

# **FAIRFAX COUNTY, VIRGINIA**

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

**Fiscal Year 2009**

**Prepared September, 2007**

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# **EIP09-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, 2007, 14 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 item, however, was moved to the Priority 2 list of the Zoning Ordinance Amendment Work Program in 2006 and remains on the 2007 Priority 2 list. A Priority 2 item is maintained on the list for future prioritization and it is anticipated that no work will be done on this item in calendar year 2007.

## **Resources**

The cost of staff time to review and process PRM District applications will be absorbed within the DPZ budget in a future year. Existing staff resources are allocated to more pressing Zoning Ordinance amendments.

# **EIP09-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.

EIP09-GL07-03(B). Area Plan Amendments and Subsequent Rezonings 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 EIP09-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. In addition to discrete projects and studies, the recent adoption of a transit-oriented development (TOD) objective to the Policy Plan (see EIP09-GL08-04(A)) will provide immeasurable support to this objective. Further information on related and supporting actions can be found in item EIP09-GL07-06(B), pedestrian-oriented neighborhood commerce.

In the Merrifield Suburban Center, the rezoning of the property within the Dunn Loring Metro Center added 550-720 units of residential development potential. In addition, a pending rezoning application in the Merrifield Town Center seeks 500-900 dwelling units (at the time of preparation of this fact sheet). A second rezoning application in the Merrifield Suburban Center requests redevelopment of industrial property for mixed use that would include both residential and non-residential uses. A mixed use rezoning proposal approved in Tysons Corner Center in January 2007 added the potential for 950-1,385 dwelling units. 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 will be issued in September 2007, with responses due by late November 2007. Selection of a new partner for this joint development project is anticipated in early 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 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

EIP09-GL07-03(B). Area Plan Amendments and Subsequent Rezoning Supporting Transit-Oriented Development and the Provision of Housing in Employment Centers  
Continued

as a foundation for achieving mixed use development. The study is being funded by the Office of Economic Adjustment, Department of Defense. The total cost of consultants, new staff and Fairfax County contribution is approximately \$1,550,000. Other planning studies underway include Tysons Corner, which in totality will be funded in the amount of nearly \$2 million for consultant services over a multiyear period.

# **EIP09-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 early 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.

# **EIP09-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 EIP09-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 will be used by the Task Force and the consultants in developing advanced alternatives for additional analyses. The Task Force expects to hold two additional outreach activities. In September 2007 the public will be asked to comment on ways to implement alternative futures for Tysons Corner. Public meetings will also be held in January 2008. These will report on the results of the consultants' testing and analyses of the advanced alternatives, and will solicit public input to help the Task Force and consultants develop the preferred alternative, which will

be the foundation for their drafting of Plan recommendations. In order to conduct the outreach events in September 2007 and January 2008 and to have the consultants provide additional analyses, a request is being made for additional funds 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. 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 5 to 7 SYE (or \$425,000 to \$595,000) and material cost for document preparation and other associated costs are estimated to be \$20,000 to \$40,000. The staff costs have been absorbed within DPZ's and DOT's budgets.

The Task Force has identified additional consultant work activities not within the scope of the current contract. Therefore, in September 2007, staff requested approximately \$100,000 in carryover funds to cover the costs of these additional activities. Additional tasks include public outreach and urban design. If the Task Force requests further transportation analysis beyond that in the current scope, additional funds may be necessary.

# **EIP09-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 and recent approval of a Plan Amendment for residential and office mixed use with pedestrian-oriented retail use in the Fairfax Center Area.

Comprehensive Plan policy supports the integration of neighborhood-serving commercial uses within residential areas, and both a Zoning Ordinance amendment (see EIP09-GL07-02) and Area Plan amendments (see EIP09-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 EIP09-GL07-03. No additional resources are needed.

# **EIP09-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 and 2007 Legislative Programs a position statement supporting APF legislation.

As in past years, the 2007 General Assembly declined to grant any authority to local governments to adopt adequate public facilities ordinances. Although the prospects of success

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.

# **EIP09-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. While DPZ generally takes the lead on NEPA reviews, other agencies will take the lead on such reviews as appropriate (e.g., DOT has taken the lead on the reviews of Environmental Impact Statements [EISs] for major transportation projects).

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.

# **EIP09-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 EIP09-GL07-04, which focuses on tree preservation and open space considerations associated with the Infill and Residential Development Study, and EIP09-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  
Cool Counties Climate Change Initiative

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

Comprehensive Plan

## **Lead Agency:**

DPZ

## **Status/Plans/Outcomes**

The 2007 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 and is awaiting the outcome of the Tysons Corner Transportation and Urban Design Study (EIP09-GL07-05(B)), which is expected in 2008. It is likely that the study may result in Plan amendments for the Tysons Corner area that would allow higher floor area ratios than currently allowed by the Zoning Ordinance, and if so, the Zoning Ordinance would subsequently be amended to implement the Plan recommendations. It is anticipated that such amendments will not occur until 2008 at the earliest.

## **Resources**

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

# **EIP09-GL07-10(C). 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 2007 Zoning Ordinance Amendment Work Program with a projected timeframe of completion in 2008. The idea of establishing a Neighborhood Conservation District to address compatibility issues remains on the Priority 2 list; it is anticipated that no work will be done on this item in calendar year 2007. Coordination with the Office of County Attorney is needed in order to verify whether or not the establishment of Neighborhood Conservation Overlay Districts requires enabling authority from the Virginia General Assembly.

## **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. However, these actions require DPZ staff resources, thereby reducing resource availability for other tasks; the addition of any new item to the Priority 1 Zoning Ordinance Amendment Work Program (e.g., establishing a new overlay district) would necessitate the removal of one or more other items from this list. Staff anticipates that this amendment would be complex and controversial; a considerable level of staff resource needs should be assumed. It should be noted that, while this item is on the Priority 1 list for Zoning Ordinance Amendments with a projected timeframe of completion in early 2008, it may not be addressed this year due to other pending priorities.

# **EIP09-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, is being established for the project to provide oversight, review and comment on the study.

It is anticipated that the study should be completed by early 2009 and that any necessary amendments to the Plan and/or Zoning Ordinance will subsequently follow in calendar year 2009.

**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. Initiation of this effort will begin in the near future after a consultant has been selected.

The 2007 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. A Priority 2 item is maintained on the list for future prioritization and it is anticipated that no work will be done on this item in calendar year 2007.

**Resources**

As noted earlier, money for hiring a consultant has been allotted as part of the 2007 Carryover budget.

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. However, these actions would require DPZ and DOT staff resources, thereby reducing resource availability for other tasks; the addition of any new item to the Priority 1 Zoning Ordinance Amendment Work Program would necessitate the removal of one or more other items from this list. Staff anticipates that this amendment would be complex and controversial; a considerable level of staff resource needs should be assumed.

# **EIP09-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 begun on Phase II, which will incorporate Comprehensive Plan information and create demographic estimates and forecasts and some demographic reporting tools. It is anticipated that this Phase II work will be completed by the end of 2007. A third phase that will build in additional data handling and analyses tools and create daytime population estimates. At this time no funding has been identified for the third phase.

## **Resources**

The Integrated Parcel Lifecycle System data warehouse structure and demographic analyses modules have been funded and are under way. Ancillary actions, such as the updating of the county's planimetric data layer (see EIP09-GL08-05), are not part of this project and will require additional resources.

# **EIP09-GL08-03(B). 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**

A draft Plan Amendment and associated staff report were prepared and transmitted to the Planning Commission’s Environment Committee in January, 2007. The Environment Committee has held a series of meetings to discuss green building concepts; on June 27, 2007, the Committee reached consensus in support of advertising a Plan Amendment for public hearings. On July 9, 2007, the Board of Supervisors authorized such public hearings and requested that the Planning Commission Environment Committee consider the application of incentives for green building practices (see EIP09-GL09-01(B)). The Board requested that, as part of this review, consideration be given to possible ways to promote and encourage green building practices through the Comprehensive Plan. The air quality/green buildings plan amendment may be crafted accordingly. Public hearings on the Policy Plan amendment are anticipated in fall, 2007.

## **Resources**

This effort is proceeding using existing staff resources. It is not anticipated that additional resources will be needed.

# **EIP09-GL08-04(A). Define “Transit Oriented Development” and Incorporate a Definition and Principles for its Application in the Comprehensive Plan**

## **Description of Action**

Development of a definition and set of guiding principles for Transit Oriented Development (TOD) and incorporation of this guidance into the Comprehensive Plan.

## **Environmental Agenda Objectives Supported:**

Growth and 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 Planning Commission established its Transit-Oriented Development Committee on May 4, 2006. With the assistance of various stakeholders and community members, this committee developed and reviewed recommendations for TOD in Fairfax County. On January 8, 2007, the Board of Supervisors authorized Plan Amendment ST07-CW-1CP to add a definition or set of principles for TOD within the Policy Plan volume of the Comprehensive Plan. The resulting plan amendment includes a glossary definition of TOD, addition of an objective specific to TOD, and an Appendix item to the Land Use section of the Policy Plan. The new objective encourages focused growth near planned and existing rail transit stations as a way to create opportunities for compact pedestrian- and bicycle-friendly, neighborhood centers accessible to transit. The associated Appendix, “Guidelines for Transit-Oriented Development” presents principles that should be considered in future planning efforts in rail transit areas designated for mixed use development in the Area Plans. A number of guiding principles are set forth including transit proximity, station-specific flexibility, pedestrian and bicycle access, housing affordability, urban and street design, and more.

The policies, principles, and definitions have been adopted and have begun to be considered in development proposals and rezoning requests. Cases involving mixed use centers near proposed and existing rail transit stations will be reviewed against the new principles.

EIP09-GL08-04(A). Define “Transit Oriented Development” and Incorporate a Definition and Principles for its Application in the Comprehensive Plan  
Continue

**Resources**

This effort proceeded using existing staff resources. Implementation and monitoring of the TOD policy and principles are anticipated to make use of these same resources.

# **EIP09-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:

EIP09-GL08-05(B). Update the County's Planimetric Data Layer  
Continue

- 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. Meetings are underway to determine which features need updating and which quadrant of the county to fly.

### **Resources**

The first data capture option – the one-time updating of the planimetric data layer would have 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 the county and processing the imagery along with funds for independent quality control. Additional funding would be 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 late 2008.

Funding has been identified to acquire updated satellite imagery in the summer of 2008, 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.

### **Resources**

Funding has been dedicated for the current mapping effort and for obtaining and processing updated satellite imagery (summer, 2008).

Additional funding would be needed in the future to provide occasional updates of the NVCS dataset beyond 2008. 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-GL08-07(A). Expanded Construction Site Monitoring for Tree Conservation**

## **Description of Action**

This action reports on efforts by the Urban Forest Management Division, Department of Public Works and Environmental Services (DPWES), to expand its capacity to monitor construction sites for compliance with tree conservation proffer conditions, and to improve the county's ability to enforce these conditions if they are not honored.

In reaction to intense public pressure to strengthen the enforcement of tree conservation proffers, in February 2005 the Board of Supervisors directed the Office of the County Attorney, the Department of Planning and Zoning, and Land Development Services, DPWES to scrutinize the process by which tree proffers are written and enforced. The committee that formed to address the directive identified a need to increase UFMD presence on construction sites and recommended that staffing levels be increased. Accordingly, the BOS approved two additional urban forester positions in the FY 2007 budget. These new positions have been deployed with a focus on monitoring construction sites and enforcing tree-related proffer requirements. In addition, UFMD has strengthened its documentation of on-site interaction with developer agents, contractors and citizens by implementing a database that enhances the county's ability to monitor and track activities related to proffer compliance.

## **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  
Cool Counties Climate Change Initiative  
Fairfax County Tree Action Plan

## **Lead Agency:**

DPWES—Urban Forest Management Division (UFMD)

## **Status/Plans/Outcomes**

This effort has been funded and is completed. A substantial increase in the level of compliance associated with proffered tree commitments is the desired outcome. UFMD will monitor the effectiveness of this program. Please see EIP09-GL08-09(B) "Review and Improve Suggested Tree-Related Proffer Language" for additional action relating to the February 2005 tree preservation process improvement Board Matter.

EIP09-GL08-07(A). Expanded Construction Site Monitoring for Tree Conservation  
Continued

**Resources**

The Board of Supervisors approved funding to support two additional urban forester positions in the FY 2007 budget [Note—these positions are also referenced in EIP09-GL08-09(B)]. No other funding is needed to support this action at this time.

## **EIP09-GL08-08(A). Establish a Tree Fund**

### **Description of Action**

This action establishes a funding mechanism to facilitate the expenditure of donations from zoning cases and other source to fund a countywide tree planting program for purposes of improving the county's air quality. On June 20, 2005, the Board of Supervisor s directed staff of DPWES, the Department of Planning and Zoning, and the County Attorney's Office to investigate the possibility of creating a funding mechanism for a countywide tree planting program through the use of reparations obtained from violations of tree save commitments, cash proffers, and in-kind proffer commitments obtained during the land development process.

