Environmental Improvement Program

Fiscal Year 2011

Prepared by the

Environmental Coordinating Committee

for the

Fairfax County Board of Supervisors

September 2009

Environmental Improvement Program

Fiscal Year 2011

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Fairfax County Environmental Improvement Program (EIP)
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FAIRFAX COUNTY, VIRGINIA

Environmental Improvement Program (EIP)

Section A: Introduction

Fiscal Year 2011

Prepared September 2009

PREFACE

On September 21, 2009, the county's Environmental Coordinating Committee (ECC) was pleased to present the award-winning fiscal year (FY) 2011 Environmental Improvement Program (EIP) to the Environmental Committee of the Fairfax County Board of Supervisors (board). The ECC is a collaborative interagency management committee chaired by Deputy County Executive Robert A. Stalzer. Among other responsibilities, this committee was established to ensure an appropriate level of coordination and review of the county's environmental policies and initiatives. This year's EIP is intended to support the consideration of environmental initiatives in the FY 2011 budget process.

EIP FY 2011 represents the fifth time that the ECC has developed and presented the EIP to the board (for information on previous year EIPs, please see the following link www.fairfaxcounty.gov/living/environment/eip/). In June 2006, the county was presented with an achievement award by the National Association of Counties (NACo) for its innovative EIP, which supports environmental goals that enhance and sustain a high quality of life.

Similar to last year's effort, the main goal of this year's EIP is to present recommendations for actions to support the goals and objectives in the board's Environmental Agenda (Environmental Excellence for Fairfax County: *A 20-Year Vision* – please see Historical Background below or www.fairfaxcounty.gov/living/environment/eip/). Toward this end, the EIP documents actions that have been completed and that are under way and identifies new actions that can be pursued to support the Environmental Agenda. The EIP also references and provides linkages to other board adopted goals and objectives that support the Environmental Agenda. Through its interdisciplinary and interagency approach to the identification of environmental projects and initiatives, the EIP provides the board and the county executive with a tool to make cross-organizational decisions regarding environmental investment planning and policy needs assessment. The EIP also provides an opportunity for community engagement, ownership and stewardship. County residents can review the actions in the EIP and enter into a dialogue with the board and staff on prioritization of projects and initiatives that they believe will best serve the county.

The ECC believes that good stewardship and prudent management of our natural environment and resources are not merely "add-ons," or afterthoughts, but rather are essential and fundamental responsibilities that must be given fullest consideration at all times. Good stewardship doesn't involve "rescuing" nature from environmental disasters: it involves long-term strategic planning that minimizes any possibilities of such emergencies occurring. Clearly, cooperation between county residents and government leadership and agencies will be required to effect lasting solutions to the environmental challenges we face. The EIP serves as a primary mechanism through which such cooperation can take place.

The ECC recognizes that there are many other projects and initiatives carried out by individuals and groups throughout the county that support the *20-Year Vision*; however, the EIP is not intended to be a comprehensive list of all activities that support the *Vision*. Rather, the EIP includes only those items which are specifically county-funded.

What's New to EIP FY 2011?

Similar to last year's effort, EIP FY 2011 includes actions in thematic areas of: Growth and Land Use; Air Quality and Transportation; Water Quality; Solid Waste; Parks, Trails and Open Space; and Environmental Stewardship. During the development and completion of the first EIP (EIP FY 2007), the ECC recognized that this document did not capture all ongoing and potential environmental areas of interest that support the Environmental Agenda and other board-adopted environmental goals, objectives, policies and initiatives and that future EIPs would need to be broadened in scope to consider these additional areas of interest. In furtherance of the identified need to broaden the scope of the EIP, the ECC had included within EIP FY 2008 specific tree actions with supporting fact sheets that are incorporated within and interspersed throughout the original six thematic areas listed above. For quick reference, the tree actions are summarized in appendix 4 of EIP FY 2011. Similar to the inclusion of trees in EIP FY 2008 and 2009, the ECC included within EIP FY 2009 specific climate change actions with supporting fact sheets that are incorporated within and interspersed throughout the original six thematic areas listed above. For quick reference, the global climate change actions are summarized in appendix 5 of EIP FY 2011. Similar to the inclusion of trees in EIP FY 2008 and 2009 and climate change in EIP FY 2009, the ECC included within EIP FY 2010 specific wise water use actions with supporting fact sheets that are incorporated within and interspersed throughout the original six thematic areas listed above. For quick reference, the wise water use actions are summarized in appendix 6 of EIP FY 2011. Although no new theme areas are included in EIP FY 2011, the ECC continues to recognize that the EIP is a living document that does not yet fully address all areas or facets of environmental actions that fall within the county's purview. While staff is unable to close all gaps at once, the ECC is committed to incorporating new "areas of interest," actions and fact sheets into the EIP over time, with the goal of making the EIP a more comprehensive document.

Similar to last year's EIP, EIP FY 2011 also includes a tracking mechanism to show progress and completion of previously implemented projects (please see appendix 3 for a list of completed projects).

HISTORICAL BACKGROUND

Environmental Excellence for Fairfax County: *A 20-Year Vision* (Environmental Agenda):

Good environmental quality is essential for everyone living and working in Fairfax County. A healthy environment enhances our quality of life and preserves the vitality that makes Fairfax County a special place to live and work. However, rapid growth and development that have characterized Fairfax County over the past half century and that continue today have challenged the county's ability to maintain good environmental quality. Federal and state guidelines and regulations have demanded not only extra diligence in the development of concrete strategies for a healthy environment, but also inter-jurisdictional coordination to address pollution that knows no boundaries.

