of Forestry to support the collection of native seeds for the annual *Growing Native* Program.
- Each year, thousands of programs are conducted in the parks to increase the public’s awareness, appreciation and stewardship of the county’s natural and cultural resources. Programs are developed for varied audiences, including adults, families and children. Many of these programs are offered for free. Most of these sessions include an outdoor component allowing individuals to come in direct contact with natural resources.
- The annual *Wetlands Awareness Day* at Huntley Meadows Park attracts more than 500 visitors
- NVSWCD’s tree and shrub seedling program in 2007 provided 8,250 inexpensive plant materials for residents. This annual program raises awareness about the benefits of trees and other native vegetation, promotes urban reforestation, habitat enhancement, and water quality protection.
- Through the Master Gardener program, the Park Authority and Virginia Cooperative Extension have increased outreach to community groups and individuals through speaking engagements, information displays, via the help line, and at plant clinics, which typically are conducted at libraries and farmers markets. Audiences at the Master Gardener annual EcoSavy Symposiums at Green Springs Park learn about gardening strategies that conserve natural resources and how to solve problems without harming the environment. The Fairfax County Cooperative Extension office distributed 4,000 Virginia Tech publications on topics such as lawn fertilization and plant material selection for this area. It also provided lawn care advice to more than 25,000 residents through monthly articles in resident association newsletters.
- The Fairfax County Water Authority includes suggestions for wise water use with its water bills and has two handouts which it distributes: *Wise Water Use Landscaping and Watering Guide* and *Wise Water Use Tips*.
- NVSWCD staff provide on-site technical assistance to homeowner associations and schools to design and implement projects that both educate and solve problems, e.g. a rain garden, habitat improvement, or pond management. In 2007 521 homeowners received advice, which included 136 on-site visits. Staff also responded to 2,343 information inquiries via phone and email and distributed more than 2,680 brochures and fliers related to the reduction of nonpoint source pollution were distributed in 2007.
- In 2007, NVSWCD and the Fairfax County Schools sponsored a Rain Barrel Program. School staff and county residents from throughout the county created 300 rain barrels that will collect and use rain from rooftops at schools and homes. In 2008, 900 rain barrels were created and distributed in a program that NVSWCD coordinated with partners in Arlington and Falls Church.
- NVSWCD sponsors bi-monthly Green Breakfasts, featuring presentations on timely environmental topics and programs and an opportunity for networking.

EIP10-ES08-01 (B) Education and Outreach Programs and Activities  
Continued

These programs are on-going and will continue.

**Resources**

These programs are budgeted and carried out as part of the DPWES, FCPA, VCE, Health and NVSWCD annual work plans.

# **EIP10-ES08-02 (B) Environmental Education Programs Involving Youth**

## **Description of Action**

Providing opportunities for youth to learn about and engage in their natural world is key to their becoming life-long stewards of the environment. The County has a variety of programs, many in partnership with schools, which build understanding and respect for the county's natural resources, and further the goal of promoting environmental education and stewardship among youth.

## **Environmental Agenda Objectives Supported:**

Environmental Stewardship 1, 2, 3, 4 and 6  
Water Quality 1 and 10  
Solid Waste 2 and 3

## **Other Plans or Documents where this action appears or that it supports:**

Watershed Management Plans  
New Millennium Occoquan Watershed Task Force Report  
Park Authority Strategic Plan  
Park Authority Policy Manual  
Park Authority Natural Resource Management Plan

## **Lead Agencies**

Fairfax County Park Authority  
Northern Virginia Soil and Water Conservation District  
Department of Public Works and Environmental Services

## **Status/Plans/Outcomes**

- Hundreds of environmental education programs are offered each year in parks managed by Fairfax County Park Authority. Parks serve as science labs for thousands of elementary school students annually. These hands-on programs are specifically designed to meet the Virginia Standards of Learning and Fairfax County's Program of Studies. Annually, Park Authority staffers meet with the Elementary Science and Social Studies Curriculum Specialists to ensure that park-based school programs meet the needs of teachers and students.
- In collaboration with the Elementary School Science Curriculum Coordinator, park staffers assisted in the development of the new 4<sup>th</sup> grade "Ecosystems" curriculum. This curriculum is being field tested in spring 2008 and FCPA staff will assist in January 2009 when all 4<sup>th</sup> grade teachers are trained.
- In collaboration with the Middle School Science Curriculum Coordinator, park staffers have developed "Meaningful Watershed Experience in Parks" for 7<sup>th</sup> graders. These advanced environmental experiences were offered on a trial basis in the spring of 2006, and were formally launched at the Middle School In-Service in August, when teachers

were able to register their classes for programs at five parks in the spring of 2007. It is anticipated that these watershed experiences will reach more than 1,000 students. DPWES-Stormwater and NVSWCD also are partnering with FCPS to implement the *Meaningful Watershed Experience* Program, by training teachers in water quality monitoring techniques, watershed protection policies, and stewardship opportunities. In 2006, the county participated in three teacher training workshops to build the capacity of 7<sup>th</sup> grade teachers in approximately 15 schools.

- The goal of the 45 nature day camps, developed by park staff for summer 2006, is to increase nature appreciation and environmental sensitivity in campers from pre-schoolers to teens. These camps highlight the county's rich wildlife and habitats and how children can help protect them. Some camps include stream observation and water testing.
- Individual students, who serve as active park volunteers, also conduct park projects to fulfill community service and class requirements.
- Middle and High School students participate in the Volunteer Stream Monitoring Program, assessing water quality in streams in their neighborhoods and in parks.
- *Envirothon* is a local, state and national competition among teams of high school students, sponsored locally by NVSWCD. Hands-on events give them an opportunity to demonstrate their knowledge about aquatics, forestry, soils, wildlife. Each year there is a special topic, such as watershed planning, urban runoff, agricultural pollution, or a leaking landfill.
- Education resource materials, watershed awareness programs (watershed basics), programs about soils, and an interactive watershed model—*Enviroscape*—are part of NVSWCD's outreach program targeted to teachers and youth groups. NVSWCD's programs at high schools and high school environmental clubs highlight stream ecology, watershed basics, biological monitoring, and programs that are available to students. Students also receive help with science projects.
- Each year, NVSWCD judges environmental projects at the regional science fair and provides awards and recognition. Project summaries are posted on the county's website for other students to read, and receive a large number of hits.
- Annually, NVSWCD sponsors a scholarship program for college students interested in studies related to natural resources.
- DPWES-SWPD staff serve as a technical resource for Earth Force's Global Rivers Environmental Education Network (GREEN). They identify stream monitoring sites and assist with outdoor training and classroom presentations.
- DPWES Solid Waste Management takes recycling programs and activities to the schools.
- DPWES Solid Waste Management, in partnership with Clean Fairfax Council, offers \$6,000 in environmental grants (Johnnie Forte Junior Memorial grants) to FCPS students each year to implement litter prevention, litter control, and recycling projects in schools.

Plans are for these programs and partnership activities to continue.

### **Resources**

These programs are budgeted and carried out as part of the FCPA, DPWES, and NVSWCD annual work plans.

# **EIP10-ES08-03 (B) Stream and Watershed Clean Up Efforts**

## **Description of Action**

Trash and debris discarded throughout a watershed often end up in the county's streams and stream valleys. They are collected and carried by stormwater runoff from streets, yards, and parking lots, and enter stormwater inlets that lead to local streams. These streams connect to larger watersheds, the Occoquan and Potomac Rivers, and eventually the Chesapeake Bay. Community-based stream and watershed cleanups provide a valuable environmental benefit to the county. The county supports these efforts in a variety of ways, including helping to initiate, plan and publicize events, participating in projects, and facilitating disposal.

## **Environmental Agenda Objectives Supported**

Environmental Stewardship 1, 2, 3, 4  
Water Quality 1, 3, 10  
Solid Waste (General)

## **Other Plans or Documents where this action appears or that it supports**

Watershed Management Plans  
New Millennium Occoquan Watershed Task Force Report  
MS-4 Permit

## **Lead Agencies**

Northern Virginia Soil and Water Conservation District  
Fairfax County Park Authority  
Department of Public Works and Environmental Services

## **Status/Plans/Outcomes**

Since 1990, the Park Authority has sponsored the biannual Watershed Clean-Up Day, as an opportunity for residents to discover the dynamics of county streams and watersheds and to provide a hands-on experience for them to care for their water resources. Participants include scouts, families, church groups, school groups and civic associations. As they remove debris, they learn how water moves in a watershed and that most of the trash originated elsewhere. Most of the recent Watershed Clean-Up Days in parks were done in collaboration with the International Coastal Cleanup in the fall and the Potomac River cleanup in the Spring.

NVSWCD and DPWES Stormwater Planning, and FCPA in partnership with numerous other local agencies and groups, support ongoing and semi-annual watershed cleanup efforts. Annually, they assist with county-wide planning for the Alice Ferguson Foundation Potomac Watershed Cleanup in April, and the International Coastal Cleanup in September. DPWES Solid Waste supports citizen clean up efforts by waiving tipping fees. Since 2004, 80 to 100 citizen-based cleanup projects in Fairfax County are registered each year with the Alice Ferguson Foundation. In 2007, there were 117 sites throughout the county and more than 94,000 pounds of trash were removed. In 2008, there were 105 sites. Approximately 2,415 volunteers removed 123,165 pounds of trash. During the International Coastal Cleanup in the fall of 2007, 736 volunteers removed 37,536 pounds trash from 32 sites.

The Board of Supervisors has joined jurisdictions throughout the Potomac Watershed in signing the treaty for a *Trash Free Potomac by 2013*. The Board of Supervisors Environmental Chair, DPWES, NVSWCD, and other groups in the county participated in the 2006, 2007 and 2008 Trash Summits at the World Bank in Washington, DC and continue to participate in the working groups associated with this initiative, which is being coordinated by the Alice Ferguson Foundation. These groups focus on education and outreach programs, economic issues, technical measures, and regulatory issues.

Numerous citizen-based groups, such as the Friends of Little Rocky Run, Friends of Accotink Creek, Friends of Cub Run, Friends of Burke Spring Branch, Friends of the Occoquan, the Mason Neck Lions Club, and many others, sponsor periodic and annual stream and watershed cleanups. The County supports these efforts by publicizing and helping with disposal and often by staff participation. Clean Fairfax Council, which is supported by Fairfax County, provides supplies for many of these events.

Community groups are encouraged to Adopt-A-Stream and enroll in the state program. They receive a sign with the program logo and their name, which they can post at a road crossing to help raise awareness about keeping trash out of streams. A sign in the headwaters of Difficult Run denotes adoption by DPWES-Stormwater Planning staff.

The Citizens Advisory Committee for the Little Hunting Creek Watershed Plan identified the clean up of illegal dump sites as important and necessary. DPWES initiated a watershed plan implementation project to clean up many of these sites.

### **Resources**

Support for current watershed clean-up efforts are part of the on-going Park Authority, DPWES and NVSWCD work plans.

# **EIP10-ES08-04 (B) Support of Citizen-Based Environmental Stewardship Programs and Activities**

## **Description of Action**

The county recognizes that neither government nor residents can solve watershed problems alone, but must work together. It also recognizes the important contributions made by citizen-based initiatives to conserve, protect and enhance the county's natural resources. The county supports these efforts by being a resource for information and technical advice, and identifying and making available county services and programs to support activities.

## **Environmental Agenda Objectives Supported**

Environmental Stewardship 1, 2, 3, 4 and 6

Water Quality 1, 3, 9, 10

Air Quality and Transportation 7

## **Other Plans or Documents where this action appears or that it supports**

Watershed Management Plans

New Millennium Occoquan Watershed Task Force Report

Park Authority Natural Resource Management Plan

Fairfax County Tree Action Plan

## **Lead Agencies**

Northern Virginia Soil and Water Conservation District

Department of Public Works and Environmental Services

Fairfax County Park Authority

## **Status/Plans/Outcomes**

Watershed stewardship groups receive administrative, educational and technical support from NVSWCD and county agencies. Groups include 'Friends of streams' groups for Accotink Creek, Cub Run, Rocky Run, Little Rocky Run, Burke Spring Branch, Sugarland Run, the Occoquan and others, and 'Friends of parks' groups from Hidden Oaks, Huntley Meadows Colvin Run Mill and others. Besides stream monitoring and cleanups, many community, scout, school, homeowner associations, civic groups and environmental organizations organize tree plantings, watershed cleanups, pollution prevention and education activities, riparian and habitat enhancement projects and other environmental stewardship activities on both public and private lands. Also, the Virginia Department of Forestry, Fairfax Trails and Streams, the Mason Neck Lions Club, Northern Virginia Conservation Trust, Potomac Conservancy, Fairfax Audubon, Audubon Naturalist Society, Earth Sangha, and Fairfax ReLeaf have coordinated environmental stewardship activities with county and NVSWCD staff. In 2006, DPWES purchased trees for the *2006 Trees in 2006* campaign, which was coordinated by Fairfax ReLeaf. For stewardship activities on parkland, FCPA staff provide technical and logistical assistance, advertising and marketing, education and outreach, and navigation through county regulations. Staff from

EIP10-ES08-04 (B) Support of Citizen-Based Environmental Stewardship Programs and Activities  
Continued

NVSWCD, FCPA and DPWES often participate in and make presentations at environmental group meetings.