### **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  
Fairfax County 30-year Tree Canopy Goal

### **Lead Agency:**

DPWES, Land Development Services and Urban Forest Management Division

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

This effort is completed. Staff from Land Development Services, DPWES created a fund entitled the "Tree Preservation and Planting Fund" to facilitate:

- Proffered donations for tree plantings from zoning cases
- Funds acquired through cash reparations obtained for violations of proffered tree preservation commitments
- Funding from the General Fund for tree-related programs and projects identified in the annual Environmental Improvement Program

In addition, LDS has established criteria to approve, track and report on tree-related projects funded through the Tree Preservation and Planting Fund. It is anticipated that this fund will be used to support tree-related activities such as:

- Tree planting projects that support the 30-year tree canopy goal.
- Grants to support the activities of non-profit tree planting groups
- Natural landscaping-related projects on county property
- Development of educational materials and workshops
- For implementation of a future local “Heritage, Memorial, Specimen and Street Tree” ordinance.

Several of these activities could be identified as practices in an urban forestry ozone mitigation measure that may be submitted in future Metropolitan Washington Air Quality Plans.

### **Resources**

Tree-related projects and programs administered through the Tree Preservation and Planting funding mechanism will be addressed separately through the Environmental Improvement Program. No staff increases are anticipated in order to support this action.

# **EIP09-GL08-09(A). Review and Improve Suggested Tree-Related Proffer Language**

## **Description of Action**

This action relates to efforts to improve the effectiveness of standardized proffer language focused on tree preservation and landscaping efforts that may be used by developers to ensure the successful execution of commitments made during the review and approval of zoning cases. This action would result in a suggested approach that developers could apply in conjunction with their rezoning proposals; this approach would not be formally adopted as an expected standard commitment but would instead be offered for consideration as an effective approach to achieving a desired outcome.

## **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  
Tree Action Plan

## **Lead Agency:**

DPWES, Urban Forest Management Division; DPZ Zoning Evaluation Division

## **Status/Plans/Outcomes**

This effort is completed. In February 2005 the Board directed the Urban Forest Management Division, DPWES and the Zoning Evaluation Division of DPZ to review and strengthen tree conservation policies and procedures used during the review of zoning cases. As part of this effort, a committee consisting of representatives of UFMD, ZED, Office of the County Attorney, Planning Commission, and the Providence Magisterial District BOS Staff was formed to examine the effectiveness of model proffer language relating to tree preservation and landscaping. The committee produced a set of draft model proffers and made these available to developers for use in zoning cases in CY 2006. The improved model proffers will help developers communicate very specific intentions regarding tree preservation, conservation and removal efforts and the county's ability to ensure compliance with these commitments during construction activities. In addition, the new model language provides an enhanced system of assigning monetary values to trees to be preserved and using these values as the basis for establishing tree bonds which a developer will post with the county to ensure the preservation of proffered trees and tree save areas.

**Resources**

The Board of Supervisors approved funding to support two additional urban forester positions in the FY 2007 budget. These positions have been deployed to ensure compliance with tree-related proffers (see EIP09-GL08-07--Expanded Construction Site Monitoring for additional information on the positions and for action addressing the February 2005 tree preservation improvement Board Matter). No additional funding is requested to support this action.

# **EIP09-GL08-10(B). 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 under way. This action is a continuation of the county's legislative efforts to obtain strong state enabling tree preservation authority for the past seven years. The Urban Forest Management Division, DPWES is working with land developers, citizens, tree commissions and urban forestry officials from the Virginia Department of Forestry and other Northern Virginian jurisdictions to build consensus that enabling authority is needed to protect regional vegetation resources. UFMD is working within a subcommittee of the Northern Virginia Urban Forestry Roundtable to build consensus around the contents of a tree preservation legislative proposal for 2008. NVUFR has accepted the need to amend tree replacement provisions of § 15.2-961, and is working to generate language that is acceptable to all Northern Virginia jurisdictions.

In addition, NVUFR has adopted an organizational structure that provides representation for Virginia's building and wood products industries. In 2007, NVUFR made a committed to work with these groups in order to minimize opposition levels during future Virginia Legislative Assemblies. UFMD will submit tree preservation legislation proposals for BOS review for possible inclusion into the county's 2008 Legislative Program and beyond. These proposals will

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

Continued

incorporate inter-jurisdictional considerations identified by NVUFR's Legislative Subcommittee in 2007. UFMD is interacting with Legislative Program staff in the County Executive's Office to keep the BOS Legislative Committee apprised of NVUFR legislative efforts.

**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.

## **Resources**

No additional resources are needed to support this action.

# **EIP09-GL08-12(C). 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

## **Status/Plans/Outcomes**

The consideration of increasing the parking lot landscaping requirements, including street tree preservation and planting requirements, and 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 have been added to the Priority 2 list of the 2007 Zoning Ordinance Amendment Work Program. Items pertaining to the appropriateness of planting requirements and barrier specifications and the appropriateness of such requirements when property abuts open space or

EIP09-GL08-12(C). Consider Amending Article 13 of the Zoning Ordinance (Landscaping and Screening)

Continued

parkland have been maintained on the Priority 2 list of the 2007 Zoning Ordinance Amendment Work Program. It is anticipated that there may be some work done on these items in calendar year 2007 in conjunction with other related amendments, such as the open space amendment.

### **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.

However, this action would require DPZ and DPWES staff resources, thereby reducing resource availability for other tasks; the addition of any new item to the Priority 1 Zoning Ordinance Amendment Work Program would necessitate the removal of one or more other items from this list.

# **EIP09-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 is evaluating 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 first phase of the study has analyzed the land-use scenarios and results have been presented to the stakeholders.
- 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 EIP09-AQ07-14(B). County staff also participates actively in a variety of other regional committees addressing a variety of environmental and transportation issues.

EIP09-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

**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.

## **EIP09-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 incorporates green building practices into most of its public facilities projects and is in the process of amending the Comprehensive Plan to incorporate support for green building practices into County policy (see EIP09-GL08-03(B)). 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 EIP09-ES09-06(B)).

On June 27, 2007, the County Executive responded to an inquiry from the Chairman of the Board of Supervisors requesting an investigation of the potential for Fairfax County to use green building incentives that are used by Arlington County to encourage green building practices in private sector development projects. Specifically, the inquiry and response referenced Arlington County’s use of density bonuses and a “green building fund.” Several options were identified in the June 27 memorandum, as were a series of considerations associated with each option.

On July 9, 2007, the Board of Supervisors referred the June 27 memorandum to the Planning Commission Environment Committee for review and recommendation, and consideration of this matter by the Committee is under way. The Board specifically requested that the Committee consider possible ways to promote and encourage green building practices through the Comprehensive Plan and that the Plan Amendment addressing air quality and green building issues be crafted accordingly. As such, the Plan Amendment that is addressed in EIP09-GL08-03(B)) may be crafted to incorporate Plan-based incentives.

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

This action would broadly support the Environmental Agenda.

EIP09-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:**

DPZ

**Status/Plans/Outcomes**

The Board of Supervisors has requested that the review by the Planning Commission Environment Committee occur in a time frame that will allow for the Board's consideration by the end of 2007.

**Resources**

This effort is being pursued using existing staff resources.

# **EIP09-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.

# **EIP09-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 2007 Priority 2 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-ES09-07(C)). 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.

# **EIP09-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 (MWCOC) has adopted a resolution encouraging local jurisdictions in the Washington, D.C. area to:

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

Fairfax County incorporates green building practices into most of its public facilities projects (see EIP09-ES09-07(B)) and is in the process of amending the Comprehensive Plan to incorporate support for green building practices into County policy (see EIP08-GL08-03(B)). 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 EIP09-ES09-06(B)). Further, Fairfax County is considering green building incentives for private sector development (see EIP09-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 MWCOC 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:

- (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).

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

- (2) Develop or compile available green building resource guidance for use by interested homeowners and businesses and publicize the availability of this guidance.
- (3) Develop recommendations for the establishment and funding of a green building fund that would be used to support green building efforts in Fairfax County.
- (4) Serve as the County's representative on the Metropolitan Washington Council of Governments' Intergovernmental Green Building Committee.
- (5) 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.
- (6) Coordinate efforts with the Fairfax County Environmental Coordinator and Air Quality Program Manager to ensure seamless government.
- (7) 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.
- (8) Report directly to a Deputy County Executive.
- (9) 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.

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

Comprehensive Plan  
Cool Counties Climate Change Initiative

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

**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.

## **EIP09-AQ07-01(B). EZ Bus**

### **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 five minutes before the morning train departs and leaves the Burke Station five minutes after the evening train arrives. 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 increases the number of options residents of Burke may take to get to work, which in turn reduces the amount of single occupant vehicles on the road. Based on calculations used to determine air quality benefits for federal Congestion Mitigation and Air Quality grant applications, approximately 296 vehicle trips have been eliminated per day, and 7450 vehicle miles traveled (VMT) reduction has occurred as a result of this service.

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.

Because of the loss of parking space during the VRE parking garage construction shuttle bus service from the Burke Center Community Library parking lot to the VRE Station was implemented in the Fall of 2006. Funding for this service is provided in the County FY 2008 budget.

### **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
- Fairfax County Capital Improvements Program

**Lead Agency:**

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 of 2006, with additional EZ Bus service provided to shuttle VRE Patrons from two satellite parking lots. The ultimate goal is to mitigate traffic congestion and improve air quality. By increasing the EZ Bus system and ridership, positive measurable air quality benefits will result.

**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 \$675,326.00. These are operating costs only and any capital improvements to the system, including buses, will require separate requests and appropriations.

# **EIP09-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 supports commute alternatives, such as public transportation, carpooling, vanpooling, teleworking, flexible work schedules, bicycling, and walking are marketed to employers. 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/or 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**

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

# **EIP09-AQ07-03(B). Ridesources Program**

## **Description of Action**

The RIDESOURCES Marketing and Ridesharing Program have 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 in the greater Springfield area, including discounted bus-to-rail passes, carpooling, vanpooling, and the use of Metrorail and Metrobus; to promote bus fare changes associated with the bus fare buydown program; and to promote 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 continue 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.

Funding for additional DOT Staff was requested in the FY 2009 grant application.

**Resources**

This program is supported with an annual \$450,000 VDRPT Grant and \$112,500 local matching funds. The grant application for FY09 requested additional funding to support existing positions of a Two Transportation Planner III, Graphics Artist III, and One Administrative Assistant II. Additional funding will fund one Administrative Assistant II and One Planning Technician.

# **EIP09-AQ07-04(B). Transportation Benefits**

## **Description of Action**

Transportation Benefits program 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 \$110 per month is allowable tax-free or pre-tax to employees.

## **Environmental Agenda Objectives Supported:**

- Air Quality and Transportation 1 and General
- 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 i., Policy j., Policy k., Policy q., Policy v., Objective 7, Policy a.,

## **Lead Agency:**

Department of Transportation

## **Status/Plans/Outcomes**

This program is available to all County employees and the pre-tax deduction benefit for the employee is \$110 per month. The program is funded from the Department of Transportation Annual Budget.

## **Resources**

Annual Costs: The program is funded by DOT up to \$110,000.00 annually. The program is supported by DOT Staff.

# **EIP09-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, \$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 2007 the Board of Supervisors have approved:

- 61 traffic residential road calming plans
- 55 traffic calming projects for roads in the community planning and approval process
- 17 roads for the community planning and approval process
- 9 roads for Through Truck Restriction
- 1 road for \$200 Fine for Speeding
- 6 intersections for Multi-way Stop Signs
- 14 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(B). Transit Shelter Program**

## **Description of Action**

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

## **Environmental Agenda Objectives Supported:**

- Air Quality & Transportation 1; 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 b., Policy d., Objective 2, Policy b., Policy e., Policy k., Policy u., Objective 5, Policy a., Objective 8, Policy a., Policy d., Objective 13, Policy d.

## **Lead Agency:**

Department of Transportation

## **Status/Plans/Outcomes**

This program is on-going and numerous transit stop amenity improvements have been completed. The CMAQ Program has resulted in the installation of 63 bus stop improvement projects and 15 additional shelters in planning through FY 2008 and continuation of the Transit Shelter Program in the future is anticipated. This program is utilizing the findings of the Bus Stop Inventory and Safety Study to help address the most urgent transit stop amenities throughout the County.

## **Resources**

Funding: Fairfax County has received \$1,925,000 in Congestion Mitigation and Air Quality Program Grants through FY 2005 and anticipates receiving an additional \$ 500,000 CMAQ Grant in FY 2007. Fairfax County Department of Transportation staff resources to manage this program are in place.