Fairfax County has long recognized the need for proactive policies and initiatives to address its environmental challenges. Indeed, environmental considerations are imbedded in the county's

policy and regulatory documents, and the county has pursued a myriad of environmental initiatives that continue to grow in number and complexity. The county's dedication to meeting its environmental challenges is reflected in its recognition by the Chesapeake Bay Program as a Gold Chesapeake Bay Partner Community. Nevertheless, both the board and county staff recognize the need for enhanced environmental efforts, in that environmental challenges are continuing and in many cases becoming more daunting.

For these reasons, at its regular meeting on Monday, June 21, 2004, the board, in continuation of its long history of environmental vigilance and dedication, endorsed and adopted the award-winning "Environmental Excellence for Fairfax County: *A 20-year Vision*," also known as the Environmental Agenda (please see Appendix 2 Environmental Agenda or www.fairfaxcounty.gov/living/environment/eip/). The Environmental Agenda is organized into six themes: Growth and Land Use; Air Quality and Transportation; Water Quality; Solid Waste; Parks, Trails and Open Space; and Environmental Stewardship. The Agenda centers on two main guiding principles: First, conservation of our limited natural resources must be interwoven into all government decisions; second, the county must be committed to providing the necessary resources to protect the environment.

The board has noted that the Environmental Agenda will provide more specific guidance for board members, county staff, and the community when making decisions that have environmental impacts. The board has recognized that the environmental impact of every decision the county makes must be carefully and purposefully evaluated and that environmental concerns should not be trade-offs or compromises; rather, they are foundational to the decision making process. By adopting the Environmental Agenda, the board not only demonstrated its commitment to environmental excellence, it provided the necessary guidance for creative decision-making and leadership for the county. The board has acknowledged that the Environmental Agenda is an aggressive, multi-year plan that will require a long-term financial commitment.

The Environmental Coordinating Committee's Strategic Plan of Action:

In November 2004, the ECC chartered an interagency action group (EIP Action Group) to prepare a comprehensive and coordinated strategic response to address and support the goals and objectives identified in the Environmental Agenda. The end result of that work was the fiscal year 2007 Environmental Improvement Program (EIP FY 2007), which was presented to the board's Environment Committee on September 19, 2005. The EIP provided an action-oriented implementation plan to support the strategic framework of the board's Environmental Agenda, thereby providing a means for the board and the county executive to prioritize cross-organizational actions with budgetary implications regarding environmental investment planning and policy needs assessment. EIP FY 2007 was intended to support the consideration of environmental initiatives in the FY 2007 budget process. The ECC envisioned that the EIP would be updated on an annual basis to reflect both progress made and additional needs.

The ECC recognized that EIP FY 2007 did not capture all ongoing and potential environmental areas of interest and that future EIPs would need to be broadened in scope to consider other

environmental themes and areas of interest that support board-adopted environmental goals, objectives, policies, and initiatives.

ENVIRONMENTAL IMPROVEMENT PROGRAM FISCAL YEAR 2011

In February 2009, the EIP Action Group reconvened to begin the process of developing EIP FY 2011. A final draft of EIP FY 2011 was distributed to the ECC in August for review and approval prior to its presentation to the board's Environmental Committee on September 21, 2009. The ECC intends to prepare and present the EIP on an annual basis prior to the development of the county's budget in order to provide the time necessary to allow for funding decisions. The ECC has representation from the following agencies: Department of Public Works and Environmental Services; Department of Planning and Zoning; Department of Vehicle Services; Fairfax County Department of Transportation; Fairfax County Health Department; Fire and Rescue Department; Fairfax County Park Authority; Police Department; Office of Public Affairs; Fairfax County Water Authority; County Attorney's Office; Northern Virginia Soil and Water Conservation District; Department of Management and Budget; Fairfax County Public Schools; Virginia Department of Transportation; and the County Executive's Office.

In this document, various environmental initiatives and actions are identified that the county has taken, is taking, or could take in support of the board's Environmental Agenda. The EIP consists of the following sections:

Section A: Introduction
Section B: A summary of the objectives within the board's Environmental Agenda and the EIP actions that support each objective;
Section C: A summary of other board-adopted or board-accepted policy documents and initiatives and the EIP actions that support these efforts;
Section D: A matrix summarizing the action, status, funding allocated, funding needs and priority for each of the EIP actions;
Section E: A set of fact sheets providing more details for each of the EIP actions;
Appendix 1: A summary of acronyms and abbreviations;
Appendix 2: A copy of the board's Environmental Agenda;
Appendix 3: A summary of EIP actions completed during the prior year EIP period; and
Appendix 4: A summary of tree actions
Appendix 5: A summary of climate change actions
Appendix 6: A summary of wise water use actions

The actions in the EIP (please see Section D for EIP actions) are organized broadly within the context of the six theme areas of the board's Environmental Agenda and are present in the same order as the themes are addressed in the Environmental Agenda. As noted in the preface above, specific tree and global climate change actions that support the goals in the board's Environmental Agenda have been added to this year's EIP, and have been incorporated throughout the six theme areas according to the most appropriate location for the particular type of action. Many of the actions shown in section D serve to support more than one objective in the Environmental Agenda (please see section B for Environmental Agenda objectives), and

some actions support objectives in more than one theme area. Each fact sheet in Section E provides cross-references to relevant Environmental Agenda themes and objectives, and Section B references the EIP actions by Environmental Agenda objective. In Section D, actions requiring new or additional resource needs are prioritized based on their ability to be initiated or continued in the fiscal year for which funding is requested. The following criteria were used for prioritization:

> **Priority I**: The project or program is ready to be implemented in fiscal year 2011;
>
> **Priority II**: The project or program is not ready to be initiated in fiscal year 2011, but would likely be implemented in fiscal year 2012; and
>
> **Priority III**: Implementation timing is unknown – the project or program should be considered in a future year EIP.

Policy efforts are noted with an "N/A", as are projects and programs that have been completed or that have no follow-up actions requiring additional funding (beyond maintenance of existing staff resources).