The Fairfax Watershed Network is a dedicated group of organizations, agencies, friends of groups, and individuals that support and promote the improvement and protection of Fairfax County's streams and watersheds through outreach and education activities. DPWES Stormwater Planning Division and NVSWCD are founding members and continue to serve as participants and technical liaison. For the past two years, a major project of the Network has been to promote and facilitate participation in the annual Potomac River Clean Up.

Community Advisory Committees are formed as part of each watershed planning effort. The committees are diverse groups of community stakeholders with representatives from homeowners associations, business interests, the development community, environmental groups, churches, schools, and interested citizens. It is anticipated that these committees will continue to help build community support for implementing watershed projects. Also, while initially formed to engage in a planning role, these committees often seek to incorporate stewardship roles. County agencies and partners will continue to provide technical and educational support, and information about stewardship opportunities.

In 2005, the Friends of Hidden Oaks Nature Center, National Wildlife Federation, Supervisor Gross, Audubon Society, Northern Virginia Conservation Trust, and Earth Force launched a five-year program to certify the greater Mason District area as a wildlife habitat. This plan requires 1,000 homes to be certified as backyard wildlife habitats. Currently, 158 homes are certified.

In 2006, Great Falls applied to the National Wildlife Federation to become the 23<sup>rd</sup> Community Wildlife Habitat in the United States. Official certification was received on April 6, 2007. This means that four schools, three churches, two parks, one commercial cut flower business and 180 homes are officially providing food, water, shelter and safe places to raise young, which are the four essentials for all life.

In 2007, a group of county residents formed the Fairfax County Chapter of the Virginia Master Naturalist Program, a program sponsored by the Virginia Department of Forestry. This effort is supported by county and NVSWCD staff. An initial class of 40 completed training in 2007 and are volunteering in a variety of natural resource programs. Two other classes will complete training in 2008.

### **Resources**

Staff resources to support these citizen-based efforts are budgeted as part of the DPWES, FCPA and NVSWCD programs.

# **EIP10-ES08-05 (B) Park Authority Stewardship Education**

## **Description of Action**

The Park Authority's Stewardship Education project is an outreach and education effort on county stewardship, which includes the development and communication of stewardship messages for staff, partners, and citizens across the county. This project allows the Park Authority to educate both staff and citizens countywide in important stewardship issues and the County's commitment to stewardship and to engage them in practicing good stewardship.

## **Environmental Agenda Objectives Supported:**

Environmental Stewardship (General)  
Parks, Trails, and Open Space (General)  
Water Quality 1

## **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Park Authority Strategic Plan  
Park Authority Policy Manual  
Park Authority Natural Resource Management Plan

## **Lead Agency**

Fairfax County Park Authority

## **Status/Plans/Outcomes**

The Park Authority is implementing the stewardship education initiative through a series of brochures and products related to natural resource stewardship. The brochures include a county-wide stewardship message with a consistent style. Twelve brochures have been published to date, including "Treasures," "Wildlife," "Invasive Backyard Plants," "Invasive Forest Plants," "Trees," "Spiders, Snakes and Slime Molds," "Wildlife Conflict," "Pets in Parks," and "Native Backyard Plants," "Underground World," "Water," and "Night." Six Highway Cards about "Trees," "White-tailed Deer," "Canada Geese," "Beaver," "Foxes," and "Coyote" have been published. Highway Cards are designed to respond to more seasonal interests, provide contact information, or cover non-evergreen issues. The Park Authority worked with Urban Forestry and the Park Authority Forester to create the "Trees" Highway Card and provide contact information for several sources related to trees. Other partners and volunteers have provided input on several of the cards. Several more topical brochures are in production. The Park Authority also has published the "Stewardship Primer." Designed to explain the stewardship vision, the primer gives basic information to encourage Park Authority staff to be good stewards of public land. In 2007, the Park Authority's Stewardship Education Team developed media for a storm drain marking initiative in staff parks including a poster, a bottle shaped highway card, buttons for staff to wear and window clings to hang in park entryways. In Spring 2008, the Fairfax County Park Authority released a set of Non-native Invasive Identification and Control cards for 29 of the most commonly found non-native invasive plants in Fairfax County.

EIP10-ES08-05 (B). Park Authority Stewardship Education  
Continued

**Resources**

\$135,000 funded at FY 2004 Carryover and \$150,000 funded at FY 2006 Carryover, in support of the Environmental Agenda.

\$50,000 funded in FY 2008 budget for environmental projects.

# **EIP10-ES08-06 (B) Invasive Management Projects**

## **Description of Action**

The Board of Supervisors has provided funding for invasive plant removals on park land over the past few years. The Park Authority used this funding to develop the Invasive Management Area (IMA) pilot program, as well as several other initiatives.

## **Project Goals**

- Capitalize on support and momentum from the public to do something about non-native, invasive plant and animal species; garner community involvement and support.
- Educate the public about the effects of non-native, invasive plant and animal species.
- Participate in outreach opportunities regarding non-native, invasive plant and animal species.
- Develop healthy woodlots with uneven-aged stands of mixed trees, shrubs and ground cover with a floor of leaf litter and debris that are free of invasive plant species.

## **Partnerships and Consulted Organizations**

Northern Virginia Soil and Water Conservation District

Earth Sangha

Fairfax ReLeaf

Fairfax County, Department of Public Works and Environmental Services

Virginia Native Plant Society, Potowmack Chapter

Friends of Riverbend Park

Reston Association

Weed Warriors, The Nature Conservancy

Weed Warriors, Montgomery County Parks

InvasivePlants.org

Audubon at Home

Northern Virginia Conservation Trust

Potomac Conservancy

The IMA program is a volunteer-led pilot project designed to reduce invasive plants on parklands and to draw attention to the threat invasive plants pose to natural areas. The program is unique in that volunteer leaders must take on coordination responsibility and commit to adopting a site for a year. The program contains a monitoring component for both the ecological impacts as well as the success of this volunteer model. Up to 40 leaders are being recruited who will commit to four work-days including invasive plant removals and re-planting. The Park Authority is carrying out the pilot program in partnership with a number of organizations, including the Virginia Department of Forestry and Earth Sangha and training assistance from the Northern Virginia Soil and Water Conservation District.

In addition to the IMA volunteer program, four other priority areas for non-native invasive species were addressed in 2007:

## EIP10-ES08-06 (B). Invasive Management Projects

Continued

1. Invasive Conservation Corps (ICC) – The goals of this summer intern program supported 21 IMA, riparian buffer plantings, low impact development demonstration sites, and staffed sites with invasive plant removals. The large crew of summer interns conducted invasive plant removals throughout the county, and demonstrated the effectiveness of staff habitat managers, completing nearly as much work as the year-long volunteer program. The first year of internship included a crew leader and eight field technicians. The ICC will return in 2008 with 5 members.
2. Countywide Survey and Prioritization Report – This consultant project will develop an independent assessment of the occurrence and threat of invasive non-native plants in park land. A control plan will be developed to include prioritization (species and locations) and a control program. Finally, the consultant will make recommendations on a control program, including best practices given: a) existing resources, and b) an ideal set up with additional resources. The contract was awarded in the spring of 2008.
3. Internal Support – Equipment and Contractor Services – Many of the Resource Management Division's sites are now equipped with tools, chemicals and equipment for invasive removal. An internal funding mechanism has been established for these needs. In addition, in certain cases, contractor support is used to assist in removals at sites with an ongoing commitment for invasive removal, e.g., IMA sites and staffed sites that have committed to maintenance.
4. Education and Interpretation – This area covers signage, publications, and exhibits related to non-native invasive removal projects.

### **Environmental Agenda Objectives Supported:**

Parks Trails, and Open Space (General)

Environmental Stewardship 1, 2, 3, 4, 5 and 6

### **Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan

Park Authority Strategic Plan

Park Authority Policy Manual

Park Authority Natural Resource Management Plan

### **Lead Agency:**

Park Authority

### **Status/Plans/Outcomes**

The Invasive Management Area program began its first year in March 2006, and continues in 2007. The Invasive Conservation Corps began in May 2007 and will continue a second year in the summer of 2008. The consultant report scope has been developed and a contract was awarded in the spring of 2008.

EIP10-ES08-06 (B). Invasive Management Projects

Continued

**Resources**

**Funding History:**

\$100,000 from FY 2005 Carryover, as well as volunteer labor. \$50,000 matching grant funding provided by National Fish and Wildlife Foundations' Small Watersheds Grant Program. \$500 grant from the Corporate Community Relations Council.

\$300,000 additional funding from FY 2006 Carryover, in support of the Environmental Agenda.

\$150,000 funded in FY 2008 budget for environmental projects.

**Curent Funding:**

\$150,000 funded in the FY 2009 budget for environmental projects.

These projects require a minimum of \$200,000 per year to maintain.

# **EIP10-ES08-10 (B) Partnering with Non-Profit Tree Planting Groups in Establishing a Countywide Tree Planting Program**

## **Description of Action**

This action builds upon the success that has resulted from partnerships formed between Fairfax County and non-profit tree planting groups and complements an existing BOS directive to establish a tree fund and a countywide tree planting program for air quality improvement. This action also supports a June 2007 Board Matter in which the Board officially adopted a 30-year tree canopy goal for Fairfax County (see EIP09-ES09-08 (C)).

Each year, non-profits such as Fairfax ReLeaf, Inc. and Earth Sangha grow native trees and organize tree planting and forest restoration projects on public lands and on common open space. These efforts result in thousands of trees being planted on an annual basis; but, just as importantly, these groups provide opportunities for citizens to connect with nature and to learn lessons in civic responsibility and environmental stewardship. These groups connect volunteers such as Girl Scouts, Boy Scouts, student clubs, garden clubs, church groups and homeowners associations with opportunities to collect native seeds, propagate plants, and plant trees. Many of their activities directly support County efforts relating to riparian restoration, forest habitat restoration, and street tree plantings. Here are examples of ways that Fairfax County interacts with non-profit tree planting groups at present:

- Fairfax County provides a small office space, telephone service, and conference area for Fairfax ReLeaf, which serves as that organization's headquarters.
- The Urban Forest Management Division, DPWES provides a staff liaison to attend Fairfax ReLeaf Board meetings and to help support their tree nursery and tree planting activities.
- Fairfax ReLeaf sends representatives to the monthly Tree Commission meetings in order to interact with the Tree Commission on tree-related issues and projects.
- FCPA provides Earth Sangha with a space to operate a native plant nursery at Franconia Park. This nursery produces thousands of native plants per year, many of which make their way to County properties via forest restoration and tree planting projects.
- FCPA and Earth Sangha signed an agreement with the Fairfax County Park Authority to develop a "Native Arboretum" at the 20-acre Marie Butler Leven Preserve in McLean. The development of the arboretum will gradually transform the Preserve into a comprehensive display of plants native to our region.
- In 2007, the Stormwater Business Area, DPWES provided \$10,000 to support Fairfax ReLeaf's 2007 Trees Campaign. This project, which is being done in partnership with the Tree Commission and the NVSWCD will result in over 2,000 trees being planted on public property and common open space in Fairfax County.

Non-profit tree planting groups typically struggle to find funding needed to purchase trees and for operating expenses. Out of necessity, the time and energy these groups expend pursuing grants and soliciting donations often exceeds the time and energy they expend on tree planting.

EIP10-ES08-10 (B). Partnering with Non-Profit Tree Planting Groups in Establishing a Countywide Tree Planting Program  
Continued

If funded, this project would provide a modest level of financial support to non-profit tree planting groups over a five-year period. In return, the County would gain substantial ecologic and socio-economic benefits associated with the planting of thousands of trees on an annual basis, and with that tree planting program, community involvement in its environmental stewardship efforts. The funding for this project would be administered through the County's Tree Preservation and Planting Fund (TPPF). The TPPF was set up in response to a June 20, 2005 Board Matter directing County staff to establish a funding mechanism for a County-wide tree planting program. Staff was also directed to establish criteria to govern disbursement, tracking and annual reporting for any funds used from the TPPF. This existing mechanism and process would provide for fiscal accountability, and a methodology for the County to evaluate the effectiveness and progress of tree planting programs.