# **EIP09-AQ07-07(B). Priority Bus Stop Improvement and Plan.**

## **Description of Action:**

The Bus Stop Safety and Inventory and Safety Study identified 344 priority bus stops that require safety and accessibility improvements. In addition, the study made recommendations to improve ADA compliance at the rest of the bus stops. The improvement plan involves making safety and accessibility improvements to the 344 priority bus stops recommended by the safety study. Ultimately, accessibility improvements will increase transit ridership reducing roadway congestion, promote improved economic vitality and improve air quality by reducing the use of single occupancy vehicles.

## **Environmental Agenda Objectives Supported:**

- Air Quality & 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 with out 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 Improvement Plan received \$2,500,000 in the FY 2007 from the County General Fund. Additional funding is anticipated in future year annual budgets. Support of DOT staff is anticipated throughout the program.

# **EIP09-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; and 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 are 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 which will be added to Ft. Belvoir, based on the BRAC recommendation.

## **Environmental Agenda Objectives Supported:**

- AQ & 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 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, such as pedestrian signs and signals, to large projects, such as the transit centers and park-and-ride lots that were necessary to accomplish the plans 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 project began as a design/build project, 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/Federal Transit Administration Congestion Mitigation and Air Quality grant. These funds were used primarily for pedestrian improvements and bus service enhancements such as bus shelters.

Construction of pedestrian improvements is scheduled to begin 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. The timeframe for completion of the initiative is by 2010.

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 and Enhancement funds); federal funds (including CMAQ funds, Job Access/Reverse Commute (JARC) funds, federal appropriations and Transportation Equity Act for the 21<sup>st</sup> Century Reauthorization funds); County General Fund; and County General Obligation Bonds. Since 2002, the project has identified \$31.1 million from a variety of funding sources, including federal funds, state funds, County general funds, and County General Obligation Bonds. An additional \$23,900,000 is projected to complete the initiative.

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.

## **EIP09-AQ07-09(B). Air Quality Outreach**

### **Description of Action**

Develop and distribute air quality outreach materials on air quality. Employees and residents need to be provided information to educate them on air quality issues and 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 in 2007 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, will provide a comprehensive regional media campaign to build awareness of air quality issues and promote voluntary actions individuals and employers can take to reduce air pollution and improve the health and quality of life in the region. This will include radio and television announcements, brochures, flyers, fact sheets, press releases, metrorail placards, metrorail farecard ads, and web resources. In addition, 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 that key messages reach individuals, articles will be distributed through internal County publications and external outreach, including e-mail, Courier, Web sites, cable Channel 16 and homeowners associations. In 2007 the available materials were offered to county school staff and the response has been tremendous. Staff will continue to research and develop new outreach materials and methods of distribution to reach as many residents as possible. A county staff member is on Clean Air Partner's Education Committee and they celebrated great success this year when the air quality educational curriculum being developed reached its pilot phase that included schools in Fairfax County. Future plans include implementation of the material in all county schools and development of a shortened version to

EIP09-AQ07-09(B). Air Quality Outreach  
Continued

be used in childcare programs and summer camps. Staff plans to continue the media sponsorship with Clean Air Partners in future years.

**Resources**

The cost for 2007 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. The funding came from \$30,000 in carryover funds approved by the Board of Supervisors at the FY 2006 Carryover Review.

# **EIP09-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 or early 2015, and with the takeover of the project by the Metropolitan Washington Airports Authority, Phase II is expected to be operational in the 2015 timeframe. As a part of the Final Environmental Impact Statement (FEIS) for the project, a number of traffic improvements are necessary to address pedestrian and automobile circulation to the stations by efficiently and effectively moving pedestrians, bicycles and automobiles to and from stations; and diverting some through traffic from the station areas to the extent possible. The study will examine and identify congested areas and choke points and propose solutions that can be implemented prior to the opening of the stations. An assessment of the feeder bus networks and service levels prepared for the EIS will also be evaluated to determine the feasibility of those services and to recommend enhancements to the proposed feeder bus services. A multi-year capital program will be established for approval and adoption 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.
- Metropolitan Washington Council of Governments  
Constrained Long-Range Plan (CLRP)
- Metropolitan Washington Council of Governments  
Financially Constrained Long Range Transportation Plan

## **Lead Agency:**

Department of Transportation

**Status/Plans/Outcomes**

- Phase I of the Dulles Rail project (Extension to Wiehle Avenue) is currently in Preliminary Engineering, \$65 million has been spent through FY 2007
- Opening year ridership to Wiehle Avenue in 2013 projected to be 63,000.
- County is working with Western land owners to secure funding for Phase II.

**Resources**

- Total Capital Cost is \$4.0 billion; Phase I cost is \$2.1 billion.
- Non-federal funding for Phase I is in place through Dulles Rail Phase I Special Improvement District (Fairfax County) and Dulles Toll Road revenues (state).
- Cost allocation for Phase I is 43% federal, 57% state and Fairfax County.
- Federal funding for Phase I is authorized through Preliminary Engineering.
- The application to enter Final Design will be submitted to the Federal transit Administration in the spring of 2007.

## **EIP09-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, and AFV work groups of the Technology and Maintenance Council of the American Trucking Associations. New forum is a hybrid light truck user requirements 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 with 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 would 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 in the Technology and Maintenance Council's Hybrid Power Trains Task Force and in 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 and other communications. The Clean Cities Partnership is sponsored by the Metropolitan Washington Council of Governments.

# **EIP09-AQ07-13(B). Purchase of Wind Power**

## **Description of Action**

The Board of Supervisors first approved the purchase of 5% of the county's electricity needs from the Mountaineer Wind Farm in West Virginia in April 2005. The original two- year contract has recently been replaced with a three-year contract starting on April 1, 2007 and ending on March 31, 2010.

## **Environmental Agenda Objectives Supported:**

- Air Quality and Transportation (General)
- Air Quality and Transportation 4
- Global Climate Change 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 in 2007 and 2008 is approximately \$135,000 per year and the 2010 cost is \$230,000. Funding was approved by the Board of Supervisors in the FY 2007 Carryover Review. Future funding will be requested to continue this effort and hopefully increase the percentage of wind energy purchased.

# **EIP09-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, T. Dana Kauffman, 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 meeting including the Environmental Coordinator, Air Quality Program Manager and DOT staff.

## **Funding sources**

None

# **EIP09-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 permits. 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
- 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**

This action incorporates EIP08-AQ08-03(C) from last year's EIP.

As vehicle replacements are planned, DVS and user agencies consider whether a commercially available hybrid drive vehicle is practical for the intended mission. This action is established and ongoing. The fleet now includes 56 Priuses and 38 Escape Hybrids.

The county is conducting a demonstration project operating a plug-in hybrid electric vehicle (PHEV), a modified Toyota Prius, which carries an additional, larger battery pack that can be recharged from grid power. The larger battery can power the vehicle with little or no use of the gas engine for some 20-30 miles. At that time, the vehicle automatically reverts to its normal hybrid mode to continue operation until the vehicle can be plugged in again. Fuel economy should be significantly 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 Buyers' Consortium of the Hybrid Electric School Bus Project, which is coordinated by Advanced 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.

As other prototype or early production vehicles become available, DVS will consider whether to conduct demonstrations with those vehicles.

EIP09-AQ07-15(B). Purchase of Hybrid Drive Vehicles

Continued

**Resources**

Through FY 2007, the county was able to fund the incremental cost of fleet hybrid drive vehicles through the Vehicle Replacement Fund. The county intends to continue that practice when practical during annual vehicle replacements.

The PHEV Prius conversion was funded with *FY 2003 Carryover* funds. We are seeking grant funding to pay the incremental cost (\$120,000) of one PHEV school bus for FCPS use.

# **EIP09-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 with 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

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

None.

## **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.

# **EIP09-AQ07-17(A). Reduced Vehicle Idling**

## **Description of Action**

Identify situations where avoidable idling occurs and take steps to reduce or eliminate it.

## **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:**

- Air Quality Management Plan

## **Lead Agency:**

Health Department  
Office of the County Executive – Environmental Coordinator

## **Status/Plans/Outcomes**

Several situations involving avoidable idling have received attention.

- Additional scales have been installed at the I-66 Solid Waste Transfer Station to reduce the required time that refuse-collection vehicles spend idling while waiting their turn to unload.
- Operators of tour buses that visit Mount Vernon have been sent letters explaining the three-minute limit on idling and new signs with this requirement have been posted in the bus parking area. The Health Department has completed a Memorandum of Understanding with the Police Department to help with enforcement actions against violators.
- FCPS has advised school bus drivers on procedures to minimize idling while parked at schools.
- Engine idle shutdown has been installed on 170 Connector buses so that idling buses will automatically have the engine shut-off after a set time period.
- All county solid waste collection trucks have automatic idling shut-offs.
- Staff will continue to notify and work with applicable groups to reduce or eliminate idling.
- Staff will start to develop education/outreach materials on this subject.

## **Resources**

Funding for actions taken is handled with current agency budgets.

# **EIP09-AQ07-18(B). Four Year Transportation Plan**

## **Description of Action**

On February 9, 2004, the Board of Supervisors endorsed the Chairman's Four-Year Transportation Plan. This significant transportation initiative includes a \$215 million commitment of capital funds to improve major highway and transit projects, spot capacity and safety intersection improvements, and pedestrian improvements throughout the County. Also, included in the program are development of strategies for improving signalization and intersection traffic flow, incident management, pedestrian safety and access, context engineering, expedited project delivery, and expanding telework

## **Environmental Agenda Objectives Supported:**

- Air Quality & Transportation #1
- 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**

Several projects included in the Plan have been completed and many are in the bid or construction phase. Bus ridership has increased in the Richmond Highway corridor following the service restructuring, and the Burke Centre VRE Station parking garage construction began in Fall of 2006. FCDOT provides the Board of Supervisors with a Four-Year Transportation Plan status report on a quarterly basis. Of the projects funded by other means, around thirty have been completed and twenty two are under bid advertisement or construction.

## **Resources**

Funding for the capital program is a combination of \$50 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 \$165 million in County General Obligation (G.O.) bonds approved by the voters on November 2, 2004. The total funding is \$215 million.

# **EIP09-AQ07-19(A). Fairfax Connector Emissions Reduction Program**

## **Description of Action**

Fairfax Connector is using a four-point diesel Emissions Reduction Strategy involving Horsepower Reduction, Engine Idle Reduction, Ultra-Low Sulfur Diesel (ULSD) fuel, and Diesel Particulate Filters (DPF). This strategy will reduce vehicle exhaust particulate matter, carbon dioxide, and hydrocarbons.

## **Environmental Agenda Objectives Supported:**

- Air Quality and Transportation 1 and General
- 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**

The pilot program was completed and installation of DPF's on the existing bus fleet was completed in Calendar Year (CY) 2007 along with the purchase of 68 new buses with factory installed DPF's. Projections for implementation of the four components of the diesel Emissions Reduction Program are outlined as follows: Reduction of horsepower through engine reprogramming will reduce fuel consumption by 5% and all emissions by 1%. Bus engines have also been programmed to shut down automatically after minimal idle time resulting in an additional 5.25% emissions reduction. Use of ULSD will reduce particulate matter (PM) emissions up to 10 percent in buses without DPFs. Use of ULSD in buses with DPFs will reduce particulate matter up to 90%, carbon monoxide up to 75%, and hydrocarbon up to 85%.

## **Resources**

Board of Supervisors approved \$1,480,000 for the Bus Emissions Reduction Program in the FY 2003 Carryover, and later added \$150,000 for a total of \$1,630,000.

# **EIP09-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, Metro Access, CUE Bus, and Virginia Railway Express (VRE). The Fairfax Connector bus service operates 55 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 is in the process of implementing park-and-ride lots, 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 double deck passenger cars and rehabilitation of 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 have seen increases with Fairfax Connector FY 08 ridership projected to be 10.0 million, Metrobus ridership at 9.5 million, Metrorail boarding's in Fairfax County projected to be 31.2 million and VRE boarding's to be 763,000. To further encourage use of mass transit during Code Orange and Code Red air quality alert day the entire region 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 \$34.6 million for Fairfax Connector, and \$64.8 million for Metrobus, Metrorail and Metro Access service, and \$4.6 million for VRE commuter rail service.

# **EIP09-AQ08-01(B). Regional Urban Forestry SIP**

## **Working Group**

### **Description of Action**

This working group, organized by the Washington Metropolitan Council of Governments, is comprised of state and local urban forestry officials from Virginia, Maryland and the District of Columbia has been tasked by the Metropolitan Washington Air Quality Committee to identify a set of specific urban forestry practices that can be included as a credited measure in future Metropolitan Washington Air Quality Plans.

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

- Air Quality and Transportation 10
- Environmental Stewardship (General)

### **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**

This effort is underway. Representatives from UFMD attended the first meeting of the Urban Forestry SIP Working Group in April, 2006. As a result of that meeting, UFM is working with urban forestry officials from the other Northern Virginian jurisdictions that are included in the Metropolitan Washington airshed to identify urban forestry-related ordinances, policies, practices, programs, and community efforts that could be combined into a credited voluntary measure for future air quality plans (a.k.a. State Implementation Plan or SIP). In late 2005, the United States Environmental Protection Agency approved tree-related measures such 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 is among the first in the nation to work to define an urban forestry measure.