The Environmental Agenda is a clear and specific statement of policies on which the staff can and will act. It reflects and strengthens Fairfax County's environmental commitment. The ECC looks forward to implementing the Environmental Agenda and to contributing to its continuing evolution.

Members of the EIP Action Group:

Kambiz Agazi, Environmental Coordinator
Dennis Batts, Department of Public Works & Environmental Services
Dean Blackwell, Department of Public Works & Environmental Services
Dave DuVal, Department of Vehicle Services
Charlie Forbes, Department of Public Works & Environmental Services
Jennifer Gorter, Facilities Management Department
Barbara Hardy, Health Department
Diane Hoffman, Northern Virginia Soil & Water Conservation District
Noel Kaplan, Department of Planning & Zoning
Mike Knapp, Department of Public Works & Environmental Services
Joan Maguire, Department of Public Works & Environmental Services
Martha Reed, Department of Management & Budget
Heather Schinkel, Park Authority
Laurel Shultzaberger, Department of Public Works & Environmental Services
Carl Winstead, Department of Transportation
Phyllis Wilson, Department of Public Works & Environmental Services

FAIRFAX COUNTY, VIRGINIA

Environmental Improvement Program (EIP)

Section B: Board of Supervisors' Environmental Agenda: Summary of Objectives and Supporting EIP Actions

Fiscal Year 2011

Prepared September 2009

Board of Supervisors' Environmental Agenda: Summary of Objectives and Supporting EIP actions

General – GL07-08(B); GL08-02(B); GL08-05(B); GL08-06(B); GL08-11(B); GL09-01(B); GL09-05(C); ES09-09(B)

I. GROWTH AND LAND USE

1. Use clustering and mixed-use development when appropriate to utilize space efficiently and provide perpetual open space. GL07-01(retired); GL07-02(A); GL07-03(B); GL07-04(B); GL07-05(B); GL07-09(C); GL08-01(B); GL08-03(A); GL08-04(retired); GL08-13(B); AQ07-20(B); AQ10-01(B)

2. Promote walkable communities using mixed-use development and village-style neighborhoods. GL07-02(A); GL07-03(B); GL07-05(B); GL07-06(B); GL07-09(C); GL08-01(B); GL08-03(A); GL08-04(retired); GL08-13(B); PT07-1 and 2(B)

3. Maximize mixed-use development near transit stops and expand public transportation to employment centers. Provide convenient transportation choices such as subway, light rail, commuter bus, connector bus, and monorail. GL07-02(A); GL07-03(B); GL07-05(B); GL07-09(C); GL08-01(B); GL08-03(A); GL08-04(retired); GL08-13(B); AQ07-01(A); AQ07-20(B); AQ10-01(B)

4. Make employment centers, such as Tyson's Corner, self-contained vibrant places to live and work by ensuring mixed-use, pedestrian friendly, transit-oriented development. GL07-02(A); GL07-03(B); GL07-05(B); GL07-09(C); GL08-01(B); GL08-03(A); GL08-04(retired); GL08-13(B); AQ07-10(B); PT07-1 and 2(B)

5. Encourage the use of low impact development concepts and techniques, especially in new residential and commercial areas, and seek opportunities for retrofitting established areas. GL08-01(B); WQ07-01(B); WQ08-03(B); WQ07-02(B); WQ08-04(B); WQ07-08(B); WQ07-10(B); WQ08-07(B); WQ07-11(B); WQ07-12(C); ES10-13(C); ES10-15(C)

6. Pursue state enabling legislation to ensure adequate infrastructure is in place for new developments and to provide more flexibility to ensure harmonious and compatible development. Work toward ensuring that new and renovated homes are compatible with established neighborhoods. GL07-07(B); GL07-10(B)

7. Use our land and other resources wisely by
   - concentrating employment and multi-family housing near transit services (and by expanding those transit services);
   - integrating pedestrian-oriented neighborhood commerce (markets, restaurants, services) into new residential neighborhoods;
   - providing pedestrian amenities whenever possible, such as sidewalks and trails; traffic calming; street furniture in shopping areas; transit shelters; and urban building design;

- providing parking incentives for carpoolers; encourage transit use by reducing the use of parking subsidies where appropriate.
  GL07-02(A); GL07-03(B); GL07-05(B); GL07-06(B); GL07-09(C); GL08-01(B); GL08-03(A); GL08-04(retired); GL08-13(B); AQ07-02(B); AQ07-03(B); AQ07-04(B); AQ07-05(B); AQ07-06(Retired); AQ07-10(B); AQ07-20(B); AQ10-01(B); PT07-1 through 7(B)

8. Increase tree conservation in land development by:
   - ensuring that all tree preservation commitments for development projects are honored;
   - optimizing tree preservation and planting efforts associated with by-right development
   - pursuing state enabling legislation for more stringent tree conservation measures;
   - optimizing tree preservation and planting efforts in design and construction of public facilities
     GL08-07(retired); GL08-08(retired); GL08-09(retired); GL08-10(A); GL08-12(B); GL09-02(C); GL09-03(C); GL09-04(C)

Board of Supervisors' Environmental Agenda: Summary of Objectives and Supporting EIP actions (continued)

II. AIR QUALITY AND TRANSPORTATION

General: GL08-07(B); GL08-08(B); GL08-09(B); GL08-10(A); GL08-12(C); AQ-A-1(retired); AQ-A-3(retired); AQ07-09(B); AQ07-13(A); AQ07-15(B); AQ07-21(retired); AQ08-04(B); AQ09-01(B); AQ09-02(B); AQ10-02(B); AQ10-03(C); AQ11-01(B); AQ11-02(B); ES09-01(A); ES09-02(A); ES09-03(A); ES09-04(A); ES09-05(A); ES09-11(A); ES09-18(A); ES11-01(A); ES11-02(A); ES11-03(A); ES08-10(B); ES09-06(B); ES09-08(B); ES09-12(B); ES09-14(B); ES11-04(B); ES11-05(B); ES11-06(B); ES11-07(B); ES08-11(C); ES09-10(C); ES09-13(C); ES09-15(C); ES09-16(C); ES09-17(C); ES11-09(C); ES11-10(C); ES11-11(C); ES11-13(C); ES11-14(C); ES08-09(C); ES10-08(C); ES10-09(C); ES10-10(C); ES10-11(C); ES10-14(C)