**Environmental Agenda Objectives Supported:**

Environmental Stewardship 1, 2, 3, 4 and 6  
Parks Trails and Open Space (General)  
Air Quality & Transportation 7  
Water Quality 1, 7, 9, 10, 12

**Other Plans or Documents where this action appears or that it supports:**

The Fairfax County Tree Action Plan  
30-Year Tree Canopy Goal  
New Millennium Occoquan Watershed Task Force Report  
Cool Counties Global Climate Change Initiative  
Air Quality Management Plan

**Lead Agency:**

DPWES—Urban Forest Management Division (UFMD)

**Status/Plans/Outcomes**

Instead of establishing a Tree Preservation and Planting Fund (TPPF), funding for this project has been provided through the Contributory Agency Fund. Three non-profits received \$109,000 – Fairfax ReLeaf, Earth Sangha, and Center for Chesapeake Communities – to build organizational capacity in support of a county-wide tree planting program.

It is conservatively estimated that providing \$60,000 annually to non-profit tree planting groups for the next five years could result in over 25,000 trees being planted in that same timeframe (or 5,000 trees per year). The tree cover gains from this project could possibly be used as a credited air quality improvement practice in future Washington Metropolitan Air Quality Plans. Expenditures from this project would also be used to help qualify Fairfax County for the annual Tree City USA Award. \$100,000 was requested for FY 2009 due to the new tree canopy goal schedule and the need to build non-profit organizational capacity.

EIP10-ES08-10 (B). Partnering with Non-Profit Tree Planting Groups in Establishing a  
Countywide Tree Planting Program  
Continued

**Resources**

\$50,000 was funded in FY 2008. \$109,000 was funded in FY 2009.

Additional funding of \$110,000 needed for FY 2010.

# **EIP10-ES09-05 (B) NACo/Energy Star Change a Light Program**

## **Description of Action**

NACo sponsored a pledge drive for the Energy Star Change a Light program. In 2006, County staff was challenged to take the initiative to replace an incandescent light at home with an energy efficient compact fluorescent lamp (CFL). The Facilities Management Department publicized the campaign using several types of media, including announcements posted in NewsLink, the Courier, on posters distributed to senior management team, and in email messages distributed by members of the Environmental Coordinating Committee. In 2007, the NACo challenge was conducted in two phases. The first phase was for county employees and the second was for citizens. In addition to the 2006 outreach efforts, additional announcements were made by issuing a press release and incorporating a weblink from the County website to the pledge site.

## **Environmental Agenda Objectives Supported:**

Environmental Stewardship 2 and 5  
Air Quality and Transportation (General)

## **Other Plans or Documents where this action appears or that it supports:**

Cool Counties Global Climate Change Initiative

## **Lead Agencies:**

Facilities Management Department

## **Status/Plans/Outcomes**

- In October 2006, Fairfax County won the award for First-Place (“Large County” Category - Population 500,000 and over) in the NACo pledge drive. 422 pledges were collected from employees. After this event, the Board of Supervisors challenged employees to continue their efforts through the end of November and collected an additional 413 pledges (pledges totaled 1,732 bulbs being changed). Collectively, the efforts of county employees will save 606,583 kWh of energy, \$60,658 in energy costs, and prevent the emission of 1.1 million pounds of greenhouse gas emissions.
- In December 2007, Fairfax County won the award for First-Place (“Large County” Category - Population 500,000 and over) in the second phase for public outreach. In September 2008, the County received 1,000 CFL’s for the award. These bulbs will be distributed at various public events.
- This campaign is an annual occurrence and continuing participation is planned.

## **Resources**

Funding for posters was expended out of FMD’s operating budget.

# **EIP10-ES09-06 (B) Joined Energy Star Challenge**

## **Description of Action**

The ENERGY STAR Challenge is a national call-to-action to improve the energy efficiency of America's commercial and industrial buildings by 10 percent or more.

Challenge participants and their members are encouraged to:

- Measure and track energy use
- Develop a plan for energy improvements
- Make energy efficiency upgrades
- Help spread the energy efficiency word to others.

The US Environmental Protection Agency (EPA) estimates that if the energy efficiency of commercial and industrial buildings in the US improved 10 percent, Americans would save about \$20 billion and reduce greenhouse gases equal to the emissions from about 30 million vehicles. If Fairfax reduced energy consumption in County facilities, it would save approximately \$1 million in utility expenses.

## **Environmental Agenda Objectives Supported:**

Environmental Stewardship 2 and 5  
Air Quality and Transportation (General)

## **Other Plans or Documents where this action appears or that it supports:**

Cool Counties Global Climate Change Initiative

## **Lead Agencies:**

Facilities Management Department

## **Status/Plans/Outcomes**

Fairfax County has signed up for the challenge. We already measure and track energy usage, and have a plan for energy improvements. We are also making energy efficiency improvements during capital renewal projects. We are beginning to spread the word to others, through programs like the Change a Light Campaign.

## **Resources**

Existing staffing may be utilized to continue with this effort. Current staff efforts have been focused on completing capital renewal projects and further progress on this item is awaiting additional staffing availability.

## **EIP10-ES09-08 (B) 30-Year Tree Canopy Goal**

### **Description of Action**

This action supports a June, 2007 Board Matter in which the Board officially adopted a 30-year tree canopy goal for Fairfax County. In addition this action also supports: Chesapeake Bay Program's Expanded Riparian Buffer Goals to encourage communities to adopt local goals to increase urban tree canopy cover and encourage measures to attain the established goals: and, recommendations of the Tree Action Plan to "identify maximum attainable and sustainable tree canopy goals"

According to Urban Forest Management Division (UFMD) long-range tree canopy modeling, even if our community continues to preserve and plant trees at present levels of effort, our tree canopy will still decrease in size from 41% to around 37% over the next 30 years. This loss (10,200 acres) equates in area to seven Huntley Meadows Parks (the largest Fairfax County Park) and will go hand in hand with the loss of significant levels of environmental and social services associated with tree canopy such as air pollution removal, carbon storage; energy conservation; and, stormwater management.

In 2007, order to reverse the loss and to actually increase canopy levels, the Board adopted a 30-year tree canopy goal of 45%. Reaching this goal requires that we increase our present canopy levels by approximately 20,400 acres by the year 2037. Although canopy gains are expected from natural processes, this goal requires a large-scale tree planting program spread over a 30-year period. At present, our community is estimated to plant 21,000 trees annually. The adopted goal requires that we increase current planting levels to an average of 84,000 trees annually. The total numbers of trees that are needed to reach 45% is estimated at 2.6 million. It is estimated that it will cost our community between 250 to 500 million dollars to install this number of trees depending on the size and species of trees planted that are eventually planted. However, the benefits provided by the added tree canopy should more than off-set costs associated with planting and maintaining the new canopy (see Status/Plans/Outcomes below for more details).

### **Environmental Agenda Objectives Supported:**

Environmental Stewardship 2, 3, 4, 5 and 6

Air Quality and Transportation (General)

Water Quality 7, 10, 12

Parks Trails and Open Space (General)

### **Other Plans or Documents where this action appears or that it supports:**

Fairfax County Tree Action Plan

Fairfax County's 30-year Tree Canopy Goal

Air Quality Management Plan

Cool Counties Global Climate Change Initiative

Tree Conservation Measure of the DC/MD/VA Metropolitan Area SIP (air quality plan)

## EIP10-ES09-08 (B). 30-Year Tree Canopy Goal

Continued

New Millennium Occoquan Watershed Task Force Report

### **Lead Agency:**

DPWES—Urban Forest Management Division

### **Status/Plans/Outcomes**

**Status and Plans:** This action is underway. In 2007, UFMD convened a series of stakeholder meetings that identified short, medium and long-term actions, and the resources that are needed to support the community tree planting program. An initial analysis of the tree planting potential of 31,357 acres of County-owned property and 15,500 acres of commonly-owned open space found that only 4,200 acres have potential for additional tree planting. The same analysis found that 33,170 of 107,000 (31%) acres of low-density residential land showed potential to accommodate additional trees. Therefore, the lion's share of tree planting will need to occur on privately-owned residential lots. UFMD will also conduct a Strategic Urban Forests Assessment for each of the 30 major watersheds. This assessment should identify specific areas and properties that have potential for tree planting (see EIP09-WQ08-09(C). Establishing Tree Cover Goals for Watershed).

The level of resources needed to obtain this goal, coupled with the geographic distribution of available planting space requires that substantial resources be dedicated towards educating private property owners about the value of preserving and planting trees. Educating and engaging the community will be absolutely essential for success. (see EIP09-ES08-10 (B) Partnering with Non-Profit Tree Planting Groups to Establish a Countywide Tree Planting Program and EIP09-ES08-11 (C) Promoting Stewardship of Urban Forest Resources).

**Outcomes:** The stormwater management capacity that is associated with 21,000 acres of mature tree canopy is estimated to cost \$510,632,400 to construct. This sum alone offsets the total cost estimated for this 30-year tree planting proposal. The canopy increase also has the capacity to provide an additional 5.3 million dollars of air pollution removal, and 4.7 million dollars of energy conservation services each year for the life of the trees, which could easily reach 70 years or more.

EIP10-ES09-08 (B). 30-Year Tree Canopy Goal

Continued

The following table provides details on the monetary values associated with the environmental services provided by 20,400 acres of mature tree canopy.

Service	Per acre value in \$	Acreage of trees	Estimate of Annual Benefit (based on 2007 values)
Air Pollution Removal	\$261 <sup>1</sup>	20,400	\$5,324,400
Carbon Sequestration	\$5-\$57 <sup>2</sup>	20,400	\$102,000 – \$1,162,800
Energy Conservation	\$231 <sup>3</sup>	20,400	\$4,712,400
Stormwater Management	\$25,031 <sup>4</sup> (one-time savings)	20,400	\$510,632,400 (one-time savings)

Sources:

<sup>1</sup>. American Forests 2002

<sup>2</sup>. Birdsey 2005 / Chicago Climate Exchange 2006 / European Climate Exchange 2006

<sup>3</sup>. USDA Forest Service / UFORE 2004

<sup>4</sup>. US Fish and Wildlife Service 2001

These monetary values are consistent with the average cost benefits ratio associated with tree programs in the Piedmont Region. The USDA Forest Services estimates that over a 40-year period, \$3.74 is returned for every \$1 that a community invests in planting and maintaining trees. *Piedmont Community Tree Guide: Benefits, Costs, and Strategic Planting November 2006 USDA Forest Service,*

**Resources**

The short-term resources needed for this action are identified in EIP10-ES08-10 (B ) Partnering with Non-Profit Tree Planting Groups to Establish a Countywide Tree Planting Program, and EIP10-ES08-11 (C) Promoting Stewardship of Urban Forest Resources. Long term funding would require \$2.6 million over 30 years.

# **EIP10-ES09-09 (B) Development of an Energy Management Program Through the Establishment of a Countywide Energy Coordinator Position**

## **Description of Action**

Federal and state governments, including the Commonwealth of Virginia, are showing increasing attention to global climate change issues, driven by the warnings from recent global science committees of dire consequences. This increasing governmental attention, along with community interest, are applying increasing pressure on federal, state and local governments to conserve energy and reduce greenhouse gas emissions.

Fairfax County has made progress towards improving the energy efficiency of its facilities. However, with the proper application of resources through a program to coordinate efforts, set reduction goals, and implement renewable energy technologies, the County can make significantly more progress, resulting in saving energy, reducing emissions, and even dollar savings. Fairfax County's commitment to Environmental Stewardship can be supported by extending this program to include outreach and education to citizens and businesses. The need for this program is further evidenced by Executive Order 48, which calls for energy reductions of at least 20 percent of FY2006 levels by FY2010 by all Virginia state executive branches. This order also establishes the position of Senior Advisor for Energy Policy, to provide expertise and advice to the Governor and the Commonwealth on energy matters. The establishment of a position to provide a similar service to advise the Board of Supervisors and county residents and area businesses will jump-start the County's efforts to achieve the EO48 goal.