The Urban Forestry SIP Work Group worked with the Metropolitan Washington Air Quality Committee (MWAQC) Technical Advisory Committee during 2005 – 2006 to examine the feasibility of including a tree conservation measure in the 2007 SIP. 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 contains 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 identify the following urban forestry practices and programs, some of which are identified in the FY-2009 Environmental Improvement Program as actions:

- 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 (EIP09-PT08-07 (C) and EIP-09-AQ08-05(C))
- Fairfax County countywide nonprofit tree planting program (EIP09-ES08-10 (B))

Future efforts by the Urban Forestry SIP Working Group will involve quantifying the discreet impacts of 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**

Future activities by this group could require extensive staff time and funding. The activities and programs of non-profit community-based tree planting groups may be identified as a practice in the final urban forestry measure. See EIP09-PT08-07 (C), EIP09- AQ08-05(C), and EIP09-ES08-10(B) for more specific comments on resources.

# **EIP09-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

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

None.

## **Lead Agency:**

Department of Vehicle Services

## **Status/Plans/Outcomes**

School buses and class 8 heavy trucks were completed in previous years. This project would be 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.

# **EIP09-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

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

None

## **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, which 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 require allocation of current staff time. No new resources are required.

# **EIP07-AQ07-23(B). Annual 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 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 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 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.

# **EIP09-AQ08-02(A). Station Access Management Plans: Wiehle Avenue Station and Reston Parkway Station**

## **Description of Action**

The Dulles Metrorail Extension- Phase I to Wiehle Avenue is expected to become operational in late 2011 or early 2012. As a part of the Environmental Impact Statement (EIS) for the project, a number of traffic improvements are necessary to address pedestrian and automobile circulation to the stations as identified in the Federal Transit Administration's Record of Decision. The study examined and identified congested areas and choke points and proposed solutions that could be implemented prior to the opening of the stations. An assessment of the feeder bus networks and service levels prepared for the EIS was also evaluated to determine the feasibility of those services and to recommend enhancements to the proposed feeder bus services. A multi-year capital program will be established for approval and adoption by the Board of Supervisors.

## **Environmental Agenda Objectives Supported:**

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

## **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
- Washington Metropolitan Region Constrained Long-Range Plan (CLRP)

## **Lead Agency:**

Department of Transportation

## **Status/Plans/Outcomes**

Study was completed in 2007.

Continued

**Resources**

Approximately \$500,000 has been budgeted for this study. Funds have been identified in the budget for FY 2006 third quarter carryover. In addition to the consultant effort required for this study, staff will participate in every aspect of the study through a comprehensive public outreach effort.

# **EIP09-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 have endorsed the Metropolitan Washington Council of Governments (COG) goal of 20% of the eligible area workforce teleworking by 2005. In October 2001, the County recommitted its Telework efforts and launched the Telework Expansion Project. The intent of the project was to increase employee participation to reach a goal of 1,000 teleworkers by the end of 2005. Fairfax County government reached its goal of 1,000 county employees teleworking by January 2006. Today, almost every county department has teleworkers, the number of teleworkers rose from 138 in December 2001 to over 1,030 in January of 2006. 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, loaner PCs, and pagers); the Department of Human Resources (printing costs of training materials/Telework sign-up forms); and the Department of Transportation (Employer Services materials).

# **EIP08-AQ08-05(C). Increasing Tree Canopy at Governmental Parking Facilities**

## **Description of Action**

This tree planting project will plant approximately 200 shade trees at governmental parking areas along with 20 educational signs to demonstrate how shade from tree canopy can be used as an air quality improvement practice to:

- 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 maintenance practices that produce VOCs from the operation of grounds maintenance equipment
- reduce air pollution levels through the ability of tree canopy to absorb significant levels of Ozone and other pollutants

## **Environmental Agenda Objectives Supported:**

Air Quality & Transportation 10  
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  
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**

Status: This action is underway. After conducting an initial analysis of planting opportunities in parking areas in County facilities, schools and parks UFMD started planting trees in these area in FY 2007. Over 50 trees are expected to be planted during the autumn of 2007. The balance of

EIP08-AQ08-05(C). Increasing Tree Canopy at Governmental Parking Facilities

Continued

the trees that were funded through FY 2007 carry over are expected to be planted in the Spring of 2008,

The level of funding is sufficient to add approximately 200 deciduous shade trees to governmental parking areas and to install 20 associated educational signs. This action supports efforts of the Natural Landscaping Committee and is identified as part of the tree conservation measure in the proposed 2007 DC/MD/VA Metropolitan Area SIP (regional air quality plan). By lowering ambient air temperatures during the warm season, the additional tree canopy can reduce electricity used to cool buildings and act to lower the level of carbon dioxide emitted at power plants.

**Resources**

Funded \$70,000 through FY-2007 carryover. An additional \$75,000 is requested to continue this action during FY-2009.

# **EIP09-AQ09-02(C) Comprehensive Bicycle Initiative**

## **Description of Action:**

In 2006, the Fairfax County Board of Supervisor 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 FCDOT
- 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)
- Initiate bike racks on Fairfax Connector Buses- purchase and installation of 300 racks
- Initiate bicycle locker rental program at county owned/maintained park and ride lots
- Assist 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, Transportation
- 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 funding 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.

# **EIP09-AQ09-01(C) Transportation Funding Bill**

## **Description of Action:**

The Northern Virginia transportation network is multi-modal, consisting of roads, transit, bicycle, pedestrian networks and two major airports. Within the next twenty five years Northern Virginia 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 the Washington Metropolitan area. Funding from fees and taxes will provide increased road and transit capacity, better connections between activity centers, use technology for more efficient system operations, and maintain the existing system for maximum performance and provide a multi-modal solution.

## **Environmental Agenda Objectives Supported:**

- Air Quality, Transportation
- Global Climate Change Initiative

## **Lead Agency:**

Department of Transportation

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

The Northern Virginia Transportation Authority is the regional authority to receive the funding and implement transportation improvements (NVTA). NVTA is considering steps to expand its role in implementing transportation projects and services prior to July 1, 2007 funding authorization.

## **Resources:**

The Northern Virginia Transportation Authority may implement seven different taxes and fees that collectively could raise more than \$300 million per year for transportation. In addition, nine Northern Virginia cities and counties have the authority to raise a commercial real estate tax and a local vehicle registration fee, as well as establish impact fees on new developments. If all jurisdictions implement the commercial real estate tax at \$0.10/\$100 valuation, this tax and the local vehicle registration fee would raise an additional \$100 million per year for transportation.

# **EIP09-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**

Watershed management plans have been completed and are currently being implemented for Little Hunting Creek and Popes Head Creek. Two additional watersheds plans were adopted by the Board of Supervisors in February 2007. One was for Difficult Run, the largest watershed in the county, while the other encompasses two adjacent watersheds, Bull Run and Cub Run. Two additional plans covering six other watersheds are in the final draft stage with completion slated for Summer 2007. Combined, these six plans will cover 11 of the county's 30 watersheds and 50 percent of the land area in the county. In 2007, work will be initiated for the remaining 50 percent, and all of the watershed plans are anticipated to be completed before 2010.

EIP07-WQ-B-1. Watershed Management Planning  
Continued

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.

Upon completion of the first five watershed plans, an initial evaluation of policy recommendations will be completed. Based on that review, actions may be recommended immediately or may be reconsidered upon completion of all the watershed plans. Where it is critical that changes be made to existing policies in order to move ahead with plan implementation, there will be a strategy initiated to address those recommendations.

**Resources**

Depending upon the final scope of the consultant contract, it is estimated that completion of the watershed plans will cost \$7.7 million dollars, approximately \$3.9 million in General Fund and \$3.8 million in Pro Rata Share Funds. Final negotiations currently are underway, with contract approval expected by the end of FY 2007.

# **EIP09-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 FY 2006 program made great progress toward implementing the Board of Supervisors' Environmental Agenda and the recommendations of EIP07. Important strides were made in watershed plan implementation, regional pond construction, infrastructure replacement, stream restoration and flood proofing. Moreover, the Capital Improvement Program was expanded significantly to begin a new infrastructure replacement program and to reduce backlog.

The following information summarizes the status, plans and/or outcomes of the primary Stormwater Management Implementation categories:

- **Watershed Management Planning:** Watershed management plans have been completed and are currently being implemented for Little Hunting Creek and Popes Head Creek. Two additional watersheds plans were adopted by the Board of Supervisors in February 2007. One was for Difficult Run, the largest watershed in the county, while the other encompasses two adjacent watersheds, Bull Run and Cub Run. Two additional plans covering six other watersheds are in the final draft stage with completion slated for Summer 2007. Combined, these six plans will cover more than 50 percent of the land area in the county. The remaining watershed plans were started in FY 2007, using the services of a consulting firm.

EIP09-WQ07-02(B). Stormwater Management Implementation Plan  
Continued

- **Capital Improvements and Infrastructure Retrofit:** Of the \$22.2M allocated to the Stormwater Management Implementation Plan for FY 2006 and FY 2007, 85% of the Plan was implemented by the end of FY 2007. These projects mitigate house flooding, stabilize streams, rehabilitate dams and improve the water quality of stormwater runoff. Fairfax County and its partners also constructed demonstration projects to encourage the use of low impact development concepts and techniques.
- **Maintenance and Operation:** Fairfax County continues to maintain more than 1,000 stormwater management facilities; 1,400 miles of pipe; and 45,000 drainage structures designed to protect 850 miles of perennial streams.
- **Strategic Initiatives, Policy, Management, and Emergency Response:** Fairfax County completed a quality assurance review of the perennial streams and Resource Protection Areas that resulted in identifying an additional 5.5miles of perennial streams. The Board of Supervisors committed additional financial resources to stormwater management and watershed protection through the commitment of a dedicated penny of the real-estate tax.
- **Monitoring and Assessment:** Watershed monitoring included dry and wet weather screening, bacteria monitoring, biological monitoring, and storm event water quality monitoring. The county is also using data collected from more than 400 volunteer monitors and 500 students to track stream conditions.
- **Public Outreach and Education:** Fairfax County partnered with numerous local agencies to promote environmental stewardship such as the stream cleanups in 2006 that mobilized more than 1,000 volunteers. The county also partnered with various organizations to host a high school science program, a middle school teacher training program, stream buffer restoration projects, and a regional pollution prevention radio campaign.
- Each year, staff will evaluate progress made and initiate or continue program elements to achieve the goal of a comprehensive approach to stormwater management within the county.

### Resources

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 be established through the watershed master planning process, physical inspections, and as needs are identified through other methods. The current funding includes the penny on the real estate tax rate and pro-rata funds collected for new development.

## **EIP09-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 2006, DPWES and FCPA retrofitted 27 stormwater management facilities to improve water quality. These water quality retrofits enhanced nutrient uptake, provided an increase in water infiltration, uptake and transpiration, and created habitat for wildlife. The project types, locations and partners involved are summarized in the following table shown on the next page.