1. Improve pedestrian mobility, encourage shorter trips, increase public transit use, and enhance the economic viability of public transit and reduced vehicle use.
   - Provide station access by foot, bicycle and public transit, with adequate public parking.
   - Coordinate public transit service to facilitate intermodal transfers, including convenient and safe bicycle access to public transit and secure bicycle storage in public places and stations. Where practicable, give parking preference to multiple-occupancy vehicles over single-occupancy vehicles.
   - Encourage buses and trucks to avoid idling for extended periods. GL08-01(B); GL08-03(A); GL08-13(B); AQ07-01-(A); AQ07-02(B); AQ07-03(B); AQ07-04(B); AQ07-05(B); AQ07-06(retired); AQ07-07(B); AQ07-08(B); AQ07-10(B); AQ07-14(B); AQ07-17(retired); AQ07-18(B); AQ07-19(retired); AQ07-20(B); AQ08-02(retired); AQ09-03(A); AQ10-01(B); SW07-02(retired); PT07-01(B) thru PT07-07(B)

2. Continue to promote telecommuting in order to reach the regional goal of 20 percent of eligible commuters by 2005, transit use, and car-pooling to reduce congestion and improve air quality with high visibility public campaigns and cooperation by businesses. GL08-03(A); GL08-13(B); AQ07-02(B), AQ07-03(B), AQ07-09(B), AQ07-12(retired), AQ07-14(B), AQ08-06(B)

3. Complete the rail extension to Tyson's Corner and Dulles International Airport; pursue light rail and transit options on U. S. 1. AQ07-08(B); AQ07-10(B)

4. Work with the Metropolitan Council of Governments to develop actions to combat pollution coming from other areas such as the Ohio Valley and the

East Coast. WQ-08-15(B); AQ07-13(A); AQ07-14(B); AQ07-16(B); AQ10-02(B); AQ10-03(C)

5. Continue to encourage federal officials to increase fuel economy and emissions standards for cars and light trucks. AQ07-22(C)

6. Explore alternatives to diesel fuel in the County Fleet. AQ07-11(B); AQ07-23(B)

7. Improve air quality through tree conservation policies and practices that:
   - Preserve and plant trees to support air quality improvement and minimize climate change; ES08-01(B); ES08-04(B); ES08-10(B); ES08-09(C); ES08-11(C); ES10-15(C)
   - Incorporate tree preservation and planting into air quality planning efforts. GL08-03(A); GL08-07(retired); GL08-08(retired); GL08-09(retired); GL08-10(A); GL08-12(B); GL09-02(C); GL09-03(C); GL09-04(C); AQ08-01(B); AQ08-05(B)

Board of Supervisors' Environmental Agenda: Summary of Objectives and Supporting EIP actions (continued)

III. WATER QUALITY

General: GL08-07(B); GL08-08(B); GL08-09(B); GL08-10(A); GL08-12(C); AQ08-05(B); SW08-2(C); ES10-03(A)

1. Protect those streams whose waters are still of relatively high quality from becoming impaired with pollutants. Protection and prevention are less expensive and easier than restoration. WQ08-02(B); WQ07-01(B); WQ08-03(B); WQ07-02(B); WQ08-04(B); WQ07-09(B); WQ07-10(B); WQ08-06(B); WQ08-07(B); WQ07-11(B); WQ07-12(C); WQ10-01(C); PT08-5(C); ES07-01(A); ES07-02(B); ES07-10(B); ES08-01(B); ES08-02(B); ES08-03(B); ES08-04(B); ES08-05(B); ES08-10(B); ES08-07(C); ES08-09(C); ES08-11(C); ES10-13(C); ES10-15(C)

2. Consider watershed protection when reviewing and deciding all land use actions. GL07-08(B); WQ07-01(B); WQ08-03(B); WQ07-02(B); WQ08-04(B); WQ07-08(B); WQ07-10(B); WQ07-11(B); WQ07-12(C); WQ10-01(C); PT08-5(C)

3. Implement the new Watershed Management Plans and Stream Protection Strategies as they are created. Pursue a dedicated source of funding for this effort. Without some ongoing budget commitment, this effort will languish. . WQ07-01(B); WQ08-03(B); WQ07-02(B); WQ08-04(B); WQ07-03(B); WQ07-04(B); WQ07-10(B); WQ08-06(B); WQ08-07(B); WQ08-08(B); WQ07-11(B); WQ10-01(C); PT08-5(C); ES07-02(B); ES07-10(B); ES08-01(B); ES08-03(B); ES08-04(B); ES10-13(C)

4. Grant no BMP waivers without storm water mitigation being in place or constructed. WQ08-07(B);

5. Allow and encourage better site design practices that protect our streams and other natural resources. GL07-01(retired); GL07-08(B); GL08-01(B); WQ07-01(B); WQ08-03(B); WQ07-02(B); WQ08-04(B); WQ07-03(B); WQ07-08(B); WQ07-10(B); WQ08-07(B); WQ07-11(B); WQ10-01(C); ES10-13(C); ES11-12(C)

6. Ensure strict enforcement of erosion and sediment control laws during construction. WQ07-01(B); WQ08-07(B);

7. Slow down and filter pollutants from runoff by encouraging the establishment and maintenance of vegetative filters and buffers. GL07-08(B); WQ07-01(B); WQ08-03(B); WQ07-02(B); WQ08-04(B); WQ07-04(B); WQ07-09(B); WQ07-10(B); WQ08-07(B); WQ07-11(B); WQ10-01(C); ES08-10(B); ES09-08(B); ES10-07(B); ES11-08(B); ES08-09(C); ES08-11(C); ES10-13(C); ES10-15(C); ES11-12(C)