In addition, the Metropolitan Washington Council of Governments (MWCOG) has recently established a Climate Change Policy Committee to develop regional greenhouse gas reduction strategies and goals. Further, the Fairfax County Board of Supervisors has taken the lead in developing a National Cool Counties Initiative aimed at encouraging and providing guidance to local governments to develop short and long-term goals to reduce corporate greenhouse gas emissions 80% by 2050.

Energy use for Fairfax County Government is distributed amongst several agencies, including the School Board, Facilities Management Department (FMD), Park Authority, Department of Housing, and Department of Public Works. Each agency is generally active in some form of energy conservation, but currently there is no coordination within the various agencies. Consequently, the degree to which each agency pursues energy conservation varies widely. For example, Schools and FMD, being the largest users, have dedicated energy managers that track energy use with database programs in

EIP10-ES09-09 (B) Development of an Energy Manager Program Through the Establishment of a Countywide Energy Coordinator Position  
Continued

hundreds of buildings, and have specific goals and tactics to lower consumption. As new buildings are designed, it is important that their energy use is carefully evaluated and minimized in the design stages. At the same time, it is critical that existing buildings be retrofitted to obtain increased energy efficiency. With hundreds of buildings operated by multiple agencies, a coordinated effort is necessary to direct the County's energy conservation efforts.

The Countywide Energy Coordinator is necessary not only for cross-organizational coordination, but to coordinate with our regional partners, such as COG, EPA, and NACo. The Countywide Energy Coordinator will also act to facilitate interaction and cooperation with environmental groups, such as the Sierra Club, and other counties, particularly Arlington, Prince William, Loudon, and Montgomery counties, to help our region become compliant with the State Implementation Plan requirements. The entire Washington, D.C. metropolitan area is in a non-attainment area for the federal 8-hour ozone and particulate matter 2.5 levels, and therefore, energy consumption **must** be reduced and clean energy sources **must** be incorporated to be in compliance.

Further, the County has accepted the U.S. Environmental Protection Agency's ENERGY STAR<sup>®</sup> Challenge, through which the County will promote energy efficiency in buildings. However, the County lacks a comprehensive energy program that can proactively and energetically promote the application of energy conservation practices. Promoting energy conservation through this challenge applies not only to County buildings, but also to providing technical support to homeowners and businesses who are interested in energy conservation.

The Countywide Energy Coordinator would not constitute the County's Energy Management program, in that it is anticipated that energy management will need to be developed within a number of agencies, and that one staff position will prove insufficient to meet what is likely to be a high demand for service. Rather, it is expected that the Countywide Energy Coordinator would coordinate efforts among a number of County agencies to build coordinated, cross-agency efforts to enhance energy conservation. The position would also provide an initial point of focus to support implementation of energy conservation practices in the County. A Countywide Energy Coordinator would serve as a central conduit of information to and from agencies and the community to better understand and leverage energy conservation practices employed, and lessons learned. This position would take the lead role in the Energy Subcommittee of the Environmental Coordinating Committee. The committee will consist of members of various agencies that have a significant role with energy consumption in their respective agency. The Countywide Energy Coordinator will make daily decisions as required to expedite processes; however, decisions that involve inter-agency or governmental commitments will be brought to this committee for discussion.

The establishment of this position is an interim step in development of a County Energy Management program, and would not constitute the program itself. The need for additional staffing and resources would be identified for a more comprehensive County

EIP10-ES09-09 (B) Development of an Energy Manager Program Through the Establishment of a Countywide Energy Coordinator Position  
Continued

effort. A possible outcome of the inter-agency coordination effort to be led by this new position could be the establishment of an energy efficiency fund, which could, at least in part, defray expenses associated with the establishment of this position.

**Environmental Agenda Objectives Supported:**

This action would broadly support the Environmental Stewardship Theme in the Environmental Agenda.

**Other Plans or Documents where this action appears or that it supports:**

Comprehensive Plan  
Cool Counties Global Climate Change Initiative

**Lead Agency:**

County Executive's Office

**Status/Plans/Outcomes**

At the direction of the Board of Supervisors, the County Executive included within the fiscal year 2009 advertised budget the Energy Coordinator position. In April of 2008 the Board of Supervisors adopted the fiscal year 2009 budget with the Energy Coordinator position authorized in the budget. The position was to be established through the abolishment of a vacant assistant to the County Executive position. In May 2008, the Human Resources department recommended that the grade for the position be established as an S-30. The position is in the process of being incorporated and established within the County. This position would be under the general direction of the County's Environmental Coordinator, and requires a close working relationship with the Air Quality Program Manager.

**Resources**

The Board of Supervisors approved funding for this position to be included in the FY2009 budget. Human Resources is finalizing the paperwork to establish this position at the S-30 pay grade.

### **Countywide Energy Coordinator Definition**

Under the general direction of the County's Environmental Coordinator, the countywide Energy Coordinator is responsible for planning and formulating energy policy and programs for Fairfax County, including:

- Supporting the development of proposed legislation
- Representing the County on local, State and regional energy related task forces and committees
- Overseeing the implementation of energy policies in Fairfax County
- Planning and directing energy efficiency monitoring and reporting
- Coordinating public outreach
- The Countywide Energy Coordinator recommends legislation, but is empowered by the County Executive to dictate and implement cross-agency policy, goals, and standards
- Define the roles and responsibilities, as well as qualifications, of a **future** Community Energy Outreach coordinator or team. As directed, assist in the implementation of this team

### **TYPICAL TASKS**

- 1) **Plans and coordinates the County's energy policy and programs. 50%**
  - Develops plans, policies, and new programs to implement and achieve improved energy efficiency.
  - Supports the development of energy legislation, along with supporting budget and other documentation relating to its impacts on the County's policy and operations.
  - Reviews existing County ordinances to ensure conformity to proposed and existing legislation.
  - Works with code officials and design professionals to revise, modify, and update building codes to encourage energy efficiency.
  - Administers multi-county agency efforts to implement energy efficiency.
  - Responsible for oversight and assurance that all County agencies are implementing their respective tasks.
  - Participates in and directs studies, research, tests, and evaluations of new energy efficiency approaches, measures, practices, and equipment.
  - Develops new and innovative goals, policies, and objectives in response to arising energy concerns and issues in the County.
  - Sets Countywide energy conservation goals. Expands the use of alternative energy sources (wind power, solar, methane, etc).
- 2) **Represents the County on energy advisory committees and task forces. 20%**
  - Provides advice and guidance.
  - Presents and discusses policy recommendations.
  - Leads the County's energy subcommittee.

EIP10-ES09-09 (B) Development of an Energy Management Program Through the Establishment of a Countywide Energy Coordinator Position  
Continued

- Provides staff support to technical committees, including coordinating meetings and workshops
  - Serves as the County's representative to the Metropolitan Washington Council of Governments regarding all energy related issues.
  - Coordinates an interagency energy subcommittee of the Environmental Coordinating Committee that would develop recommendations for strengthening energy efficiency efforts in Fairfax County. Staff from the Facilities Management Department, Department of Public Works and Environmental Services, Park Authority, Public Schools, and Department of Housing as well as the Environmental Coordinator and other agencies as needed, would serve on this subcommittee.
  - The subcommittee would prepare recommendations for consideration by the Board regarding staffing, resources, and training needed to strengthen public and private sector-related energy efficiency efforts in Fairfax County as well as policy, regulatory and legislative considerations. The review would include a consideration of the extent to which the County could/should offer incentives for energy efficient design development.
  - Coordinate energy purchases of gas and electricity with the various agencies.
- 3) **Develops and oversees public education and outreach programs.** 10%
- Meets with citizens, community leaders, elected officials, attorneys, and industry regarding the interpretation of regulatory requirements and implementation of energy conservation measures.
  - Serve as a liaison to County residents who are interested in incorporating energy efficiency into home renovation and addition projects.
  - Develop or compile available energy efficiency resource guidance for use by interested homeowners and businesses, and publicize the availability of this guidance.
  - Coordinate outreach with citizens groups to collect and disseminate information.
  - Develop a plan to provide free or reduced cost energy audits to citizens.
- 4) **Plans and directs energy efficiency monitoring and reporting.** 10%
- Reviews multi-agency energy efficiency performance to ensure effective enforcement in relation to energy regulations and policies, along with applicable engineering standards and principles, and State and Federal laws.
  - Prepares reports, technical memoranda, and policy recommendations to improve energy efficiency.
  - Tracks Federal and State regulations and guidance issued to implement state Executive Order 48.
  - Presents testimony at County and Board Environmental Committee meetings relating to the County's Energy Programs.
  - Responds to staff and Board of Supervisor requests for detailed information, data and technical reports.
  - Tracks energy usage for the County as a whole.

EIP10-ES09-09 (B) Development of an Energy Management Program Through the Establishment of a Countywide Energy Coordinator Position  
Continued

- Participates and coordinates Federal, State and local energy management programs and initiatives
  - Develops a plan for energy audits for County buildings and uses results to prioritize and facilitate energy conservation projects for County agencies.
  - Based on changing budget constraints and new technologies, analyzes previous fiscal years expenditures and plans for development of energy conservation projects.
  - Makes recommendations for cost-effective use of resources and contracts.
- 5) **Oversees Energy Management Program budget preparation and responsibilities.** 5%
- Researches and prepares proposals for energy program work, such as implementing renewable energy sources.
  - Develops standard operating procedures for the energy program.
  - Develops recommendations for the establishment and funding of an energy conservation fund that would be used to support energy efficiency efforts in Fairfax County.
- 6) **Supervises program staff, interns, or contractual agreements.** 5%
- Recruits and selects staff; evaluates performance, develops training plans, and recommends personnel actions.

# **EIP10-ES09-12 (B) Government Center HVAC Component Replacement**

## **Description of Action**

- 1) The Government Center currently houses three 900-ton chillers, with associated cooling towers and pumps. This equipment is original to the facility and is approaching the end of its useful life. The chillers are becoming more difficult to repair as replacement parts are limited. At the same time, the refrigerant used by the chillers is no longer in production as it is not “environmentally friendly”. New chillers would be more efficient and would use a more environmentally appropriate refrigerant. Associated pumps and cooling towers should be replaced at the same time.
- 2) The kitchen heat recovery equipment is approaching the end of its useful life and needs replacement.
- 3) The VAV boxes throughout the facility are pneumatic and should be replaced with the DDC version to take full advantage of the building automation system. Pneumatic systems historically consume more energy due to the system being prone to air leaks.

## **Environmental Agenda Objectives Supported:**

Environmental Stewardship 5  
Air Quality and Transportation (General)

## **Other Plans or Documents where this action appears or that it supports:**

Cool Counties Global Climate Change Initiative

## **Lead Agencies:**

Facilities Management Department

## **Status/Plans/Outcomes**

They are necessary for planned capital renewal efforts to prevent emergency replacements, however all three equipment replacements would result in energy savings.

## **Resources**

The \$4,400,000 need to pay for this capital renewal work was requested under Facilities Management CIP FY2009. The Board of Supervisors approved the FY2009 budget to include the chiller replacement for \$2,200,000. Other items remain unfunded at this time.

# **EIP10-ES09-14 (B) Increase Energy Code Compliance for Mechanical Systems**

## **Description of Action**

Increased compliance for energy efficiency with regard to mechanical systems is needed. The Building Plan Review department (BPR) of Land Development Services (LDS) currently reviews projects for compliance to the 2003 International Energy Conservation Code through:

(1) Details are required to be provided on architectural plans showing insulation values for building materials that show compliance to the building envelope requirements in Section 802.

(2) Energy efficient design calculations for the sizing of mechanical systems are required to be submitted to show compliance to IECC Section [M] 803.2.1. In lieu of calculations, a signed and sealed printout from a computer program based on IECC/ASHRAE is permitted to be submitted.

(3) Compliance to the electrical requirements found in Section 805 is reviewed through an Electrical Energy Compliance Certification Form. This form contains boxes that must be checked off by the design professional verifying compliance to items such as lighting controls, power calculations, and energy consumption. A similar column is provided for compliance to ASHRAE 90.1.