EIP09-WQ07-03(B). Stormwater Retrofits  
Continued

<i>Project Name</i>	<i>Problem/Need</i>	<i>Solution</i>	<i>Partners</i>
Americana Drive Storm Drainage Improvement	Collapsed end wall, pipe and structure	Replaced collapsed pipe and structure, completed 50 linear feet of stream bank stabilization/restoration.	DPWES
Autumnwoods Stormwater Management Facility	Flooding of nearby soccer field	Excavated silt and replaced grate inlet with headwall and BMP plate.	DPWES
Barton Place	Excavation	Removed silt.	DPWES
Braddock Forest	Dry pond repair	Replaced BMP plates and trash racks.	DPWES
Burgoyne Forest Mount Pond Repair/Retrofit	Failed detention pond; clogged outfall pipe and washed-out emergency spillway	Pond was repaired and retrofitted to provide detention and improve water quality.	DPWES
Centreville Green Pond 4A	Dry pond repair	Replaced BMP plates and trash racks.	DPWES
Confederate Ridge	Dry pond repair	Replaced BMP plates and trash racks.	DPWES
Crestleigh Pond 1	Dry pond repair	Replaced BMP plates and trash racks.	DPWES
Crestleigh Pond 2	Dry pond repair	Replaced BMP plates and trash racks.	DPWES
Crosspointe Sec., Third Addition	Dry pond repair	Replaced BMP plates and trash racks.	DPWES
Fair Ridge Pond C	Dry pond repair	Replaced BMP plates and trash racks.	DPWES
Fairfax County Boys Probation	Dry pond repair	Replaced BMP plates and trash racks.	DPWES
Fairview Woods Regional Pond	Pond didn't drain properly, always held water	Excavated silt.	DPWES
Fire Station 16	Dry pond repair	Replaced BMP plates and trash racks.	DPWES
Glenbrook Wood Drive Pond Retrofit	Failed principal spillway pipe caused breached dam	Replaced principal spillway and provided enhanced water quality.	DPWES
Island Creek Section 4 Pond 4	Dry pond repair	Replaced BMP plates and trash racks.	DPWES
Lake Accotink Dredging, Lake Accotink Park	Needed to increase volume and reduce peak flows	Dredging began in 2006. Dredging goal is 200,000 CY of material. To date 55,000 CY has been removed.	DPWES, FCPA
Little Hunting Creek – Noral Place Pond Retrofit	Site lacked water quality treatment	Excavated and graded pond, replaced existing riser structure, included some stream restoration.	DPWES
London Towne West Section 1A	Failed principal spillway pipe caused breached dam	Replaced principal spillway and provided enhanced water quality.	DPWES
Monroe Manor Sec 4	Dry pond repair	Replaced BMP plates and trash racks.	DPWES

EIP09-WQ07-03(B). Stormwater Retrofits  
Continued

<i>Project Name</i>	<i>Problem/Need</i>	<i>Solution</i>	<i>Partners</i>
New Alexandria Tide Gate Retrofit	Sub-surface piping	Constructed a subsurface grout wall between the tide gate and "I" Street to increase effectiveness of closed gate system during high water conditions.	DPWES
Oakton Grove	Dry pond repair	Replaced BMP plates and trash racks.	DPWES
Ridge Top Terrace Pond 2	Dry pond repair	Replaced BMP plates and trash racks.	DPWES
The Sycamores at Van Dorn	Dry pond repair	Replaced BMP plates and trash racks.	DPWES
Valley View Manor	Dry pond repair	Replaced BMP plates and trash racks.	DPWES
Walden of McLean	Dry pond repair	Replaced BMP plates and trash racks.	DPWES
Westport Pond B	Dry pond repair	Replaced BMP plates and trash racks.	DPWES

**Resources**

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

# **EIP09-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 Fall 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. In 2006, the county, regional partners (including the Fairfax County Park Authority (FCPA), Earth Sangha, Fairfax ReLeaf, and McLean Trees), and many volunteers restored 14 stream buffer areas. Invasive plants were removed and over 1,800 trees or shrubs were planted by 400 volunteers.

Fairfax County continued to partner with NVSWCD to provide assistance to their annual seedling sale. This annual program emphasizes the role of vegetation in preventing erosion, conserving energy, and decreasing and filtering stormwater runoff. In 2006, 6,580 tree and shrub native plant seedlings, mostly in 300 packages of 14 seedlings each, and in 325 packages of ground cover, were sold to citizens at a small cost.

In addition, FCPA, Fairfax ReLeaf, and the Virginia Department of Forestry all hosted independent stream buffer restorations in the county in 2006. For example, FCPA planted 5.6 acres of county parkland with over 1,500 trees and shrubs. With the help of volunteers, FCPA aggressively managed invasive, non-native plants on over eight acres of parkland, including sites within the Resource Protection Area. Three hundred native plants, trees, shrubs and ground covers were planted on several Invasive Management Area program sites.

EIP09-WQ07-04(B). Riparian Buffer Restoration  
Continued

**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.

# **EIP09-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 2006, the county completed 10 restoration projects with the assistance of various non-profit organizations and volunteers. The project types, locations and partners are as follows:

<b><i>Project Name</i></b>	<b><i>Problem</i></b>	<b><i>Solution</i></b>	<b><i>Partners</i></b>
Difficult Run Stream Valley Park – Area #3 Stream Stabilization, Upstream	Erosion in area adjacent to Georgetown Pike on Difficult Run near the confluence with the Potomac River	Installed root wads, large boulder revetments, a rock vane, and vegetated geo-grids in the upstream portion of Difficult Run in order to recreate the natural meander of the channel while stabilizing the toe and banks.	FCPA
Difficult Run Stream Valley Park – Area #3 Stream Stabilization, Downstream	Erosion in area adjacent to Georgetown Pike on Difficult Run near the confluence with the Potomac River	Redirected flow with large boulder revetments and two rock vane structures. Shaped and graded the bank, placed a vegetated geo-grid on the banks, and filled existing scour areas to stabilize the eroding embankment toe adjacent to the parking area.	FCPA
English Hill Subdivision Streambank Stabilization	Severe erosion on the streambank of unnamed tributary of Sandy Run	Installed 175 linear feet of streambank stabilization.	DPWES
Haycock Longfellow Park Stream Restoration (tributary to Spring Branch and Pimmit Run)	Desired alternative to a rip-rap channel that would meet the developer's adequate outfall requirement	Bioengineered solution was designed on approximately 270 feet of stream that featured large boulder cross-veins with step pools, a reestablished floodplain and native plantings while only requiring the removal of one tree.	FCPA, DPWES
Huntley Meadows Park Barnyard Run Stream Restoration	Erosion on Barnyard Run along the northern border of Huntley Meadows Park on the southern side of Lockheed Boulevard near the Groveton Gardens apartment complex	Removed silt from within the stilling basin, reconstructed and stabilized the stilling basin, constructed flow control measures, graded and stabilized the banks of about 700 lineal feet of channel using bioengineering techniques, and vegetated disturbed areas.	FCPA, DPWES

Continued

<b><i>Project Name</i></b>	<b><i>Problem</i></b>	<b><i>Solution</i></b>	<b><i>Partners</i></b>
Little Pimmit Run	Streambed erosion leading to sanitary sewer main breakage	Performed emergency repairs to sewer, including temporary pump around sanitary flow, construction of 125 linear feet of new 24" sanitary sewer main; stream bank stabilization by gabion walls and riprap and restoration.	DPWES
Pleasant Ridge	Stream was eroding and the stormwater outfall was damaged potentially affecting a house	Restored and stabilized stream bank and repaired stormwater outfall.	DPWES
Runnymede Subdivision	Erosion on unnamed tributary of Cameron Run	Installed grade controls and restored stream with bioengineering practices.	DPWES
Swinks Mill Road	Severe erosion on the streambank of Scotts Run and one house flooding	Installed flood wall to protect flooding house and installed 180 linear feet of streambank stabilization.	DPWES
The Colonies at Scotts Run	Severe erosion on the streambank of Scotts Run	Installed 180 linear feet of streambank stabilization to protect the structure and to alleviate severe erosion.	DPWES

Reestablishing stream corridors will contribute to long-term stabilization, aquatic improvements, increased habitat and healthier streams. Evaluation 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. Of the \$31.5M Capital Improvement Spending Plan approved for FY2007, 80% has been implemented, with the remaining 20% allocated to flood mitigation. All of the capital improvement projects utilize environmentally sensitive construction strategies to stabilize a stream bed and stream bank while 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.

In a unique partnership, FCPA, NVSWCD, two private firms, nearby homeowners, the Dranesville District Supervisor's office, and DPWES Waste Water Collection Division collaborated to use leading-edge technology to stabilize approximately 500 feet of Little Pimmit Run, two-thirds of which is located in parkland. The homeowners funded 60% of the project. A second partnership project (DPWES-WWCD, NVSWCD and a homeowner), located just upstream, used similar techniques to stabilize a 150-foot stream segment and protect another threatened sanitary sewer line.

In addition, stream restoration was completed on a segment Barnyard Run at Huntley Meadows Park in a joint project between DPWES and the Park Authority in summer 2006. Restoration of about 1,000 linear feet of Turkeycock Run at Green Spring Gardens is being planned by the Park Authority for construction in the winter of 2007-8, and restoration of over 2,000 linear feet of Turkeycock Run at Mason District Park as part of the Cameron Run Watershed Plan implementation is being planned for FY08. As a follow up to the Barnyard Run stream restoration, the Park Authority is currently planning the restoration of the central wetland at Huntley Meadows Park with construction to begin in 2008.

**Resources**

Current funding levels are adequate to support these initiatives.

# **EIP09-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:**

2007 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:

EIP09-WQ07-06(B). Septic System Tracking and Assistance Program  
Continued

- 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”.

Phase 1 of the project has been completed with a draft technical report provided to Health Department staff for review and comment.

**Resources**

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

# **EIP09-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 are undergoing 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 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.

Work has begun on six major tasks to transition to using the new soil survey::

- Integrating the new survey maps and information into the county GIS;
- Creating county-specific ratings for the new soils and reassigning problem classes and other ratings to the new soil types;
- 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;
- 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, the Board of Supervisors approved \$79,435 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.

# **EIP09-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 in Fairfax County 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; 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 2006, twenty-two soil and water quality conservation plans were developed for 279 acres and included 7,870 linear feet of Resource Protection Areas. Cumulatively, 10,783 acres and

EIP09-WQ07-09(B). Soil and Water Quality Conservation Planning for Horse Operations and Other Land in Agriculture  
Continued

296,286 linear feet of RPA are included in conservation plans that have been developed since 1994. Also in 2006, a composting structure for a horse operation in the Occoquan watershed was installed. Equestrian stream crossings were designed and installed at Turner farm. Nutrient management plans were reviewed for golf courses and plant nurseries. This work is part of the NVSWCD annual plan of work.

**Resources**

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

## **EIP09-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  
2007 MS4 Permit

### **Lead Agency:**

DPWES

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

Ongoing campaign

### **Resources**

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

# **EIP09-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.

EIP09-WQ08-03(B). Stormwater Management Review Process  
Continued

**Resources**

Staff review time for this function is currently provided within the operating budget of the Stormwater Planning Division of DPWES.

# **EIP09-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

## **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 currently is under review by participating jurisdictions.

DPWES, NVSWCD, FCPA, nonprofit organizations, and individual volunteers contributed to the design and implementation of 10 LID projects in 2006. These innovative projects are helping the county to meet multiple stormwater management goals. The visibility and accessibility of certain projects provide opportunities to educate county agencies and the public on the benefits of LID. LID projects can also be selected to meet space constraints and aesthetics.

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

## EIP09-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 will be completed in 2007 with planting of trees and shrubs and placement of an interpretive sign.	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 will be completed in 2007 with planting of trees and shrubs and placement of an interpretive sign.	DPWES, NVSWCD, FCPA
Fairfax Center Fire Station	Completed rain garden draining 3 acres under Leadership in Energy and Environmental Design (LEED) Green Building Program.	DPWES
Herrity Building Parking Garage Vegetated Roof Demonstration Garden	Completed vegetated roof design in 2006 for 2007 construction. It will be monitored for performance.	DPWES
Hutchinson Park School Athletic Fields	Developed a pilot plan to use LID-based practices for the school's athletic fields, including a series of infiltration facilities for BMP and stormwater detention capacities, as an alternative to conventional systems (e.g., dry pond).	NVSWCD, FCPA
Lorton Arts Foundation Rain Garden	NVSWCD performed minor maintenance on the rain garden and provided maintenance instructions to the foundation's staff.	NVSWCD
Marie Butler Levin Park Demonstration Rain Garden and Arboretum	Design and installation commenced in 2006. The project will be completed in 2007. Earth Sangha is planting the preserve as a native plant arboretum.	NVSWCD, Earth Sangha, FCPA
Mason District Park Soccer Field Renovation	An existing full-sized adult soccer field was renovated from natural to synthetic turf with supporting 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

<i>Project</i>	<i>Description</i>	<i>Partners</i>
Wakefield Park Soccer Field Renovation	An existing full-sized adult soccer field was renovated from natural to synthetic turf with supporting 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
Wakefield Park/Audrey Moore Recreational Center Rain Garden	Rain garden design was completed in 2006 for installation in 2007. It will control runoff from 2.43 acres, including a 0.22 acre parking area.	NVSWCD

As indicated, the Fairfax County Park Authority has selected five sites for demonstration projects: Cub Run RECenter, Mt. Vernon RECenter, Audrey Moore RECenter, South Run District Park and Greendale Golf Course. Low Impact Development techniques to be demonstrated include: vegetated swales, rain gardens/bio-cells, storm pond best management practice retrofits, and planter boxes. The Cub Run and Mt. Vernon sites were constructed in fall 2006. The remainder of the projects will be constructed in 2007. Additional LID projects on park land that are either under design or that will soon be constructed include a rain garden at Marie Butler Leven Preserve, biocell forebays in the stormwater detention facility at Patriot Park, a pervious paver parking lot and rain garden at Hidden Oaks Nature Center, rain gardens/biocells to treat the stormwater runoff from parking lots at Lake Fairfax Park and Hutchison School site, a vegetated swale at Bucknell Manor Park and two rain gardens at Collingwood Park.

DPWES staff continues to collaborate with DPZ to incorporate LID into rezoning 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**

\$40,000 currently is funded for design manual development. \$150K has been funded for FCPA Demonstration Projects. Funding for other Demonstration projects is included in the Stormwater Management Implementation Plan. \$250K in consultant services will be needed to develop Phase II amendments to PFM.