8. Stabilize and restore streams using sound scientific principles (applied fluvial geomorphology) that work in concert with natural tendencies, mimic natural systems, and use environmentally friendly techniques such as soil bioengineering. WQ08-02(B); WQ07-01(B); WQ08-03(B); WQ07-02(B); WQ08-04(B); WQ07-04(B); WQ07-05(B); WQ07-10(B); WQ08-06(B); WQ08-07(B); WQ07-11(B); WQ10-01(C);

9. Implement the recommendations in the March 2003 report on "The Role of Regional Ponds in Fairfax County's Watershed Management." WQ08-02(B); WQ07-01(B); WQ08-03(B); WQ07-02(B); WQ08-04(B); WQ07-10(B); WQ08-07(B); WQ07-11(B); ES07-01(A); ES07-02(B);ES08-01(B); ES08-04(B); ES08-10(B); ES08-07(C); ES08-09(C); ES10-15(C)

10. Implement the recommendations of the New Millenium Occoquan Watershed Task Force (December 2002) to protect the County's drinking water supply in the Occoquan Reservoir. WQ08-02(B); WQ07-01(B); WQ08-03(B); WQ07-02(B); WQ08-04(B); WQ07-06(B); WQ07-09(B); WQ07-10(B); WQ08-06(B); WQ08-07(B); WQ07-11(B); WQ07-12(C); WQ10-01(C); ES07-02(B); ES07-10(B); ES08-01(B); ES08-02(B); ES08-03(B); ES08-04(B); ES08-10(B); ES08-07(C); ES08-09(C); ES09-08(B); ES08-11(C); ES10-13(C); ES10-15(C)

11. Monitor the 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. WQ07-01(B); WQ08-03(B); WQ07-02(B); WQ07-06(B);

12. Improve water quality and stormwater management through tree conservation . . . GL08-07(retired); GL08-08(retired); GL08-09(retired); GL08-10(A); GL08-12(B); ES-10-02(A); ES08-10(B); ES09-08(B)

Board of Supervisors' Environmental Agenda: Summary of Objectives and Supporting EIP actions (continued)

IV. SOLID WASTE

General: ES07-10(B); ES08-01(B); ES08-03(B); SW08-02(B); SW09-01(B); SW09-02(C); SW10-01(C); SW10-02(C)

1. Ensure that the E/ERF facility has up-to-date technology to remove as many harmful emissions as possible.

2. Continue emphasis on recycling for residents and businesses; continue the County's current recycling program of curbside pickup of recyclable bottles, cans, and newspaper. ES08-02(B)

3. Encourage use of recycled products to expand the market. SW07-03(B); ES08-02(B)

4. Increase the county's use of recycled paper and other products. SW07-03(B);

5. Provide recycling bins in convenient locations for the public's use. SW07-02(B)

6. Work with our Federal delegation to re-establish flow control of solid waste within our own boundaries.

7. Conduct Household Hazardous Waste Events. SW07-05(B)

8. Promote reuse/recycling of electronics waste in Fairfax County. SW07-06(B)

9. Properly manage end of life fluorescent lamps, rechargeable batteries, and obsolete electronics in Fairfax County. SW07-07(B)

10. Maximize energy recovery potential from landfill gas (LFG) resources. SW08-01(B)

Board of Supervisors' Environmental Agenda: Environmental Excellence for Fairfax County Summary of Objectives and Supporting EIP actions (continued)

V. PARKS, TRAILS, AND OPEN SPACE

General: AQ08-05(B); PT08-06(C); ES09-18(A); ES08-05(B); ES08-06(B); ES08-10(B); ES09-08(B); ES08-09(C)

1. Create more pocket parks in urban areas for relaxation and respite. GL07-04(B); WQ10-01(C); PT07-09 through 12(B); PT08-01(B)

2. Create more community parks for active and passive recreation--open spaces with native vegetation to sustain local wildlife and to create areas for walking, meditating, or bird watching. WQ10-01(C); PT07-09 through 12(B); PT08-01; PT08-05(C); PT09-01(B); PT09-03(B); ES10-15(C)

3. Plan and develop a comprehensive interconnected trails system throughout the County. WQ10-01(C); PT07-01 through 08 and 12(B); PT08-01 and 02(B); PT08-05(C)

4. Continue to acquire open space before it is too late through direct purchase or conservation easements to create more trails, connect trails and provide passive and active recreation areas. WQ10-01(C); PT07-10(B) through 12(B) and 20(B); PT08-01 and 03(B)

5. Provide adequate resources to maintain and appropriately develop our parks for passive and active recreation. WQ10-01(C); PT07-10, 11 and 17(B); PT07-21(C); PT08-01 and 03; PT08-05 and 06(C); PT09-02(B)

6. Encourage conservation easements for open space and trails either to private organizations, such as the Northern Virginia Conservation Trust and The Potomac Conservancy, or to government agencies like the Fairfax County Park Authority or the Northern Virginia Regional Park Authority. WQ10-01(C); PT07-13 and 14(B); PT08-01 and 03(B); PT08-05(C)

Board of Supervisors' Environmental Agenda: Environmental Excellence for Fairfax County Summary of Objectives and Supporting EIP actions (continued)

VI. ENVIRONMENTAL STEWARDSHIP

General: GL08-11(B); AQ07-09(B); AQ07-15(B); AQ07-23(B); AQ08-01(B); AQ09-03(A); PT07-08(B) and PT08-01 and PT08-05 and 06(C); ES09-18(A); ES08-05(B); ES10-14(C)