## **Environmental Agenda Objectives Supported:**

Environmental Stewardship 5  
Air Quality and Transportation (General)

## **Other Plans or Documents where this action appears or that it supports**

Cool Counties Global Climate Change Initiative

## **Lead Agencies:**

DPWES

## **Status/Plans/Outcomes**

BPR is also currently working on a new compliance certification form, similar to the electrical form, for mechanical systems. This form will cover Sections 803, 804, and 806 which will require design professionals to verify compliance to the requirements for balancing, controls, performance, minimum efficiencies, and other elements required by IECC or ASHRAE 90.1

## **Resources**

No additional resources are required

# **EIP10-ES09-18 (B) Energy Manager, Park Authority**

*(In the 2009 EIP, this Fact Sheet was in the Parks, Trails and Open Space section as EIP09-PT09-02 (B). It was assigned a new number when it was moved to the Environmental Stewardship section in the 2010 EIP.)*

## **Description of Action**

After several years of planning and in support of the agency's Strategic Plan 2006-2010 an energy manager's position was established. The position was filled in October 2007. The position is responsible for all aspects of energy management for the agency. As part of the current Strategic Plan, one objective is to create an Energy Management Plan for the agency, the position will also be responsible for energy audits, reviewing utility bills for anomalies, and researching and recommending new energy saving technology.

## **Environmental Agenda Objectives Supported:**

Air Quality (general), Parks, Trails, and Open Space (general) and Environmental Stewardship (general)

## **Other Plans or Documents where this action appears or that it supports:**

Air Quality Management Plan  
Comprehensive Plan  
Park Authority Strategic Plan  
Park Authority Policy Manual  
Park Authority Natural Resource Management Plan  
Cool Counties Initiative

## **Lead Agency:**

FCPA

## **Status/Plans/Outcomes**

Underway

## **Resources**

The projects that have been identified so far are:

**Lighting Retrofits** (\$107,120 – funded at FY 2007 carryover) consist of installation of T8/T5 Lamps and electronic ballasts, LED exit signs, replacement of 400 watt-HID lamps with 300-watt HID lamps, compact florescent lamps vs. incandescent lamps, and occupancy sensors at targeted locations. Annual savings are estimated at \$60,358 per year. This project is under way and evaluations and negotiations with contractors are being done.

**Control Installations** (\$234,840 – funded in FY 2009 budget) consist of Web based wireless control of key mechanical systems to allow automatic run time scheduling, phased start up to avoid peak demand utility penalty charges, remote access, and run time history reporting. Annual savings are estimated at \$70,493 per year.

**Motor Replacements** (\$43,260 - funded in FY 2009 budget) consist of replacing 20 hp or larger motors, with 95% (or even higher efficiency) efficiency optimizing units for Pool pumps and air handling units. Annual savings are estimated at \$16,068 per year.

**Solar Powered Trash Compaction Systems along CCT** (\$99,875 for 25 units; \$3995 each - unfunded) Solar powered, environmentally friendly compacting trash cans, such as the Big Belly Compaction Systems are, are able to hold and compact up to 3 times the capacity of a standard park trash can. This receptacle capacity affords a 33% reduction in staff driving to collect trash, thus decreasing emission and fuel, along with staff effort.

# **EIP10-ES10-03 (B) Implement Environmental Management System for Wastewater Management Program**

## **Description of Action**

The Wastewater Management Program (WWM) has an initiative to develop and implement an Environmental Management System that meets the requirements for certification within the Department of Environmental Quality's Virginia Environmental Excellence Program. The WWM aspires to acquiring the highest level of recognition with in the VEEP Program, which is the Extraordinary Environmental Enterprise level.

## **Environmental Agenda Objectives Supported**

Water Quality (general)  
Environmental Stewardship 5

## **Other Plans or Documents where this actions appears or that it supports**

The Cool Counties Climate Change Initiative  
Fairfax County Chesapeake Bay Ordinance  
MS-4 Permit  
Public Works and Environmental Services Strategic Plan

## **Lead Agency**

DPWES

## **Status/Plans/Outcomes**

In March 2004 the Wastewater Management Program received the Environmental Enterprise (E2) certification. In July 2007, The WWM received Exemplary Environmental Enterprise (E3). As the EMS program has been developed and implemented the following objectives have been attained:

- The Wastewater Management Division (WWM) received the Businesses for the Bay Award Environmental Excellence twice (2005 and 2006) for Outstanding Achievement for Nutrient (Phosphorus and Ammonia/nitrogen
- Carbon Footprint of the Noman M. Cole, Jr. Pollution Control Plant (NMCPCP) was calculated and validated by an independent third party).
- The NMCPCP installed a solar powered mixer in one of the pond in the summer of 2006

EIP10-ES10-03 (B) Implement Environmental Management System for Wastewater Management Program  
Continued

- The Industrial Waste Section of the Wastewater Planning and Monitoring Section requested the replacement of zinc corrosion inhibitors with a zinc free formulation from Fairfax Water. This action will result in a reduction of zinc in the Noman Cole Plant's influent. The agreement was a culmination of 2 years work involving staff from VADEQ, Health Department, WPM & Fairfax Water.
- The Lab reduced deionized water usage by 8,040 gallons per year. Water conservation was accomplished as a result of an EMS initiative by the Lab.
- The Lab eliminated approximately 90% of Lab mercury waste (~90 g/yr). Mercury reduction was achieved by using alternate methods and reagents where possible.
- The Lab implemented electronic submittal of the DMR known as eDMR. Wastewater was one of the initial users of the new DEQ program. Electronic reporting of the monthly DMR can be accomplished from remote locations and eliminates mail or delivery time.
- Wastewater Management staff participate annually in the Potomac Watershed Cleanup.
- The Wastewater Collections Division is on the EPA website as a Case Study Agency Nationally Recognized Collection System.
- Wastewater Management is a sponsor for the Water Environment Federation Sewer Science Program providing mentors to go into 25 Fairfax County High Schools for a week to help with a lab that teaches about wastewater treatment and protection of the waster environment.
- The Wastewater Treatment Division provides tours for the public including schools, scouts, foreign delegation and colleges. In 2007 the treatment plant led 34 tours for over 700 people.
- Staff from Wastewater Management participated in many different outreach events including Celebrate Fairfax, town hall meetings and Earth Day festivals.
- Installed lawn irrigation system at the NMCPCP that incorporates water reuse by using finished plant effluent.
- The NMCPCP incorporates reuse of plant's final effluent into many daily plant operations instead of using county potable water.
- The NMCPCP incinerator fueled by methane gas captured at I-95 landfill and piped to plant.
- NMCPCP staff promptly repaired a large 36-inch pipe that had reduced the plant's capacity by 60-percent. WCD provided materials for the effort.

EIP10-ES10-03 (B) Implement Environmental Management System for Wastewater Management Program  
Continued

- Gunston Cove was nationally and internationally recognized for eutrophication recovery. The Environmental Monitoring Branch has monitored the water quality of Gunston Cove in conjunction with George Mason University to evaluate ecological changes and impacts for the past 24 years. In order to conduct the monitoring, the Branch maintains and operates a 17 foot Boston Whaler for sample collection expeditions
- At the request of Chairman Connolly's office, Wastewater Collection Division's (WCD) Pipe Repair Section removed seven (7) sections of 42" diameter concrete drainage pipes from Little Rocky Run, restored the stream's banks with rip-rap, and seeded the adjacent work zone. These drainage pipes were installed by a developer over 15 years ago, and the community had wanted them removed for nearly one year, before WCD was contacted and the work was completed immediately.
- NMCPCP staff found and fixed leaking gates that were returning 2 mgd back to the head of the plant. The wastage was equivalent over 1 percent of the plant's capacity

**Resources**

Resources required for this initiative include staff hours from the EMS coordinator for WWM and other support staff, funding through Basic Ordering Agreement for EMS consultant services and funding for various upgrades and equipment specified in EMS objectives, funded through the operational and maintenance budget and Basic Ordering Agreement funding.

# **EIP10-ES10-04 (B) Water Use Reduction in the Wastewater Management Program Laboratory Processes**

## **Description of Action**

The Environmental Monitoring Branch of the Wastewater Management Program revised laboratory procedures to reduce the amount of water used to perform laboratory tasks.

## **Environmental Agenda Objectives Supported**

Environmental Stewardship 5

## **Other Plans or Documents where this actions appears or that it supports**

Public Works and Environmental Services Strategic Plan

## **Lead Agency**

DPWES

## **Status/Plans/Outcomes**

In 2006 the Environmental Monitoring Branch of the Wastewater Management Program found ways to conserve water, while conducting their laboratory analysis for the wastewater treatment facility. During this time, the lab realized a reduction in deionized water usage by 8,040 gallons per year. Water conservation was accomplished as a result of an EMS initiative by the Lab

## **Resources**

This initiative was accomplished through the staff being more aware of water usage during laboratory work and revision in some laboratory procedures in an effort to conserve water during lab tasks. The only resources expended were lab staff incorporating a new set of work practices into their daily routine.

# **EIP10-ES10-05 (B) Use Reclaimed Water in the Irrigation System for Noman Cole Pollution Control Plant Landscaping**

## **Description of Action**

This initiative focuses on the design and installation of a landscaping irrigation system that would utilize the treated wastewater effluent from the Noman M. Cole, Jr. Pollution Control Plant to provide landscaping and lawn irrigation at the plant.

## **Environmental Agenda Objectives Supported**

Environmental Stewardship 5

## **Other Plans or Documents where this action appears or that it supports**

Public Works and Environmental Services Strategic Plan

## **Lead Agency**

DPWES

## **Status/Plans/Outcomes**

In January 2008, the contractor Hydro-Tech Irrigation was contracted by Fairfax County to design and install a lawn irrigation system at the Noman M. Cole, Jr. Pollution Control Plant. This irrigation system was designed and installed to utilize reclaimed plant advanced plant water (final plant effluent prior to being dechlorinated) to irrigate approximately 20 acres of the plant's lawn and landscaping. The work was completed by Hydro-Tech in March 2008. The plant began use of the irrigation system in May 2008. The system was designed to allow for expansion of the system to greater acreage as completion of construction projects at the plant allow.

## **Resources**

The \$137,800 cost of the project was funded through the Wastewater Treatment Division CIP funds.

# **EIP10-ES10-06 (B) Maintain Potable Water Savings and Additional Opportunities for Reduction in Potable Water Use at Noman Cole Pollution Control Plant**

## **Description of Action**

This initiative focuses on maintaining potable water savings at the Noman M Cole, Jr. Pollution Control Plant above 1.5 billion gallons per year as the capacity of the plant increases over time. This includes finding more ways to reduce potable water usage at the plant.

## **Environmental Agenda Objectives Supported**

Environmental Stewardship 5

## **Other Plans or Documents where this actions appears or that it supports**

Public Works and Environmental Services Strategic Plan

## **Lead Agency**

DPWES

## **Status/Plans/Outcomes**

The Operations staff in the Wastewater Treatment Division Work hard to incorporate water reclamation into their daily processes the Noman M Cole, Jr. Pollution Control Plant. Both secondary plant effluent, as well as, advanced plant effluent water have been incorporated where appropriate in the plant processes. To date reclaimed water is used for backwashing filters, seal water, wash down, foam control sprays, generator cooling, air scrubber, polymer makeup, chemical carrier water, and onsite irrigation. Staff at the plant continues to look for other areas at the plant where the plant water can be incorporated into plant processes.

## **Resources**

Resources required for this initiative include Wastewater Treatment Division staff time and plant upgrades to allow for the waster reclamation upgrades. These are usually incorporated into overall plant upgrades as they occur.

# **EIP10-ES10-07 (B) Establish a Rain Garden at the Noman Cole Pollution Control Plant.**

## **Description of Action**

In order to reduce storm water runoff, the Noman M. Cole, Jr. Pollution Control Plant is considering the design and installation of a rain garden on site at the plant.

## **Environmental Agenda Objectives Supported**

Water Quality 7  
Environmental Stewardship 5

## **Other Plans or Documents where this action appears or that it supports**

Comprehensive Plan  
Watershed Management Plans  
MS-4 Permit  
Public Works and Environmental Services Strategic Plan

## **Lead Agency**

DPWES

## **Status/Plans/Outcomes**

Currently, the Wastewater Management Program is in the initial phase of considering the feasibility of the design and installation of a rain garden at the Noman M. Cole, Jr. Pollution Control Plant. Staff in the Pretreatment section of the Wastewater Planning and Monitoring Division (WPMD) are designing the structure and preparing a cost estimate for its installation.

## **Resources**

This initiative will require employee time from the Pretreatment section of WPMD for design of the structure. In addition, employee time and effort from the Building and Grounds Section of the Wastewater Treatment Division will be used for the installation of the structure. Additional funding, as determined by the cost estimate, will be required for purchase of plants and the related supplies. Funding for this project will be provided from existing resources.