# **EIP09-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 EIP09-WQ08-09(B))
- to support attainment of a countywide tree cover goal (see EIP09-ES-09-07(C))
- 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 2008. 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.

# **EIP09-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  
2007 MS4 Permit

## **Lead Agency:**

DPWES

## **Status/Plans/Outcomes**

Based on discussions with USGS and other research to date, it is estimated that the program can be implemented for an annual cost of \$250K, of which USGS would fund 20%. An implementation proposal was approved by the Board in June, 2007.

## **Resources**

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

# **EIP09-WQ08-07(B). MS4 Permit Application**

## **Description of Action**

Redesign the County's MS4 Permit to ensure compliance within the confines of available tools and resources.

## **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  
2007 MS4 Permit

## **Lead Agency:**

DPWES

## **Status/Plans/Outcomes**

Negotiations are currently underway. DCR has submitted a proposed draft of the Permit to the county and the county, in consultation with AMEC, has responded with a list of requested clarifications, questions and comments. The FCPS Permit is being consolidated into the County Permit, with the addition of five new positions, approved in the FY 2007 Carryover Request.

## **Resources**

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

# **EIP09-WQ08-08(B). Outreach and Education Program**

## **Description of Action**

Develop an outreach and education program that complies with the provisions of the 2007 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  
2007 MS4 Permit

## **Lead Agency:**

DPWES

## **Status/Plans/Outcomes**

In 2006, the following 12 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.audubonnaturalist.org](http://www.audubonnaturalist.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)).

Continued

- 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: assistance with tree plantings

This is the second year that Fairfax County, in partnership with the Northern Virginia Regional Commission (NVRC) and surrounding jurisdictions, implemented a region-wide radio outreach campaign. It was aimed at raising 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. In 2006, nine radio stations played the 60-second commercial a total of 895 times. The spot was also aired in Spanish. The result of the campaign was that the ad was heard by 70 percent of the target audience an average of 12 times.

In partnership with DPWES, NVSWCD continued the Storm Drain Marking program to provide small plastic markers or stencils to be placed over storm drain inlets. In 2006, 37 projects brought nonpoint source pollution prevention information directly to 57,415 households. More than 500 volunteers carried out the education program and then placed markers on 3,142 storm drain inlets.

The following division Web pages were either updated or created in 2006 in order to provide better information to residents regarding volunteer opportunities, stormwater management projects in the county, and the state of local waterways:

#### Solid Waste

- Created a new Web page entitled KnowToxics, in partnership with NRVC ([www.knowtoxics.com](http://www.knowtoxics.com)).
- Developed an intranet site with county employee recycling information.

#### Stormwater Management

- Stormwater Management home page  
[www.fairfaxcounty.gov/dpwes/stormwater](http://www.fairfaxcounty.gov/dpwes/stormwater)
- Streams and flood plains  
[www.fairfaxcounty.gov/dpwes/stormwater/# streams/](http://www.fairfaxcounty.gov/dpwes/stormwater/#streams/)
- Calendar of Events  
[www.fairfaxcounty.gov/dpwes/stormwater/events.htm](http://www.fairfaxcounty.gov/dpwes/stormwater/events.htm)
- Reports  
[www.fairfaxcounty.gov/dpwes/stormwater/resources.htm#reports](http://www.fairfaxcounty.gov/dpwes/stormwater/resources.htm#reports)
- Storm Drainage System  
[www.fairfaxcounty.gov/dpwes/utilities/stormdrains.htm](http://www.fairfaxcounty.gov/dpwes/utilities/stormdrains.htm)

In 2006, Fairfax County continued to partner with the Audubon Naturalist Society, NVSWCD, and NVRC to host an ongoing series of watershed walks. These walks provided an opportunity for residents to learn more about the organisms living in Fairfax County's stream valleys, the pollution that threatens them, and how people can work together to improve the quality of local waterways and those downstream. Watershed walks were conducted in the following watersheds in 2006:

## EIP09-WQ08-08(B). Outreach and Education Program

Continued

- Accotink Creek
- Difficult Run
- Donaldson Run
- Holmes Run
- Little Rocky Run
- Popes Head Creek
- Turkey Run

Fairfax County staff, in partnership with numerous other local agencies and groups, support ongoing efforts to improve the water quality and habitat of Fairfax County's waterways by participating in semi-annual and annual watershed cleanups. In 2006, there were more than 100 cleanup events in the county with over 1,000 participants. These efforts removed almost 60 tons of trash from local waterways. Large-scale annual and/or semi-annual events that the county participates in include:

- The Alice Ferguson Foundation's Potomac Watershed Cleanup.
- The Virginia Department of Conservation and Recreation's Adopt-a-Stream Program.
- The International Coastal Cleanup.
- The Friends of the Occoquan's Occoquan River Cleanup

### **Resources**

No additional funding is required.

# **EIP09-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 2008. 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 EIP09-ES09-07(C))
- 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 2008.

**Resources:**

Considerable staff hours will be needed to accomplish this action. No additional funding is requested to support the action in FY 2009; however, future funding and additional staff resources may be needed to support the implementation of associated policies and projects.

# **EIP09-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.

# **EIP09-WQ07-11(C). 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**

Staff resources will be dedicated to implementation of this strategy. Costs of enhancing DPWES coordination on stormwater management issues during the APR and OTPA processes would be absorbed into the operating budgets of DPZ and DPWES; no new staff resources would be requested directly in response to this action; however, the incremental staff resource burdens of this action, related actions, and other actions needed to support the Board's Environmental Agenda, may necessitate additional staff levels in the future.

# **EIP09-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

EIP09-WQ07-12(C). Review of Standards and Guidelines for Special Permit, Special Exception, and Public Uses in the Resource Conservation (R-C) District  
Continued

### **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 2007. 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).

# **EIP09-SW07-05(A) Improve County Control of Solid Waste**

## **Description of Action**

Work with the County's Federal delegation to overturn the Supreme Court's "Carbone" decision that limits local government's ability to control the flow of solid waste within its own boundaries.

## **Context**

The County will continue to seek opportunities to gain congressional support for overturning the "Carbone" decision that limited the County's solid waste flow control authority. Stand alone legislation on flow control has been unsuccessful on a number of occasions in the past. Current efforts, being pursued through the County's lobbyist in Washington, focus on the identification of related legislation to which flow control authority can be added. Additional efforts include attempts to garner support from national organizations such as NACO and SWANA to broaden the interest of Congress in this legislation. U.S. Supreme Court ruling in the *United Haulers Assoc., Inc vs Oneida-Herkimer Solid Waste Management Authority* is thought to have improved the County's position with respect to flow control.

## **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)

## **EIP09-SW07-05(A). Improve County Control of Solid Waste Continued**

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

Support received in the past has been limited to "grandfathering" the county's flow control authority until the revenue bonds issued for construction of the Energy/Resource Recovery Facility have been paid. This will occur in five years, so as we approach that time, the value of the legislation may decrease.

Resource needs identified below relate to use of a lobbyist in Washington. Costs vary significantly from year to year. Current estimate is based on most active years. Future cost assumes decreasing efforts as we approach bond payoff. Based on previous reception in Washington to this topic, once the revenue bonds for the facility are paid off in 2011, there will be little interest in providing the County with flow control.

### **Resources**

Annual program costs are estimated at approximately \$25,000, with future costs increasing to an estimated \$100,000 per year.

# **EIP09-SW07-02(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 \$500,000 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.

# **EIP09-SW07-03(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.

# **EIP09-SW07-04(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.

## **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.

# **EIP09-SW07-05(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 would be a reduction in the amounts of toxicity from refuse being processed by the E/RRF. This would in turn, reduce the load on the facility's pollution control systems and ultimately result in less net pollution from the facility.

## **Resources:**

The second consecutive year of remote events is in progress. Funding in the amount of \$90,000 from FY 2006 Carryover used to fund 5 scheduled events in 2007. This was due to citizen participation at a higher level.

# **EIP09-SW07-06(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.

# **EIP09-SW07-07(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.

# **EIP09-SW08-01(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.

The first phase of the current LFGTE project, LFG is used to heat the maintenance building at the I-95 Landfill Complex, resulting in benefits in fuel cost savings. This phase was designed and constructed using Agency funding. Design planning is under way to collect landfill gas at the I-66 Transfer Station Complex (closed landfill) and use it to heat the Administration Building and/or the Department of Vehicle Services maintenance garage in a similar manner.

## **Resources**

\$150,000 was funded through the carryover funds from EIP. However these funds were expended on design and equipment for the I-66 Transfer Station Project. \$150,000 of funding is required for construction cost.

# **EIP09-SW08-02(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:**

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:**

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

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

Project is technically feasible and will consist of constructing a pipeline and pumping station to convey effluent from Noman Cole WWTP to Covanta E/RRF. Efforts must now focus on identifying additional water users.

## **Resources:**

Work to develop capital estimate is ongoing.

# **EIP09-SW08-03(B) 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:**

An initial assessment of conceptual feasibility was completed in March 2006 through a cooperative agreement with FCWA, split between DSWDRR and DWWM (i.e., about \$60,000) each.

## **Resources:**

Preliminary estimated cost to build the project is \$20 M. How these costs will be shared between the beneficiaries is still to be finalized, but will likely approach 50 percent of the overall cost as the County's share. Initial funding estimates in the amount of \$275,000 to pay for Solid Waste's share of project design and costs.

# **EIP09-SW08-04(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.

# **EIP09-PT07-20(A). Analysis of Developed/Undeveloped Park Land**

## **Description of Action**

Using GIS analysis tools as well as site visits, staff will identify and quantify the amount of developed versus undeveloped land within parkland while also identifying different types of developed and undeveloped land uses.

By identifying the amount and type of developed and undeveloped land within the Park Authority system, the Park Authority can better plan and manage these different lands. Undeveloped land would then be further categorized to delineate which undeveloped lands are natural areas. This would include classifying the type of natural resources (such as meadow, forest, stream, wetland, etc). Once a GIS analysis system is devised and baseline studies have been completed, this study could be updated periodically in order to maintain a current record of land types within the system.

The Park Authority provides opportunities for recreation and is the major steward of County natural resources. By developing a system to define and identify developed and undeveloped land within the Park Authority's land holdings, we can better plan future acquisition and land management needs.

## **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:**

FCPA

## **Status/Plans/Outcomes**

This project was completed in the summer of 2006 by an intern in the Park Authority Planning and Development Division.

## **Resources**

None needed at this time.

# **EIP09-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**

Funding Needed: \$60,000,000

Programmed funding to meet the goals of the Pedestrian Task Force Report totals approximately \$35 million towards the ten-year funding goal of \$60 million

# **EIP09-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. Additional funding opportunities for priority trail projects are being sought. Funding of \$15 million for pedestrian projects will be incorporated into the proposed 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.

# **EIP09-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.

# **EIP09-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**

\$1,200,000 funded

Actual expenditures undetermined on a given year basis; \$1.2 million identified within State Secondary Construction Program, a six-year program updated annually.

# **EIP09-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 EIP08-PT08-02 (B).

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 EIP08-PT07-02 (B)). With respect to future costs, because the inventory is not complete, the total construction cost can not yet be determined.

# **EIP09-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.

# **EIP09-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.

# **EIP09-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.

EIP09-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.

## **EIP09-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 is currently under development in the Merrifield Town Center that will be turned over to the Park Authority as a complete turnkey facility. Another turnkey urban park is currently in the development process in Tyson's Corner. Ossian Hall Park in Annandale is an example of how the Park Authority has incorporated urban park features 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 prominent 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 civic 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

Continued

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

Comprehensive Plan  
Park Policy Manual

**Lead Agency:**

FCPA

**Status/Plans/Outcomes**

Ongoing

The Park Authority will continue to pursue acquisition in urban areas as funding is made available, and through proffers in the land development process. It is challenging to acquire and develop these types of parks. The high per unit cost of urban land compared with less costly opportunities in other parts of the county makes the choice to acquire land in these areas with limited land acquisition funds difficult. It can also be more expensive to develop these types of parks as the intensity of use requires hard surfacing and concentration of activities. The Park Authority is actively pursuing acquisition 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 develop 2-3 of these parks

\$10,000,000 will develop 2 - 3 of these parks in locations to be determined. The Park Authority has very little remaining acquisition funds available from the 2004 or 2006 Park Bond programs, which can be utilized for acquisitions. 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 alternative way to meet a portion of this need.

# **EIP09-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. 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 EIP07-PT-B-11.

# **EIP09-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 and \$377,000,000 needed in next 10 years for land acquisition, facility renovation, and new capital improvements. This does not include funding earmarked specifically for natural or cultural resource protection. 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.

Continued

**Resources**

Cost for new development and renovation: \$68,000,000 has been funded through the 2004 and 2006 Park Bond

Future Cost: \$ 27,583,995

\$27,583,995 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, nor does it include funding earmarked specifically for natural or cultural resource protection). Land Acquisition is addressed in EIP-PT-B-12.