1. Encourage organizations, for example, those that work on stream monitoring and stream valley restoration, to involve schools and citizens of all ages in their work. WQ08-07(B); WQ08-08(B); WQ10-01(C); ES-07-01(A); ES07-02(B); ES07-10(B); ES08-01(B); ES08-02(B); ES-08-03(B); ES08-04(B); ES08-06(B); ES08-10(B); ES08-07(C);ES08-09(C); ES10-13(C); ES10-15(C)

2. Encourage citizen-based watershed stewardship groups and help them to work with all stakeholders to protect, enhance and improve the natural resources, and hence, the quality of life in their watersheds. WQ08-02(B); WQ07-09(B); WQ08-07(B); WQ08-08(B); WQ10-01(C); ES07-01(A); ES09-05(A); ES07-02(B); ES07-10(B); ES08-01(B); ES08-02(B); ES-08-03(B); ES08-04(B); ES08-06(B); ES08-10(B); ES09-06(B); ES08-07(C); ES08-09(C); ES09-08(B); ES10-12(B); ES08-09(C); ES08-11(C); ES09-09(C); ES09-10(C); ES10-13(C); ES10-15(C)

3. Encourage schools to provide community service by students and involve children in projects that respect, protect and enhance the environment. WQ08-07(B); WQ08-08(B); WQ10-01(C); ES07-02(B); ES07-10(B); ES08-01(B); ES08-02(B); ES08-03(B); ES08-04(B); ES08-06(B); ES08-10(B); ES09-08(B); ES10-12(B); ES08-09(C); ES08-11(C); ES09-10(C); ES10-15(C)

4. Establish an aggressive program of community groups to adopt natural areas such as parks, trails, and stream valleys. WQ08-07(B); WQ08-08(B); WQ10-01(C); ES07-01(A); ES09-05 (A); ES07-02(B); ES07-10(B); ES08-01(B); ES08-02(B); ES08-03(B); ES08-04(B); ES08-06(B); ES08-10(B); ES09-08(B); ES09-14(B); ES10-03(B); ES10-04(B); ES10-05(B); ES10-06(B); ES10-07(B); ES08-07(C); ES08-09(C); ES08-11(C); ES10-13(C); ES10-15(C)

5. Establishes that county operations will be pursued in an environmentally-sensitive manner, supporting local, regional, and global environmental protection and improvement. WQ10-01(C); ES09-01(A); ES09-02(A); ES09-03(A); ES09-04(A); ES09-05(A); ES09-11(A); ES10-03(A); ES10-04(A); ES10-05(A); ES11-01(A); ES11-02(A); ES11-03(A); ES08-06(B); ES09-06(B); ES09-08(B); ES09-12(B); ES09-14(B); ES10-06(B); ES10-07(B); ES10-12(B); ES08-09(C); ES09-13(C); ES09-15(C); ES09-16(C); ES09-17(C); ES10-08(C); ES10-09(C); ES10-10(C); ES10-11(C); ES11-04(B); ES11-05(B); ES11-06(B); ES11-

07(B); ES11-08(B); ES11-09(C); ES11-10(C); ES11-11(C); ES11-12(C); ES11-13(C); ES11-14(C); ES09-09(B)

6. Foster an appreciation for our urban forests and inspire County residents to protect plant and manage trees and forest stands on public and private lands. GL09-02(C); AQ08-05(B); WQ10-01(C); ES08-01(B); ES08-02(B); ES08-04(B); ES08-06(B); ES08-10(B); ES09-08(B); ES08-07(C); ES-08-09(C); ES08-11(C); ES10-13(C); ES10-15(C)

FAIRFAX COUNTY, VIRGINIA

Environmental Improvement Program (EIP)

Section C: Other Supporting Policy Documents

Fiscal Year 2011

Prepared September 2009

The actions identified in this Environmental Improvement Program directly or indirectly support the objectives of the Board of Supervisors' Environmental Agenda (Environmental Excellence for Fairfax County). However, these actions also serve to support other Board-adopted and Board-accepted policy documents and initiatives. This section provides an overview of these documents and the EIP actions that relate to them.

Air Quality Management Plan: GL08-03(A); AQ-A-3 (retired); AQ07-09(B); AQ07-12(retired); AQ07-13(A); AQ07-14(B); AQ07-15(B); AQ07-17(retired); AQ07-23(B); AQ08-06(B); AQ10-02(B); AQ10-03(C); PT09-03(B); ES11-01(A); ES11-02(A); ES11-03(A); ES09-18(A); ES08-10(B); ES10-12(B); ES11-04(B); ES11-05(B); ES11-06(B); ES11-07(B); ES08-11(C); ES09-08(B); ES09-18(B); ES11-09(C); ES11-10(C); ES11-11(C); ES11-13(C); ES11-14(C)

Agricultural and Forrestal District Ordinance: GL09-02(C); WQ07-11(B); Open Space (General); ES08-11(C); GL09-02(C); ES08-11(C)

Benefits and Application of Natural Landscaping and Five-year Implementation Plan (The report prepared for the BOS by the Natural Landscaping Committee): AQ08-05(B); WQ10-01(B); PT08-06(C); ES08-09(C); ES10-15(C)

Board of Supervisors' Four Year Transportation Plan: AQ07-08(B); AQ07-10(B); AQ10-01(B); PT07-03(B)

Bus Stop Inventory and Safety Study: AQ07-07(B)