# **EIP10-ES08-07 (C) Neighborhood Ecological Stewardship Training (NEST) Program**

## **Description of Action**

The Neighborhood Ecological Stewardship Training (NEST) program was initiated in the spring of 2006 by the Northern Virginia Soil and Water Conservation District, as a pilot project and as part of a doctoral studies project for a student at George Mason University. It was held again in 2008. NEST teaches citizens about their local environment through a series of experiential workshops and hands-on outings that explore local stream ecology, plants, soil, resource efficient behaviors and personal connections to the region. In 2006, more than forty agencies, organizations and companies partnered with the NEST program, and more than 145 adults participated in the program. The program was well-received and extensive documentation is available that illustrates the effectiveness of this approach to stewardship education. In 2008, more than fifty partners were engaged with 200 participants.

The program website is at: [www.exploreyournest.org](http://www.exploreyournest.org)

## **Program Goals**

- Capitalize on support and momentum from the public to get involved with their local environment through watershed and invasive species issues – to garner community involvement and support.
- Educate the public about how their actions impact their water resources, the local forests and the Chesapeake Bay Watershed.
- Create an environmental community with the skills, knowledge and commitment to make a positive impact on their “place” (neighborhood), by enhancing their “sense of place.”

## **Program Overview**

- I. Stream Valley Ecology – Watersheds and Streams
- II. Stream Valley Ecology – Soil and Native and Invasive Plants
- III. Land-based Exploration
- IV. Water-based Exploration
- V. Outdoor Arts
- VI. Connecting with Nature Series

## **Environmental Agenda Objectives Supported:**

Environmental Stewardship 1, 2, 4 and 6

Water Quality 1, 9 and 10

## **Other Plans or Documents where this action appears or that it supports:**

Watershed Management Plans

New Millennium Occoquan Watershed Task Force Report

Park Authority Natural Resource Management Plan

## EIP10-ES08-07 (C). Neighborhood Ecological Stewardship Training

Continued

### **Lead Agency:**

Northern Virginia Soil and Water Conservation District

With support from DPWES, FCPA and 26+ additional agency, private, and non-profit partners.

### **Status/Plans/Outcome**

NEST demonstrated that there is extensive interest in adult natural resources programs. The program filled to capacity and many participants claimed it “changed their outlook on natural resources in the area.” Pre and post-program surveys document the success of this hands-on approach.

The NEST program is clearly an effective way to foster environmental stewardship and can become a national model for adult stewardship education.

### **Resources**

The program’s formal budget was \$0. The program coordinator’s time was funded by the Northern Virginia Soil and Water Conservation District. All program funding and support were provided in-kind by its partners.

To continue the NEST program, funding is needed for both staff support and resources. \$35,000 would fund a part-time person to carryout the program.

(A full-time person could be used effectively to help implement the NEST and to carry out other technical and outreach programs, such as EIP10-ES10-15 (C).

## **EIP10-ES08-08 (C) Environmental Stewardship** **Matching Grant Program**

**ES08-08(C) shown here and in the FY 2009 EIP has been absorbed into ES10-15(C). The merging is recorded in the “Status” column of the Section D matrix for ES08-08(C) and in the fact sheet for ES10-15(C).**

# **EIP10-ES08-09 (C) Promoting the Use of Natural Landscaping Practices by Private Sector**

## **Description of Action**

This action focuses on efforts to promote the use of natural landscaping practices by the private sector. On June 21, 2004 the BOS directed staff to identify County properties where natural landscaping could be used to reduce maintenance practices that can cause harmful environmental impacts such as air pollution, and reduce the need and expense of mowing, pruning, edging, and using fertilizers, pesticides, and herbicides. In response, a Natural Landscaping Committee (NLC) was formed to identify practices, policies and a Countywide implementation plan. An initial report and recommendations of the NLC was presented to the Board's Environmental Committee and approved by the BOS on July 11, 2005.

The NLC realize that implementation of natural landscaping practices by citizens on privately owned properties has significantly more potential to deliver positive environmental benefits than implementation on public property alone; according, two major goals of the NLC report focus on:

1. **Public Education** – Promoting the use of natural landscaping on private property by providing opportunities to observe the application of specific natural landscaping practices that have been deployed and explained via signage on the grounds of highly-trafficked governmental facilities.
2. **Community Engagement** – Increasing neighborhood pride and environmental stewardship by encouraging civic or student groups that have interest in implementing natural landscaping practices on common open space, and by encouraging public involvement in the maintenance of landscaping projects installed at libraries, recreational centers, schools and governmental centers.

The following activities could be used to educate and engage the community about the value of implementing natural landscaping:

- Development of educational materials such as brochures, web pages, videos and desktop exhibits that highlight the use of natural landscaping on County property and promote its use on private property
- Incorporate interpretive signage into multi-function natural landscaping exhibits
- Develop public service announcements for various news and media outlets
- Promote natural landscaping at the County's Earth Day/Arbor Day Celebration and similar events
- Encourage gardening groups such as the Virginia Cooperative Extension Master Gardeners to attend Natural Landscaping workshops
- Encourage local landscape businesses to participate in Natural Landscaping workshops to encourage the development of natural landscaping services for private landowners
- Develop programs that encourage individual or groups interested in planting and maintaining natural landscape gardens and exhibits on County property

EIP10-ES-08-09 (C). Promoting the Use of Natural Landscaping Practices by Private Sector  
Continued

**Environmental Agenda Objectives Supported:**

Environmental Stewardship 1, 2, 3, 4  
Parks Trails and Open Space (General)  
Air Quality & Transportation 7  
Water Quality 1, 7, 9, 10

**Other Plans or Documents where this action appears or that it supports:**

The Fairfax County Tree Action Plan  
Benefits and Application of Natural Landscaping and Five-year Implementation Plan (The report prepared for the BOS by the NLC)  
New Millennium Occoquan Watershed Task Force Report

**Lead Agency:**

DPWES—Urban Forest Management

**Status/Plans/Outcomes**

This action complements the implementation of natural landscaping projects on County-owned properties such as governmental centers, libraries, fire stations, parks and schools over the next five fiscal years (FY 2008 through FY 2013) and is largely hinged on the funding of natural landscaping projects identified in EIP10-PT08-06 (C) Implementing Natural Landscaping Practices on County Properties, and EIP10-PT08-07 (C): Planting Trees for Energy Conservation at County Facilities. Emulation of natural landscaping practices by citizens could greatly amplify the level of environmental benefits derived from public natural landscaping projects. Funding for this project would be used to produce educational materials, produce and install interpretive signs, and to host workshops featuring natural landscaping practices.

**Resources**

Funding needed: \$30,000

# **EIP10-ES08-11 (C) Promoting Stewardship Of Urban Forest Resources**

## **Description of Action**

This action builds on goals from the Tree Action Plan to foster an appreciation for trees and urban forests by the residents of Fairfax County, and to compel residents to protect, plant and manage their trees. This action also supports a June 2007 Board Matter in which the Board officially adopted a 30-year Tree Canopy Goal for Fairfax County (see EIP09-ES09-08 (C)).

During the BOS Environmental Committee review of the Tree Action Plan recommendations, several Board members noted concern about a growing number of complaints relating to the removal of healthy, mature trees on private properties. As a result, the Board's Environmental Committee requested that the Tree Action Plan Work Group pay extra attention in the development of educational and outreach actions in order to minimize the unnecessary removal of trees by private citizens. Accordingly the Tree Action Plan contains the following strategies to accomplish these goals:

- Develop an outreach and education plan with clear targets and measurable results.
- Fund and implement an outreach and education program.
- Provide technical assistance and training to the public.
- Develop incentives and an awards and recognition program and pursue grants.
- Provide examples via demonstrations on public lands.

In addition, as noted in EIP10-ES09-08 (B), a 30-year Tree Canopy Goal, educating and engaging private property owners will be absolutely critical in all efforts to obtain that goal.

## **Environmental Agenda Objectives Supported**

Environmental Stewardship 2, 3, 4 and 6

Air Quality and Transportation 7

Water Quality 1, 7 and 10

## **Other Plans or Document where this action appears or that it supports**

Fairfax County Tree Action Plan

Watershed Management Plans

Agricultural and Forestal District Ordinance

New Millennium Occoquan Watershed Task Force Report

Cool Counties Global Climate Change Initiative

Air Quality Management Plan

Thirty-Year Tree Canopy Goal

## **Lead Agency**

DPWES-Urban Forest Management Division

Continued

**Status/Plans/Outcomes**

The Tree Action plan provides the following actions to promote stewardship of the County's urban forest resources by residents:

- Form an inter-agency team for education related to urban forestry.
- Inventory existing outreach efforts and publications.
- Develop a scope of work for the education and outreach plan. Determine budget and timeline for in house and outsourced options
- Identify and propose potential demonstration projects.
- Develop an education and outreach plan (funding required).
- Identify staff and budget needs to implement the education and outreach plan
- Outline an outreach and technical assistance program and identify resource needs.
- Define role of UFM in outreach and training for HOAs and residents.
- Define role of UFM in providing consulting and technical assistance for tree management on county land.
- Inventory existing awards and recognition programs.
- Compile list of applicable grants.
- Initiate demonstration projects on public property
- Develop informational brochures and expand the County's web page section regarding trees and urban forestry.
- Quantify and publishing the environmental and economic benefits of trees and forests

This action also complements efforts of the Natural Landscaping Committee.

**Resources**

Funding needed: \$55,000

Funds will used to develop an education and outreach plan and to develop and print educational materials

# **EIP10-ES09-10 (C) Energy Outreach Program**

## **Description of Action**

This program is intended to make the citizens of Fairfax County more aware of their personal energy consumption and to educate them on how they can help reduce usage. There are a variety of ways to increase public awareness, and the ultimate responsibility of developing the full program will belong to the Countywide Energy Coordinator.

Suggestions for a few ways to begin increasing awareness:

- Provide residential energy audits for free or at a discounted rate for county residents.
- Distribute free Compact Fluorescent Lamps (CFLs) with educational material to promote the benefits of their use.
- Provide a scholarship to student committed to pursuing education in energy conservation.
- Develop educational brochures.
- Develop County Energy Website to promote county efforts and educate citizens of what they can do.

## **Environmental Agenda Objectives Supported:**

Environmental Stewardship 2, 3  
Air Quality and Transportation (General)

## **Other Plans or Documents where this action appears or that it supports:**

Cool Counties Global Climate Change Initiative

## **Lead Agencies:**

County Executive's Office

## **Status/Plans/Outcomes**

This program is dependent on the establishment of the Energy Management Program as the Countywide Energy Coordinator would run this program.

## **Resources**

\$100,000/yr

# **EIP10-ES09-13 (C) Install EMCS in Remaining County Facilities**

## **Description of Action**

At the June 11, 2007 Board of Supervisors Environmental Committee meeting, a demonstration was provided on the energy management control systems (EMCS) that FMD utilizes to manage energy consumption in county facilities. There are currently only 58 of 170 facilities that currently have EMCS installed. The Board requested a cost to install systems in the remainder of our facilities. It is not necessary to install systems in all facilities, only ones that the county owns and maintains, and ones that are not about to undergo capital renewal or expansion.

## **Environmental Agenda Objectives Supported:**

Environmental Stewardship 5  
Air Quality and Transportation (General)

## **Other Plans or Documents where this action appears or that it supports:**

Cool Counties Global Climate Change Initiative

## **Lead Agencies:**

Facilities Management Department

## **Status/Plans/Outcomes**

Installation of EMCS in all these facilities could be begun in FY2009, but would take several years to complete.

## **Resources**

The estimated cost to install EMCS in approximately 100 facilities would be \$4,000,000. The two facilities that installation of EMCS would have the greatest impact need to be considered, even if funding is not available for all of the facilities. Cost of installation at Gum Springs Community Center and Bailey's Community Center would be an estimated \$400,000 combined, and has been included in the estimate for all the facilities.

# **EIP10-ES09-15 (C) Government Center Energy Project**

## **Description of Action**

The Government Center is a central hub and would be an opportunity to showcase energy conservation concepts to the public. Technologies such as green roofs on the terraced roof sections and solar panels on the main roof could be investigated for incorporation. This would offer energy savings from the green roof, and provide energy production on-site. At the same time, this offers an opportunity for outreach and education. High school students could conduct studies on the performance of the technologies. Increasing their knowledge and provide feedback to the County on the results of the installation. In addition, the Government Center lobby and atrium area would be ideal for educational displays (green roof, solar panels, lighting retrofits, energy management control systems, etc), maybe even real-time touch displays of what the solar panels are doing, for citizens to come in and learn about.