# **EIP09-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 9.4% of the county or 23,929 acres, with an additional 1,400 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 the variety of methods identified above. 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 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: \$4,000,000 (remaining to date from 2006 bond)

Funding Needed: \$100,000,000 (identified in the Park Authority Board approved Land Acquisition work plan)

## EIP09-PT07-12(B). Parkland Acquisition

Continued

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. 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.

# **EIP09-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 32 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 historical landmark listing, 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 \$20 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

EIP09-PT07-13(B). Open Space Easements/NVCT Partnership  
Continued

**Resources**

Cost: \$275,437 (Approved County Contribution for FY 2008)

Future Cost: \$275,437 + CPI (annual cost)

# **EIP09-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 last year, 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

**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: \$4,000,000 (remaining to date from 2006 bond)

Funding Needed: \$10,000,000 would help establish a more aggressive Park Authority conservation easement program.

# **EIP09-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 fourth year begins in FY 2008 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.

# **EIP09-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 2008 will mark the 4<sup>th</sup> 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 two 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.
- Two years into implementation, 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 is 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.

## **EIP09-PT08-02(B). 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. A comprehensive mapping program will allow the Park Authority to better manage and plan the trail system. A second component of this project will be to produce park trail maps for park patrons. 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 initiated in the spring of 2006, expected completion summer 2007 .

### **Resources**

\$160,000 funded

# **EIP09-PT08-03(B). Park Information Systems**

## **Description of Action**

The Board of Supervisors designated \$180,000 at FY 2004 carryover for Geographic Information Systems. This project will expand the use of Geographic Information Systems (GIS) for Park Authority natural resource management. 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.

## **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**

A scope of work has been drafted and contracting should be underway in the summer of 2007 with a completion date in the fall of 2008.

## **Resources**

\$180,000 funded by the Board of Supervisors  
\$300,000 additional funding could be used to update and digitize park boundaries and land records including conservation easements and to develop park base map data (such as buildings, managed landscapes and recreation facilities) to help manage park resources.

# **EIP09-PT08-04(B). 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)

EIP09-PT08-04(B). Developing Natural Landscaping Guidelines and Policies for County Properties  
Continued

**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 funded and is under way. The Natural Landscaping Committee is expected to finalize guidelines and policies in FY 2008.

**Resources**

No additional resources are needed to generate natural landscaping-related guidelines and policies; however, additional funding will be needed in order to implement practices and projects on County properties. See related EIP09-PT08-06 and EIP09-ES08-09.

# **EIP09-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-related sections of 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, state and federal inventories of cultural and natural resources, and development plan reviews.

## **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  
Park Authority Needs Assessment  
Watershed Plans  
Park Authority Strategic Plan

## **Lead Agency:**

FCPA

## **Status/Plans/Outcomes**

Underway

The Park Authority is in the process of compiling Existing Conditions Reports (ECR's) for each planning district. Further analysis, a public participation, staff recommendations and Park Authority Board review will occur throughout FY 2008-2009.

EIP09-PT09-01(B). Creation of District-Wide Park Plans  
Continued

**Resources**

Using available FCPA and DPZ staff time

# **EIP09-PT09-02(B). Energy Manager Park Authority**

## **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 recently advertised and a candidate will be selected in the near future. Once filled, the position will be 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

## **Lead Agency:**

FCPA

## **Status/Plans/Outcomes**

Underway

## **Resources**

To be determined once the position is filled, but several projects have been identified:

**Lighting Retrofits** (\$107,120 – funded at FY 2007 carryover) consist of installation of T8 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.

Continued

**Control Installations** (\$234,840 - unfunded) 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 - unfunded) 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.

# **EIP09-PT09-03(B). Synthetic Turf Athletic Fields**

## **Description of Action**

In 2004, the FCPA developed its first synthetic turf athletic field, a conversion 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 spring of 2007, the conversion of Poplar Tree Park #3 & #4 and South Run Park #5 & #6 began, as well as the development of Patriot Park that will include in its first phase the construction of a RF synthetic turf field. 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 through 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**

Up to seven additional fields will be developed with the 2006 Bond, including Lake Fairfax Park #2 & #3 and Franconia Park #2. One to two fields per year will be developed with the STFDP. Three to four fields over the next two years may be developed through Proffers and Proffer/Community Partnership.

**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.

The STFDP is supported by fees collected by CRS at approximately \$500K per year and Community Partnership.

Developer Proffers and direct Community Partnerships.

# **EIP09-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 fourth year begins in FY 2008 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 23,900 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

EIP09-PT07-21(C). Park Authority Natural Resource Management Plan Implementation--  
Boundary Survey and Marking  
Continued

**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.

# **EIP09-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.

# **EIP09-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

## **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 EIP09-ES08-09(C) Promoting the use of Natural Landscaping).

**Resources**

FY 2009: \$100,000

# **EIP09-PT08-07(C): Planting Trees for Energy Conservation at County Facilities**

## **Description of Action**

This action implements an energy conservation practice recommended by the Natural Landscape Committee (NLC). The NLC was formed to address a June 21, 2004 BOS directive for 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 and using fertilizers, pesticides, and herbicides.

This tree planting and public education project will result in the planting of shade trees at County owned facilities such as governmental centers, recreational centers, libraries, and fire stations for energy conservation, aesthetics, and to improve air and water quality. Through the use of on-site educational signs the shade trees will also provide an educational opportunity for visitors to observe how trees and landscaping can be used to reduce energy usage in privately-owned buildings. This action also supports the 30-year Tree Canopy Goal adopted by the Board in June 2007, and recommendations of the Tree Action Plan.

## **Environmental Agenda Objectives Supported:**

Parks Trails and Open Space (General)  
Air Quality & Transportation 10  
Water Quality (General)  
Environmental Stewardship 6

## **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

## **Lead Agency:**

DPWES—Urban Forest Management Division (UFMD)

## **Status/Plans/Outcomes**

Status: This action is underway. After conducting an initial energy conservation analysis of all County facilities, schools and parks UFMD started planting trees for energy conservation in FY 2007. Over 100 trees are expected to be planted during the autumn of 2007. The balance of the trees that were funded through FY 2007 carry over are expected to be planted in the Spring of 2008,

## EIP09-PT08-07(C): Planting Trees for Energy Conservation at County Facilities

Continued

**Plans and 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. This action is identified as part of the tree conservation measure in the proposed 2007 DC/MD/VA Metropolitan Area SIP (regional air quality plan). The level of funding is sufficient to add approximately 300 deciduous shade trees and install 20 educational signs at governmental facilities such as governmental centers, libraries, schools and fire stations. Tree planting programs include measures to protect plantings from herbivory.

### **Resources**

\$170,000 from FY 2006 carryover for this and AQ08-05(C)

FY 2009: Funding needed: \$100,000

# **EIP09-ES09-01 (A) Government Center Lighting and Variable Frequency Drive Retrofit**

## **Description of Action**

The scope of work for this project had three main parts:

- 1) Retrofitting all of the constant volume air handling units with variable frequency drives and energy efficient motors.
- 2) Relamping all existing lighting fixtures (T8 32W lamps) with T8 28W lamps.
- 3) Upgrade lighting control software.

All of these actions result in lowering energy consumption.

## **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**

This project was completed at the end of calendar year 2005. This energy project resulted in an annual cost savings of approximately \$83,000 and 2,434,570 total pounds of CO2 emissions prevented from the atmosphere. Cost savings result in a payback period of 6 years.

## **Resources**

This project was part of the Energy Performance contract managed by Facilities Management Department. Estimated costs were \$510,000.

# **EIP09-ES09-02 (A) T-8 Lighting Retrofit of Remaining County Facilities**

## **Description of Action**

This project upgraded T12 40W lighting fixtures in over 30 county facilities. These facilities contained the last of the lower efficiency T12 lighting in county facilities. The lighting fixtures now contain T8 32W or better lamps.

## **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**

This project was completed in FY 2007. The result is a reduction in energy consumption, approximately 40% per fixture. Some of these facilities had T12 fixtures throughout, and others only had a few remaining fixtures in specific locations, so this makes it difficult to quantify the total savings through analyzing utility bills.

## **Resources**

This project was funded out of Facilities Management Department's annual operating budget.

# **EIP09-ES09-03 (A) Installed Energy Management Control Systems (EMCS) in Burkholder and John Marshall Library**

## **Description of Action**

Energy Management Control Systems (EMCS) can reduce building energy consumption 25-50% based on the facility type and operating hours. With that in mind, Facilities Management Department would like to install EMCS in as many facilities as possible. Capital Facilities will be installing them in all new facilities. FMD currently only has 58 systems installed in over 170 facilities. Currently, new systems are being installed only when there is a capital renewal project, as was the case at these two facilities.

## **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 was complete on both projects at the end of calendar year 2006. The Burkholder building was newly turned over to FMD, and no previous utility information is available to verify savings. John Marshall Library results can be quantified after Dec 2007.

## **Resources**

Funds to complete these projects were part of FMD's capital renewal budget. Approximate expenditures were \$50,000 for Burkholder and \$60,000 for John Marshall Library.

# **EIP09-ES09-04 (A) Reduced Energy Consumption by 13.2% kBtu/SF between FY2001-FY2006**

## **Description of Action**

Energy projects have been ongoing since approximately FY 1999 or 2000. The county's utility data input is only reliable back to FY 2001. This information is not about a specific project but the result of the cumulative efforts of all of the energy projects implemented by FMD. There was a goal to reduce energy consumption by 1% kBtu/SF/year.

Energy reductions were achieved through:

- 1) Installation of Energy Management Control Systems (saves 25-50% of utility consumption)
- 2) Evaluation of existing facilities utility consumption to target high energy users for energy projects
- 3) Review new facility designs at all project stages to ensure energy efficient systems.
- 4) Energy projects (i.e. lighting retrofits)

## **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**

Utility reports have been run for all years since 2001. The total energy reduction since FY2001 is 13.2% kBtu/SF and the average reduction is 2.65% kBtu/SF. These energy projects resulted in total energy cost savings over \$3.2 million and almost 100 million total pounds of CO<sub>2</sub> emissions prevented from the atmosphere.

## **Resources**

Funds were part of Facilities Management Department operating budget.

# **EIP09-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 165 certified monitors collect data four times a year at 27 sites throughout the county. The volunteer data complements the data that was collected for the DPWES Stream Protection Strategy Study and provides on-going water quality trend data. It also identifies emerging problems.

Park Authority staff 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

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 2006), which allows for a comprehensive view of the conditions of Fairfax County's streams.

[www.fairfaxcounty.gov/dpwes/stormwater/streams/assessment.htm](http://www.fairfaxcounty.gov/dpwes/stormwater/streams/assessment.htm)

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 added 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.

The Audubon Naturalist Society (ANS) also trains and supports volunteer stream monitors, with five sites located in the county.

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 \$50,000 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 \$92,000 (165 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.

# **EIP09-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.

# **EIP09-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. In the fall of 2007, the Park Authority will be marking the storm drains at all of their staffed parks. They are developing educational materials for their staff and the public as part of this effort.

In the fall of 2007, the Park Authority will be marking the storm drains at all of their staffed parks. They are developing 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. Some supplies are secured through grants.

DPWES provides funding for the markers, glue, cleaning supplies, safety equipment, and promotional fliers as a public outreach project under its watershed plan implementation initiative. Approximately \$30,000 in funding has been provided to date to support the program from FY 2006 through FY 2008. Funding for these supplies is expected to continue, with approximately \$15,000-\$18,000 needed annually to support the program at its current level.

# **EIP09-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 issues and to promote environmentally responsible behaviors. They provide the knowledge, and often the tools, needed to help protect streams and other 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)

## **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

## **Status/Plans/Outcomes**

- FCPA Stewardship brochures and highway cards that are being distributed county-wide. Stewardship is the focus for the quarterly publication, *ResOURces*. Stewardship issues are highlighted in the quarterly *Parktakes*, which is mailed to all **households**.

Continued

- 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 a 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, erosion and sediment controls on construction sites, and citizen stewardship activities.
- Thirty-five wayside exhibits were installed along the Cross County Trail, with a focus on five environmental topics. The Park Authority received a state grant for \$9,000 for up to 18 additional signs.
- 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.
- 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 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, drainage problems, soils, streams, and stormwater.

## EIP09-ES08-01 (B). Education and Outreach Programs and Activities

### Continued

- 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, 31 presentations were made to 1,176 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 Treasures" 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. 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

## EIP09-ES08-01 (B). Education and Outreach Programs and Activities

Continued

- NVSWCD's annual tree and shrub seedling program provides 6,500 inexpensive plant materials for residents; it raises awareness about the benefits of trees and other native vegetation and contributes to urban reforestation.
- 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.
- 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. Also, 5,750 brochures and fliers related to the reduction of nonpoint source pollution were distributed in 2006-2007.
- 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 school and home roof tops.

These programs are on-going and will continue.