The Cool Counties Climate Stabilization Initiative: GL07-02(A); GL07-03(B); GL07-04(B); GL07-05(B); GL07-06(B); GL07-09(C); GL08-01(B); GL08-03(A); GL08-04(retired); GL08-07(retired); GL08-08(retired); GL08-09(retired); GL08-10(A); GL08-11(B); GL08-12(B); GL08-13(B); GL09-01(B); GL09-04(C); GL09-05(C); AQ07-19(A); AQ07-01(A); AQ07-02(B); AQ07-03(B); AQ07-04(B); AQ07-06(retired); AQ07-07(B); AQ07-08(B); AQ07-09(B); AQ07-10(B); AQ07-13(A); AQ07-14(B); AQ07-15(B); AQ07-17(retired); AQ07-18(B); AQ07-19(retired); AQ07-20(B); AQ07-22(C); AQ07-23(B); AQ08-01(B); AQ08-05(B); AQ08-06(B); AQ09-01(B); AQ09-02(B); AQ09-03(A); AQ10-01(B); AQ10-02(B); AQ10-03(C); AQ11-01(B); SW08-01(B); SW09-02(C); SW10-01(C); PT08-06(C); ES09-01(A); ES09-02(A); ES09-03(A); ES09-04(A); ES09-05(A); ES09-11(A); ES09-18(A); ES10-03(A); ES11-01(A); ES11-02(A); ES11-03(A); ES08-01(B); ES08-10(B); ES09-06(B); ES09-08(B); ES09-09(B); ES09-12(B); ES09-14(B); ES10-12(B); ES11-04(B); ES11-05(B); ES11-06(B); ES11-07(B); ES08-11(C); ES09-10(C); ES09-13(C); ES09-15(C); ES09-16(C); ES09-17(C); ES10-08(C); ES10-09(C); ES10-10(C); ES10-11(C); ES10-15(C); ES11-09(C); ES11-10(C); ES11-11(C); ES11-12(C); ES11-13(C); ES11-14(C); ES08-09(C); ES10-14(C)

Fairfax County 30-year Tree Canopy Goal: GL08-08(retired); GL09-04(C); AQ08-01(B); AQ08-05(B); PT08-07(B); ES08-01(B); ES09-08(B); ES08-04(B); ES08-10(B); ES08-11(C); ES10-15(C)

Fairfax County Capital Improvement Program: AQ07-01(A)

Fairfax County Chesapeake Bay Preservation Ordinance: SW08-02(B); SW09-01(B); WQ07-09(B); WQ08-5(B); WQ08-09(B); WQ10-01(B); ES10-03(A)

Fairfax County Comprehensive Plan: GL07-02(A); GL07-03(B); GL07-04(B); GL07-05(B); GL07-06(B); GL07-08(B); GL07-09(C); GL07-10(B); GL08-01(B); GL08-02(B); GL08-03(A); GL08-04(retired); GL08-05(B); GL08-06(B); GL08-07(retired); GL08-08(retired); GL08-09(retired); GL08-10(A); GL08-11(B); GL08-12(B); GL08-13(B); GL09-01(B); GL09-02(C); GL09-03(C); GL09-04(C); GL09-05(C); AQ07-01(A); AQ07-02(B); AQ07-03(B); AQ07-04(B); AQ07-05(B); AQ07-06(retired); AQ07-07(B); AQ07-08(B); AQ07-10(B); AQ07-18(B); AQ07-19(retired); AQ07-20(B); AQ08-01(B); AQ10-01(B); WQ08-02(B); WQ07-01(B); WQ08-03(B); WQ07-02(B); WQ08-04(B); WQ07-03(B); WQ07-04(B); WQ07-05(B); WQ07-10(B); WQ08-06(B) WQ08-07(B); WQ08-08(B); WQ07-11(B); WQ07-12(C);WQ10-01(B); PT07-1 through 7, 9, 10, 11, 12, 13, 14, 17(B); PT08-01(B) - 03(B); PT09-01(B) – 03(B); PT07 21(C); PT08-05(C);ES09-18(A); ES08-05(B); ES08-06(B); ES09-08(B); ES09-09(B); ES11-08(B)

Fairfax County Solid Waste Management Plan: SW07-02(A); SW07-05(B); SW07-06(B); SW07-07(B)

Fairfax County Sustainable Development Policy for Capital Projects: GL09-05(C)

Fairfax County Vision—Core Purpose and Desired Results: ALL ACTIONS

Infill and Residential Development Study: GL07-04(B); GL07-10(B); WQ08-03(B) WQ08-04(B) WQ07-10(B)

MS-4 Permit (2007): WQ08-02(B) WQ07-06(B) WQ08-06(B) WQ08-07(B) WQ08-08(B); WQ08-04(B); WQ10-01(B); ES10-03(A); ES07-02(B); ES07-10(B); ES08-01(B); ES08-03(B); ES10-07(B); ES11-08(B); ES10-13(C); ES10-15(C); ES11-12-(C)

New Millennium Occoquan Watershed Task Force Report: WQ07-09(B); ES07-02(B); ES07-10(B); ES08-01(B); ES08-02(B); ES08-03(B); ES08-04(B); ES09-08(B); ES 08-07(C); ES08-09(C); ES08-11(C); ES10-13(C); ES10-15(C)

Park Authority Cultural Resource Management Plan: PT07-14(B)

Park Authority Natural Resource Management Plan: GL08-06(B); WQ10-01(B); PT07-08, PT07-14(B); PT07-17(B); PT-08-01; PT08-03(B); PT09-03(B); PT07-21(C); PT08-05(C); PT10-01(C); ES10-03(A); ES09-18(B); ES07-02(B); ES08-01(B); ES08-02(B); ES08-04(B); ES08-05(B); ES08-06(B); ES09-18(B); ES08-07(C)

Park Authority Policy Manual: GL08-06(B); WQ10-01(B); PT07-08(B); PT07-09(B); PT07-10(B); PT07-14(B); PT07-17(B); PT08-01 and 03(B); PT09-02(B); PT09-03(B); PT07-21(C); PT08-05(C); PT10-01(C); ES09-18(B); ES10-03(A); ES08-02(B); ES08-05(B); ES08-06(B); ES09-18(B); ES10-08(C); ES10-09(C); ES10-10(C); ES10-11(C); ES11-13(C); ES11-14(C)