## **Environmental Agenda Objectives Supported:**

Environmental Stewardship 5  
Air Quality and Transportation (General)

## **Other Plans or Documents where this action appears or that it supports:**

Cool Counties Global Climate Change Initiative

## **Lead Agencies:**

Facilities Management Department  
County Executive's Office

## **Status/Plans/Outcomes**

A study is necessary to determine the feasibility of solar and green roof installations at the Government Center. Currently, solar panels are not cost effective for the County because the county is exempt and can not take advantage of tax incentives. This may be an opportunity for an additional outreach program through a partnership with a private organization as a third party investor. It could claim the tax incentive, while the county would be able to take advantage of the lower energy costs.

## **Resources**

TBD

# **EIP10-ES09-16 (C) Feasibility Study for Renewable Energy Technologies**

## **Description of Action**

Virginia Executive Order 48 calls for periodic assessment of the cost effectiveness of incorporating a photovoltaic power system or a green roof in any roof renovation for state buildings over 5,000 gross square feet in size. If the projected energy savings over a 15-year period can pay for the additional cost of installing photovoltaic or green roof system, then plans for state buildings are required to address that design option. The County is interested in emulating this idea because of its Cool Counties leadership, as well as consideration of life cycle cost savings.

## **Environmental Agenda Objectives Supported:**

Environmental Stewardship 5  
Air Quality and Transportation (General)

## **Other Plans or Documents where this action appears or that it supports:**

Cool Counties Global Climate Change Initiative

## **Lead Agencies:**

Facilities Management Department  
County Executive's Office

## **Status/Plans/Outcomes**

Independent consultants that specialize in renewable energy technologies would need to be contracted with to evaluate county facilities and conduct the necessary analysis to determine the cost effectiveness. While FMD needs a leading role in accepting new installations of technologies onto the facilities they maintain, there is already a large burden to keep up with necessary capital renewal needs. It is recommended that they work in conjunction with the Countywide Energy Manager to determine which facilities would be suitable for installation.

## **Resources**

TBD

# **EIP10-ES09-17 (C) Perform Energy Audits for County Facilities**

## **Description of Action**

Energy audits involve both physical inspection and testing at facilities to determine their energy efficiency or lack thereof. Currently, FMD targets energy projects based on utility consumption combined with capital renewal projects. Energy audits would provide a more in depth analysis and address more energy issues than what can be accounted for in equipment types and systems.

## **Environmental Agenda Objectives Supported:**

Environmental Stewardship 5  
Air Quality and Transportation (General)

## **Other Plans or Documents where this action appears or that it supports:**

Cool Counties Global Climate Change Initiative

## **Lead Agencies:**

Facilities Management Department

## **Status/Plans/Outcomes**

Qualified testing agencies would need to be consulted for this service to maximize the results. The length of time to conduct these audits would need to be determined.

## **Resources**

The estimated cost to conduct energy audits in approximately 100 facilities would be \$500,000.

# **EIP10-ES10-08 (C) Park Authority RECenters Lighting Improvement for Swimming Pools and Racquetball Courts**

## **Description of Action**

A more efficient lighting system for the RECenters would require fewer fixtures to produce the appropriate light levels on the field and consume less energy so it would significantly reduce electricity usage while meeting the viewing needs. Using appropriate energy efficient fluorescent lamps with energy efficient ballasts for Swimming Pools and Racquetball courts lighting could provide less energy consumption, better quality of light, constant light levels which reduce the maintenance costs, and appropriate scheduling and control system by switching lights on and off only when needed. Flexible programming also helps in providing the appropriate light levels for different purposes.

The Park Authority has 9 indoor swimming pools and 19 racquetball courts with metal halide lamps and some of them don't have appropriate quality of light. Racquetball courts lights have to be on the whole day since metal halide lamps need some time between off and on and some of swimming pools use additional fixtures since they are using indirect lighting. Upgrading these systems will provide this opportunity to significantly reduce energy consumption and reduce energy bills. One result of less energy consumption would be reduced CO2 emissions to the atmosphere.

## **Environmental Agenda Objectives Supported:**

Environmental Stewardship 5

## **Other Plans or Documents where this action appears or that it supports:**

Cool Counties Global Climate Change Initiative  
FCPA policy Manual

## **Lead Agency:**

FCPA

## **Status/Plans/Outcomes**

This action has not yet begun and it relates to results of an energy survey that was done in the FCPA facilities. FCPA established an energy management position to develop an energy management program, to review energy efficiency in FCPA facilities, and to help in defining energy projects.

## **Resources**

Retrofit Cost: Estimate \$900,000 (unfunded)

# **EIP10-ES10-09 (C) Park Authority Athletic Fields Lighting Improvement**

## **Description of Action**

A more efficient lighting system for the athletic fields requires fewer fixtures to produce the appropriate light levels on the field and consumes less energy so it could significantly reduce electricity usage while meeting the viewing needs. Additionally, using appropriate energy efficient technology for athletic field lighting could provide better quality of light, constant light levels which reduce the maintenance costs, and better scheduling and control system by switching lights on and off only when needed. Flexible programming also helps in providing the appropriate light levels for different activities.

FCPA has several athletic fields and some of these fields are using old lighting systems, which are not very efficient. Upgrading these systems will provide this opportunity to reduce energy consumption and reduce energy bills. Also it could provide this opportunity to control schedule and operations hours more efficiently. One result of less energy consumption would be reduced CO2 emissions to the atmosphere.

## **Environmental Agenda Objectives Supported:**

Environmental Stewardship 5

## **Other Plans or Documents where this action appears or that it supports:**

Cool Counties Global Climate Change Initiative  
FCPA policy Manual

## **Lead Agency:**

FCPA

## **Status/Plans/Outcomes**

This action has not yet begun and it relates to results of an energy survey was done in the FCPA facilities. FCPA established an energy management position to develop an energy management program and review energy efficiency in FCPA facilities and helps in defining energy projects.

## **Resources**

Assessment cost: \$10,000 (unfunded)  
Retrofit Cost: TBD (based on assessment results)

EIP10-ES10-09 (C) Park Authority Athletic Fields Lighting Improvement  
Continued

An assessment in lighted athletic fields with old lighting system will be required to choose the fields with better opportunity for improving energy efficiency. The assessment cost estimate is \$10,000.

# **EIP10-ES10-10 (C) Building Envelop Assessment and Improvement for Park Authority Facilities**

## **Description of Action**

The building envelope is a critical component of any facility since it plays a major role in regulating the indoor environment. Consisting of the building's roof, walls, windows, and doors, the envelope controls the flow of energy between the interior and exterior of the building. The building envelope can be considered the selective pathway for a building to work with the climate responding to heating, cooling, ventilating, and natural lighting needs. A better building envelope can help make a building energy efficient and environmentally friendly.

The Park Authority has different types of facilities and some of these facilities have old buildings that need to be evaluated in terms of building envelop and controlling air flow between indoor and out door, which significantly affects the building energy efficiency and energy use by HVAC systems.

This action will save energy uses for HVAC systems, reduce CO2 generation, and will reduce energy bills.

## **Environmental Agenda Objectives Supported:**

Environmental Stewardship 5

## **Other Plans or Documents where this action appears or that it supports:**

Cool Counties Global Climate Change Initiative  
FCPA Policy Manual

## **Lead Agency:**

FCPA

## **Status/Plans/Outcomes**

This action has not yet begun and it relates to results of an energy survey was done in the FCPA facilities. FCPA established an energy management position to develop an energy management program, to review energy efficiency in FCPA facilities, and to help in defining energy projects.

## **Resources**

Assessment Cost: \$60,000 (unfunded)

Retrofit cost: TBD (based on assessment results)An assessment in selective facilities will be needed to identify required actions for increasing energy efficiency in these buildings. This assessment could be contracted. Assessment cost is estimated \$60,000 for selective facilities/buildings and resource needs for actions/retrofits will depend on the result of this assessment.

# EIP10-ES10-11 (C) Park Authority Facilities Small HVAC Systems

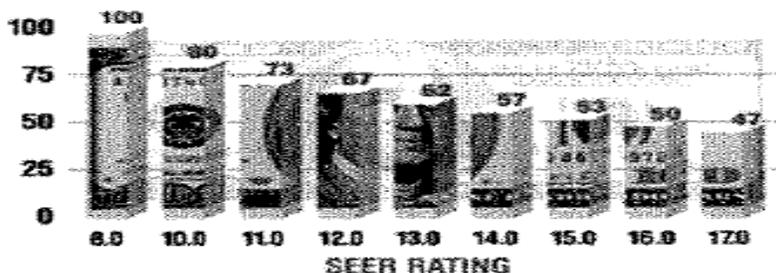
## Description of Action

The building critical systems of any facility are its HVAC systems since they play a major function in regulating the indoor environment. Consisting of heating, ventilating, and air condition systems they are the major energy groups. Using appropriate energy efficient equipment provides for less energy consumption reducing the environmental impact and reducing operational cost.

Currently the existing indoor weather system is an endangered species. That's the result of the 1990 Clean Air Act and the internationally binding Montreal Protocol. These documents call for an international phase out on future manufacturing of the refrigerant R-22 (the principal HCFC refrigerant), which is currently used in most air conditioning and heat pump systems. The basic phase out schedule for HCFCs (Hydrochlorofluorocarbon) (R-22) in developed countries is as follows: 35% reduction in 2004, 65% reduction in 2010, 90% reduction in 2015, 99.5% reduction in 2020, and 100% phase out in 2030.

This phase out of the HCFC's mandated by the 1990 Montreal Protocol gives the FCPA a new insight on new and replacements of HVAC systems. Historically, when a refrigerant has been phased out, the cost of that refrigerant has risen dramatically. And the costs for servicing products using a phased out refrigerant have risen as well. That's what happened with R-12, the refrigerant that, until recently, had been used in automobile air conditioners. By replacing the older air conditioner or heat pump we could be protecting the FCPA from the potentially rising costs of servicing R-22 products and environmentally we could contribute in prevention of Ozone layer depletion, which is a critical environmental issue.

We currently have 58 units (including 22 units in golf courses and 11 units in tenant rental houses) that need to be upgraded to be more energy efficient and comply with the federal mandates for the use of HCFC's. Most of these units are more than 10 years old. Currently we plan on replacement of 8 units a year to high efficient units from 8/10 to 14 SEER rating. The chart below indicates the operational/electricity costs based on SEER (Seasonal Energy Efficiency Ratio) rating.



**Environmental Agenda Objectives Supported:**

Environmental Stewardship 5

**Other Plans or Documents where this action appears or that it supports:**

Cool Counties Global Climate Change Initiative  
FCPA policy Manual

**Lead Agency:**

FCPA

**Status/Plans/Outcomes**

This action has not yet begun and it relates to results of an energy survey and life cycle of equipment that was done in all FCPA facilities. FCPA established an energy management position to develop an energy management program, to review energy efficiency in FCPA facilities, and to help in defining energy projects.

**Resources**

Retrofit Cost: Estimate \$130,000 /year (for every 8 units) and totally \$950,000 (unfunded) during 7 years (for total 58 units).

# **EIP10-ES10-12 (C). “Earth Hour” Event Participation**

## **Description of Action**

“Earth Hour” is an annual outreach event the World Wildlife Fund initiated in Sydney, Australia in 2007. WWF coordinated an international event in 2008 and plans to continue the event annually.

For one hour at 8 p.m. local time on the night of the new moon nearest to April 1, participants switch off all non-essential lights, appliances and other electrical equipment. The event has two objectives: first, to get large numbers of individuals and businesses to turn off their non-essential lights and equipment for one hour; and second, to pursue a campaign throughout the following year to reduce electrical energy consumption (and therefore, greenhouse gas and other emissions) by 5 percent. The aim of the campaign is “to express that individual action on a mass scale can help change our planet for the better.”

The purpose is not to save any significant amount of energy or emissions in one hour, but to raise awareness that small individual actions taken on a grand scale can amount to significant savings. Organizers gather data as reliably as practical to show what volume of electrical energy and mass of greenhouse gas emissions were avoided during the one-hour event by locale. Reported reductions ran about 5-10 percent for many participating cities during Earth Hour 2008 (March 29).

County staff would propose an appropriate level of county participation in Earth Hour 2009 (Sunday, March 29, 2009). A minimal participation level might be to identify a small number of county-owned buildings with automated lighting controls (to minimize cost of staff time – and overtime – dedicated to turning systems off and on again) to be dimmed or darkened during the one hour. At the other extreme, a full-fledged campaign could include many buildings as well as promotion of participation by businesses and residents through schools, recreation activities and public affairs media. The board might also choose to invite other regional jurisdictions to commit to the event with suggested actions. A highly publicized event might lead into a year-around campaign to promote energy efficiency actions that are individually small but would be significant if widely adopted.