### **Resources**

These programs are budgeted and carried out as part of the DPWES, FCPA, VCE, and NVSWCD annual work plans.

# **EIP09-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 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

## EIP09-ES08-02 (B). Environmental Education Programs Involving Youth

Continued

- 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), 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 FCPS, DPWES, and NVSWCD annual work plans.

# **EIP09-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, in partnership with numerous other local agencies and groups, support ongoing and semi-annual watershed cleanup efforts. Annually, staff 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 and strategically stationing trucks to receive bags of trash on the days of the large-scale cleanups. 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. During the International Coastal Cleanup in the fall of 2006, more than 1,000 volunteers removed 26,000 pounds trash.

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 and 2007 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.

# **EIP09-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

## **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

## **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, Little Rocky Run, Burke Spring Branch, Sugarland Run, the Occoquan 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. 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 staff. In 2006, DPWES purchased trees for the *2006 Trees in 2006* campaign, which was coordinated by Fairfax ReLeaf. Staff from NVSWCD, FCPA and DPWES often participate in and make presentations at environmental group meetings.

EIP09-ES08-04 (B) Support of Citizen-Based Environmental Stewardship Programs and Activities  
Continued

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.

Volunteer groups associated with county parks, such as the Friends of Huntley Meadows, provide valuable services by conducting education and stewardship activities. Park staff support and work closely with these groups.

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 will begin training in late 2007 and later will become volunteers in a variety of natural resource programs.

### **Resources**

Staff resources to support these citizen-based efforts are budgeted as part of the DPWES, FCPA and NVSWCD programs.

# **EIP09-ES08-05 (B) Park Authority Stewardship Education**

## **Description of Action**

The Board of Supervisors designated \$135,000 at FY 2004 carryover for stewardship education. The project is meant to fund education and outreach efforts on county environmental stewardship initiatives and includes the development and communication of stewardship messages for partners and citizens across the county. This project will allow 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**

Park Authority

## **Status/Plans/Outcomes**

The Park Authority is implementing this stewardship education initiative through a series of brochures related to natural resource stewardship. The brochures include a county-wide stewardship message with a consistent style. Nine brochures have been published including "Treasures," "Wildlife," "Invasive Backyard Plants," "Invasive Forest Plants," "Trees," "Spiders, Snakes and Slime Molds," "Wildlife Conflict," "Pets in Parks," and "Native Backyard Plants." 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.

EIP09-ES08-05 (B). Park Authority Stewardship Education  
Continued

In addition to continuing the stewardship brochure series, upcoming initiatives include:

- Develop a strategy for external outreach – a stewardship communications plan. A consultant will evaluate existing strategies, define goals and provide a strategy for implementation.
- Develop a report to identify what skills and functions each employee class should possess to practice and communicate stewardship, as well as a comprehensive training plan.
- Various publications, such as Signage, Displays, etc.

**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.

# **EIP09-ES08-06 (B) Invasive Management Area (IMA)**

## **Program**

### **Description of Action**

The Board of Supervisors designated \$100,000 at FY 2005 carryover for invasive plant removals on park land. The Park Authority is using this funding to develop the Invasive Management Area (IMA) pilot program. 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 several months. 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 will be addressed in 2007:

1. Invasive Conservation Corps (ICC) – The goals of this summer intern program are to support IMA, riparian buffer plantings, and staffed sites with more aggressive invasive removals and to evaluate the effectiveness of a large team at invasive control. A large crew of summer interns will conduct invasive plant removals throughout the county. This will include a crew leader and eight field technicians.
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.
3. Internal Support – Equipment and Contractor Services – Many of the Resource Management Division's sites have requested tools, chemicals and equipment for invasive removal. An internal funding mechanism has been established for these needs. In addition, in certain cases, contractor support will be 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. There is now a contract established to assist in invasive removal. The Invasive Species Contract covers removal (by hand, mechanical or chemical means) of invasive species. Invasive Plant Control (IPC) is a leading contractor in this field with contracts with the National Park Service, U.S. Army, and Arlington County. Hourly rates have been negotiated for staff, prices and goods. The contract is for four years and can be used by any Park Authority division or County agency.
4. Education and Interpretation – This area covers signage, publications, and exhibits, mainly for the work of the Invasive Conservation Corps (ICC).

**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

**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. The consultant report scope has been developed. Internal funding has begun and education and interpretation will be developed as needed.

EIP09-ES08-06 (B). Invasive Management Area (IMA) Program  
Continued

**Resources**

\$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.

# **EIP09-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.

EIP09-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 (General)  
Water Quality 1, 7, 9, 10, 11

**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**

Funding for this project would be placed into the TPPF and administered by UFM which will review the requests for funding from non-profits using TPPF disbursement criteria. The funding for this project would be used over a five-year period for variety of purposes that would support non-profit tree planting activities including:

- purchasing trees, planting supplies, and tools
- purchasing signs and banners
- purchasing office supplies and equipment
- Providing compensation for non-profit paid-staff hours

UFM would prepare an annual report of proposed TPPF projects for review by the ECC and the Board's Environmental Committee. The TPPF report would quantify the success of the County's Tree Planting Program and would detail the activities of non-profit tree planting activities funded by this project.

EIP09-ES08-10 (B). Partnering with Non-Profit Tree Planting Groups in Establishing a Countywide Tree Planting Program  
Continued

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 is requested for FY 2009 due to the new tree canopy goal schedule and the need to build non-profit organizational capacity.

**Resources**

\$50,000 was funded in FY 2008.

Additional funding of \$100,000 needed for FY 2009.

# **EIP09-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. County staff was challenged to take the initiative to replace an incandescent light at home with an energy efficient compact fluorescent lamp (CFL). 422 pledges were collected from Fairfax County employees, awarding Fairfax County Government first place in the large population category. After this event, the Board of Supervisors challenged employees to continue their efforts through the end of November and collected an additional 413 pledges, but more importantly, the pledges totaled up to 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. The Facilities Management Department publicized the campaign using several types of media to reach a large population. Announcements were posted in NewsLink, the Courier, and on posters distributed to senior management team, and in email messages distributed by members of the Environmental Coordinating Committee.

## **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 won the award for First-Place ("Large County" Category - Population 500,000 and over) in the NACo pledge drive.

This campaign is an annual occurrence and continuing participation is planned.

## **Resources**

Funding for posters was expended out of FMD's operating budget.

# **EIP09-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.

# **EIP09-ES09-07(B). 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 EIP09-GL08-03(B) and EIP09-GL09-01(B), respectively. A proposal to support education and training through the establishment of a Green Building Coordinator position is addressed in EIP09-GL09-05(C).

Fairfax County incorporates 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). However, there is currently no official policy guiding green building design for county capital projects.

While several buildings are now occupied that were designed for the LEED certification, only one, Fairfax Center Fire Station #40, has been occupied long enough to evaluate performance. It has been in operation since May 2006, and a review of the utility consumption indicates that it falls on the lower end of consumption as compared to other Fairfax Fire Stations, and it is substantially lower in consumption than the previous fire station constructed without the LEED design.

## **Environmental Agenda Objectives Supported:**

This action would broadly support 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**

County staff is in the process of drafting a proposed green building policy for capital projects as part of a response to a request from the Board of Supervisors to evaluate the application of green roof and other green building practices for county facilities. It is anticipated that this draft policy will be transmitted to the Board for its consideration by November, 2007.

**Resources**

This effort is proceeding using existing staff resources. First cost considerations and resulting energy savings associated with the application of green building practices in county projects will be outlined in the information provided to the Board.

# **EIP09-ES08-07 (C) Neighborhood Ecological Stewardship Training**

## **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. 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. More than twenty-five agencies, organizations and companies partnered with the NEST program. More than 145 adults participated in the NEST program in 2006. The program was well-received and extensive documentation is available that illustrates the effectiveness of this approach to stewardship education.

The program website is at:

## **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

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 2006 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 EIP09-ES08-08 (C).

# **EIP09-ES08-08 (C) Conservation Landscaping for Schools and Neighborhoods**

## **Description of Action**

Conservation or natural landscaping, describes an approach to landscape maintenance that minimizes impacts to local water quality and the Chesapeake Bay by reducing pollutants, increasing biodiversity and habitat including urban forest resources, and minimizing runoff. Conservation landscaping programs typically have multiple goals including neighborhood beautification, urban greening, water and air quality protection, and environmental education. They also stimulate local environmental stewardship and enhance community by empowering citizens to enact positive change locally.

NVSWCD would like to expand the conservation landscaping program it currently offers for Fairfax County residents to include habitat/native plant gardening/tree planting/LID implementation incentives for adults and teachers; a native habitat mini-grant and technical support program for schools, and a riparian/pond buffer enhancement plant grant and technical support program for private landowners

### Program Goals:

- Educate the public about how their actions impact their water resources, the local forests and the Chesapeake Bay Watershed and stimulate individual behavior change.
- Provide technical information on alternatives to highly resource consumptive and polluting gardening and landscape practices.
- Provide financial incentive and technical support to enable on-the-ground projects that demonstrate environmental stewardship and provide for ongoing environmental education.
- Increase habitat and forest resources and improve air and water quality within Fairfax County
- Create a constituency with the skills, knowledge and commitment to make a positive impact on their neighborhood by enhancing their sense of place and building community.

## **Environmental Agenda Objectives Supported:**

Growth and Land Use 5  
Air Quality (General)  
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

## EIP09-08-08 (C) Conservation Landscaping for Schools and Neighborhoods

Continued

MS-4 Permit

Fairfax County Tree Action Plan

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**

Currently, NVSWCD partners with Arlington County and the Northern Virginia Regional Commission to offer training on residential rain garden creation. In FY 2007, a NVRC grant funded three rain garden workshops, one for the landscape industry and a two additional workshop for homeowners. More than 150 individuals attended these programs. With support from the Fairfax County Public Schools and numerous partners including DPWES, NVSWCD initiated rain barrel building workshops and offered four programs for the public and one workshop for the county's public school teachers. In FY 2008, additional workshops will be held as over 150 residents are currently on a waiting list to be notified about future programs. Together with DPWES, NVSWCD is also helping to implement the "Livable Neighborhoods" program, a sustainable communities program that trains citizens to be leaders within their own neighborhoods in the areas of water conservation and protection, in Fairfax County. This initiative is led regionally by Arlingtonians for a Clean Environment.

### **Resources**

Estimated annual funding needs are \$55,000.

\$40,000 would be for NVSWCD to re-allocate ½ of a staff person to fully implement this program. Grant funding or partnerships will be utilized to provide full funding. Additional supplies and materials are estimated to cost \$15,000.

# **EIP09-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 NCL 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

EIP09-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 (General)  
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 EIP08-PT08-06 (C) Implementing Natural Landscaping Practices on County Properties, and EIP08-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

# **EIP09-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 EIP09-ES09-08 (C), 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 (General)  
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

# **EIP09-ES09-08 (C) 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  
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)

## EIP09-ES09-08 (C). 30-Year Tree Canopy Goal

Continued

Fairfax County's Tree Conservation legislative efforts  
New Millennium Occoquan Watershed Task Force Report

### **Lead Agency:**

DPWES—Urban Forest Management Division

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

**Status and Plans:** This action is underway. UFMD is convening a series of stakeholder meetings in order to identify 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.

EIP09-ES09-08 (C). 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 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

# **EIP09-ES09-09 (C) 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. These politics, 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 the recently issued 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,

EIP09-ES09-09 (C). Development of an Energy Management Program Through the Establishment of a Countywide Energy Coordinator Position  
Continued

have dedicated energy managers that track energy use with database programs in 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

EIP09-ES09-09 (C). Development of an Energy Management Program Through the Establishment of a Countywide Energy Coordinator Position  
Continued

additional staffing and resources would be identified for a more comprehensive County 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**

The Energy Program Manager (Coordinator) position should 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 – Program Manager. 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 FY2008 pay range for the S-31 pay grade is \$67,119.31 to \$111,865.73.

### **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.

EIP09-ES09-09 (C). 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.

EIP09-ES09-09 (C). 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.

# **EIP09-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

# **EIP09-ES09-11 (C) Energy Star for Vending Machines**

## **Description of Action**

County computers are Energy Star compliant, but the vending machines are currently not required to be compliant. This program would require vendors to install Energy Star compliant machines for new or replacement locations. Existing machines could be retrofit with an external control to reduce consumption. These installations and retrofits could reduce energy use of vending machines by 30-46%, and provide annual savings of up to \$100-\$150 per machine.

## **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**

Discussions with the vending contractor have occurred to begin the process of conversion.

## **Resources**

The cost to retrofit existing machines can be absorbed by Facilities Management Department operating budget.

# **EIP09-ES09-12 (C) 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 this 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 will be requested under Facilities Management CIP FY2009.

# **EIP09-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.

# **EIP09-ES09-14 (C) 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 (see attached). 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 2  
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.

# **EIP09-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

# **EIP09-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 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 it shall be required to address that design option.

## **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

# **EIP09-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.