## **Environmental Agenda Objectives Supported:**

Environmental Stewardship 2, 3, 5

## **Other Plans or Documents where this action appears or that it supports:**

Air Quality Management Plan

Cool Counties Global Climate Change Initiative

EIP10-ES10-12 (C) “Earth Hour” Event Participation  
Continued

**Lead Agency:**

Environmental Coordinator / Energy Coordinator

**Status/Plans/Outcomes**

Not yet initiated

**Resources**

Initial exploration of resources required for various levels of participation could be absorbed by existing staff. Resources required for implementation will depend on the extent of commitment to the event and its aftermath.

# **EIP10-ES10-13 (C) Master Watershed Stewards Certification Program**

## **Description of Action**

The Master Watershed Stewards Certification Program is intended to provide training to Fairfax County citizens interested in participating in implementing watershed management plans and other initiatives, improvements and activities to protect the streams and natural resources in their watersheds. It provides an intensive introduction to watershed issues and watershed management during eight 2 ½ hour workshops on technical and organizational topics including: the consequences of poor watershed management; measuring watershed health; stormwater management; best management strategies and practices, including the low impact development concept and practices; and organizing to take action (forming or strengthening community watershed organizations). Participants also conduct a visual assessment of stream corridors in their own watersheds. Participants also must carryout at least 24 hours of watershed-related community service, which may include a project or activity, organizing a community watershed organization, or participating in a community group involved in implementing a watershed plan or other watershed activities. Upon completion of the workshops and the community service, participants are certified as Master Watershed Stewards.

This program builds on the successful Master Watershed Stewards Program conducted in 2004 (ES-07-A-2), when 66 Fairfax County residents were certified as Master Watershed Stewards by the Potomac River Greenways Coalition (compared to the program's target of 30). In addition, 52 other citizens attended one or more of the Master Watershed Stewards Program workshops.

## **Environmental agenda objectives Supported**

Environmental Stewardship 1, 2, 4, 6  
Water Quality 1, 3, 5, 7, 10  
Growth and Land Use 5

## **Other Plans or Documents where this action appears or that it supports**

Watershed Management Plans  
MS-4 Permit  
New Millennium Occoquan Watershed Task Force Report

## **Lead Agency**

Northern Virginia Soil and Water Conservation District

## **Other Agencies**

Department of Public Works and Environmental Services, Stormwater Planning Division

Continued

**Status/Plans/Outcomes**

The program is being developed collaboratively by NVSWCD and the Potomac River Greenways Coalition. An evaluation instrument is under preparation to measure the long-term impact of the initial Master Watershed Stewards Program. During 2009, a survey will be conducted to assess the overall utility of the 2004 Master Watershed Stewards Program on post-program participant involvement in watershed management-related activities. The survey also will be used to make adjustments to the curriculum, based on feedback from participants. In addition, the curriculum will be adjusted to incorporate new research and developments, as well as the results and findings of the on-going Fairfax County watershed management planning effort, and measures to facilitate program implementation. The revised Master Watershed Stewards Certification Program will be ready for implementation in FY 2010. The program would be facilitated by a coordinator provided by the Potomac River Greenways Coalition who would plan, promote, organize, lead and administer the program. In addition, an environmental educator would be hired to help carry out the program. Major expected outcomes of this program would be: (1) to prepare a significant number of committed and well-trained citizens who can exercise leadership in the implementation of watershed plans and watershed improvements; and (2) to institutionalize the program as a tool to provide knowledge, influence attitudes, and encourage practices to empower Fairfax County residents to make a positive difference as stewards of their watersheds.

**Resources**

The Potomac River Greenways Coalition, the principal citizen counterpart organization for this program, will provide program coordination and management as an in-kind contribution. The Coalition and NVSWCD also will seek grant funding from the Chesapeake Bay Small Watersheds Grants Program or other funding sources to facilitate program organization and curriculum revision.

An additional \$40,000 in grant and/or county funding is needed to fund the environmental educator position, honoraria and travel for topic matter specialists, and for program supplies.

Other staff resources to support this effort are budgeted as part of the NVSWCD and DPWES programs. County facilities will serve as the venue for the workshops.

# **EIP10-ES10-14 (C) Water Conservation Education and Device Distribution Program**

## **Description of Action**

Fairfax County, Virginia, is a growing community whose primary source of drinking water is the Potomac River and the Occoquan Reservoir.

Much of the Washington Metropolitan Area experienced a drought in 1999, 2002 and 2007. The Metropolitan Washington Council of Governments, of which Fairfax County is a member jurisdiction, in cooperation with local water utilities adopted the national “Water, Use it Wisely” program to demonstrate simple wise water use practices. There are 100 water saving tips that are easy to incorporate into daily practices, from turning the water off while brushing your teeth, to properly adjusting your landscape planning throughout the year. With awareness and a little effort we can all find ways to use water wisely!

In 2007, average household consumption in Fairfax Water’s retail service area was 260 gallons per day (gpd) for single-family residences and 165 gpd for townhouse residences. Please note that this is per residence and not per capita. Multi-family residence data is more difficult to calculate as many are not individually metered, skewing the number of true accounts served. On a per unit basis, it is likely to be pretty close to the townhouse numbers on a per account basis.

In addition to protecting and preserving our regional water resources, the “Water, Use it Wisely” information brochures will help county residents to reduce their carbon footprint by reducing greenhouse gas emissions associated with the electricity required to collect and treat the water. For example, based on a review of Fairfax Water’s average energy use, about 2,500 kilowatt hours (kWh) is used to pump, treat, transmit and distribute water per million gallons delivered. For wastewater collection and treatment, Fairfax County uses about 3,000 kWh per million gallons.

Based on our electricity grid, approximately 1.2 lbs of carbon dioxide (CO<sub>2</sub>), a greenhouse gas, is produced per kWh. This says nothing about the traditional pollutants associated with electricity generation. The Environmental Protection Agency estimates that letting a faucet run for five minutes uses almost as much energy as letting a 60-watt bulb run for 14 hours.

This action is a plan to promote pro-active water conservation practices in our county by influencing area business and county resident water usage. “Water, Use It Wisely” color brochures along with a faucet aerator would be mailed to select homes within the county where survey or research findings show most beneficial outcomes.

### **Environmental Agenda Objectives Supported**

Environmental Stewardship (General)

#### **Lead Agencies**

Environmental Coordinator  
Fairfax Water

#### **Status/Plans/Outcomes**

In 2007, Fairfax Water produced, on average, 167 million gallons of potable water daily to meet the demand of nearly 1.5 million residents and businesses in the region, including over 800,000 within the county. Both Fairfax Water and the county currently participate in the regional *Water: Use it Wisely* campaign.

With consistent water conservation measures in place, drought conditions can be more effectively handled and the severity of a water shortage can be reduced. The education and distribution plan seeks to both educate county residents and area businesses on simple measures that can be taken at home or in the office, and provide one small device that can be easily installed to further facilitate water conservation and cost savings.

For example, using a single faucet aerator in the kitchen sink can save, on average, a typical household nearly 280 gallons of water per month. By this saving alone, the faucet aerator will pay for itself in a matter of a few months.

Brochures and faucet aerators should be distributed along with a public education and outreach campaign and targeted to those county residences/organizations or communities where market research has shown to be most receptive. Aerators can be handed out by science teachers for distribution to receptive students along with the brochure and/or distributed by county agencies or board member offices at select events. The details of the campaign and distribution will need to be further developed in a future year EIP.

*Water: Use it Wisely* color brochures in pdf format are available through the Council of Governments. Printing and distribution can be accomplished through a county vendor in a similar manner that was done for the Tick and Mosquito Brochure that was recently distributed to all county residents by the Health Department.

#### **Resources**

Bulk rate for faucet aerator: \$1 ea

***Water, Use it Wisely* brochure specifications:** Print ready PDF's will be provided by Fairfax County; 8.5" x 11" flat size, folding to #10; Print full color on both sides (4/4); 80# coated text stock;

**DISTRIBUTION** - cost is approximately 15 cents per mailing.

**PRINTING** - 50,000 copies: \$3,943.0

# **EIP10-ES10-15 (C) Environmental Stewardship Matching Grant Program for Watershed Protection and Energy Conservation**

## **Description of Action**

A fundamental barrier to the implementation of watershed protection and energy conservation actions by Fairfax County residents is funding. Homeowners, HOAs or schools desiring to manage their properties and landscapes for environmental sustainability are often deterred by a lack of funding. Other jurisdictions, including Montgomery and Arlington counties are taking steps to overcome this barrier. Montgomery County has implemented its Rainscapes Rewards Rebate Program (<http://www.montgomerycounmd.gov/Content/DEP/Rainscapes/home.html>) and Arlington County has offered free home energy audits to its residents.

NVSWCD proposes offering an environmental stewardship grant program for watershed protection and energy conservation actions by Fairfax County residents, HOAs and schools. Green living workshops focusing on how to save energy, create sustainable landscapes, protect local water quality and conserve water would be used to introduce the grant program to residents. Residents attending the workshops would become eligible for matching grants for specific projects such as installation of permeable pavers, rain gardens, cisterns, green roofs and tree canopy, riparian buffer or shoreline enhancement, energy efficiency or water conservation updates, and conservation. NVSWCD would provide technical assistance, and would assemble resources from other agencies to offer technical assistance where possible, in the design and implementation of the projects.

The matching grant program would fulfill multiple county goals including: minimizing impacts to local water quality and the Chesapeake Bay by reducing pollutants, increasing biodiversity and habitat including urban forest resources, minimizing runoff, counteracting global warming, conserving water, and stimulate local environmental stewardship and enhance community by empowering citizens to enact positive change locally.

## **Program Goals:**

- Provide technical information on alternatives to highly resource consumptive residential living and landscape practices.
- Provide financial incentives to enable on-the-ground projects that demonstrate environmental stewardship and provide for ongoing environmental education.
- Improve water quality, conserve water and reduce greenhouse gas emissions and conserve energy within Fairfax County.

**Environmental Agenda Objectives Supported:**

Growth and Land Use 5  
Air Quality 7  
Water Quality 1, 7, 9, 10  
Parks, Trails and Open Space 2  
Environmental Stewardship 1, 2, 3, 4 and 6

**Other Plans and Documents where this action appears or that it supports:**

Watershed Management Plans  
New Millennium Occoquan Watershed Task Force Report  
MS-4 Permit  
Fairfax County Tree Action Plan  
Fairfax County 30-Year Tree Canopy Goal  
Benefits and Application of Natural Landscaping and 5-Year Implementation Plan  
(A Report prepared for the Board of Supervisors by the Natural Landscaping Committee)  
Cool Counties Global Climate Change Initiative

**Lead Agency:**

Northern Virginia Soil and Water Conservation District

**Status/Plans/Outcome**

**Please note that the fact sheet and action shown in ES08-08(C) in the FY 2009 EIP has been incorporated into this action shown here.** Related programs include rain garden, rain barrel and the Livable Neighborhoods Water Stewardship program. NVSWCD participates in all three of these programs in cooperation with partners including DPWES stormwater planning, the Northern Virginia Regional Commission, the Fairfax County Park Authority, and other local jurisdictions including Arlington County, City of Alexandria, City of Falls Church and non-profits such as Arlingtonians for a Clean Environment.

In FY 2009, NVSWCD, working with partners from DPWES, NVRC and the Providence Supervisor's office, used a \$12,000 grant from the Chesapeake Bay Restoration Fund to support implementation of an LID demonstration project to improve stormwater management at one home in the Falls Hill neighborhood, and to conduct a community education program that included technical assistance and small grants (\$150 to \$300) to several homeowners to implement stormwater improvements on their properties. The Falls Hill project addressed only one component (stormwater) in the proposed Stewardship Matching Grant Program, but is noteworthy because the well-attended workshops and active interest shown by the neighborhood suggests the broader Matching Grant Program would be well-received by county residents.

EIP10-ES10-15 (C) Environmental Stewardship Matching Grant Program for Watershed  
Protection and Energy Conservation

Continued

**Resources**

\$65,000 would be needed to fund a program that would include a part-time person to conduct the outreach and education, provide technical assistance, and manage Stewardship Grants for \$300 to \$2,500 for private homeowners and \$2,500 or more for schools, community groups and HOAs. Staffing would be provided by NVSWCD with assistance from county agencies if possible.

\$25 would be needed to fund a pilot project with fewer grants and using existing NVSWCD staff resources.