Park Authority Strategic Plan: GL08-05(B); GL08-06(B); WQ10-01(B); PT07-08(B); PT07-10(B); PT07-11(B); PT07-14(B); PT07-17(B); PT08-01 and 03(B); PT08-02(A);

PT09-01(B); PT09-03(B); PT07 -21(C); PT08-05(C); PT10-01(C); ES10-03(A); ES09-18(B); ES07-02(B); ES08-02(B); ES08-05(B); ES08-06(B); ES09-18(B);

Park and Recreation Needs Assessment (2004): PT07-11(B); PT09-01(B)

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: AQ08-01(B); AQ08-05(B)

Public Works and Environmental Services Strategic Plan: SW07-05(B); SW07-02(A); SW07-03(B) SW08-01(B); SW08-02(B); ES10-03(A); ES10-04(A); ES10-05(A); ES10-06(B); ES10-07(B): ES11-08(B); ES11-12(C)

Solid Waste Management Program Strategic Plan: SW07-02(A); SW07-05(B); SW07-03(B); SW07-06(B); SW07-07(B); SW08-01(B)

Tree Action Plan: GL07-04(B); GL07-08(B); GL08-03(A); GL08-06(B); GL08-07(retired); GL08-08(retired); GL08-09(retired); GL08-10(A); GL08-11(B); GL08-12(B); GL09-02(C); GL09-03(C); GL09-04(C); AQ08-01(B); AQ08-05(B); PT08-04(A) and PT08-07 (B) and PT08-06(C); ES08-01(B); ES08-04(B); ES08-10(B); ES09-08(B); ES08-09(C); ES08-11(C); ES10-15(C)

Tree Conservation Measure of the DC/MD/VA Metropolitan Area SIP: ES09-08(B)

Tree Conservation Ordinance (Chapter 122 of the Fairfax County Code): GL08-06(B); GL08-10(A); GL08-11(B); GL08-12(B); GL09-03(C)

Washington Metropolitan Region Constrained Long-Range Plan (CLRP): AQ07-10(B)

Washington Region Transportation Improvement Program: AQ07-02(B)

Watershed Management Plans: WQ08-02(B); WQ08-03(B); WQ07-02(B); WQ08-04(B); WQ07-03(B); WQ07-04(B); WQ07-08(B); WQ07-10(B); WQ08-06(B); WQ08-07(B); WQ08-08(B); WQ07-11(B); WQ10-01(B); PT09-01(B); ES07-02(B); ES07-10(B); ES08-01(B); ES08-02(B); ES08-03(B); ES08-04(B); ES10-07(B); ES11-08(B); ES 08-07(C); ES08-11(C); ES10-13(C); ES10-15(C)

FAIRFAX COUNTY, VIRGINIA
Environmental Improvement Program (EIP)
Section D: Summary of Actions
Fiscal Year 2011

Prepared September 2009

NOTE: EACH EIP ACTION IS ASSIGNED A UNIQUE IDENTIFICATION NUMBER, BEGINNING WITH "EIP11" TO REFLECT THE FISCAL YEAR 2011 ORIENTATION OF THIS DOCUMENT. THE "EIP11" IS FOLLOWED BY A TWO-LETTER ABBREVIATION FOR THE THEME AREA UNDER WHICH THE ACTION IS LISTED (E.G., "GL" FOR "GROWTH AND LAND USE"). THE THEME DESIGNATION "GL" IS FOLLOWED BY A UNIQUE FISCAL YEAR IDENTIFICATION NUMBER BEGINNING WITH "07" TO INDICATE THE YEAR IN WHICH THE ACTION WAS FIRST INTRODUCED. THE FISCAL YEAR IDENTIFICATION NUMBER IS THEN FOLLOWED BY A UNIQUE ACTION NUMBER TO IDENTIFY THE ACTION IN THAT FISCAL YEAR. FINALLY, FOR EACH THEME, ACTIONS ARE IDENTIFIED AS BEING EITHER COMPLETED (CATEGORY A), UNDER WAY (CATEGORY B), OR NEW (CATEGORY C). ACTIONS THAT WERE COMPLETED IN THE PREVIOUS FISCAL YEAR EIP ARE SHOWN IN APPENDIX 3.

TWO EXAMPLES SHOWN BELOW ARE USED TO ILLUSTRATE THE NUMBERING SYSTEM. THE FIRST EXAMPLE SHOWS AN ONGOING AIR QUALITY AND TRANSPORTATION ACTION THAT WAS FIRST INTRODUCED IN THE FISCAL YEAR 2007 EIP (EIP07) AND CONTINUES TO BE ONGOING IN EIP10:

EIP11-AQ07-01(B): EZ Bus Program

THE SECOND EXAMPLE SHOWS AN ENVIRONMENTAL STEWARDSHIP ACTION THAT WAS FIRST INTRODUCED IN EIP09 AND HAS NOT YET BEEN STARTED:

EIP11-ES09-10(C): Energy Outreach Program

I. GROWTH AND LAND USE (GL)

Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
GL-A. Completed Actions				
GL07-02: PRM Zoning District	District established in 2001; there are now 19 PRM Districts in the county. Consider adding vehicle sales in the PRM District as a special exception use. —Currently on the Priority 2 Zoning Ordinance Amendment Work Program	Existing staff resources	N/A	N/A
GL08-03: Plan Amendment to Strengthen Air Quality Guidance and to Incorporate Support for Green Building Concepts	Amendment adopted on December 3, 2007. Policy to be reviewed within two years of adoption.	Action completed	N/A	N/A
GL08-10: Tree Preservation Legislation and Tree Conservation Ordinance	Completed. New authority for tree conservation was passed during the 2008 Virginia Legislative Assembly and the Fairfax County Tree Conservation Amendment and associated amendments were adopted in October 2008.	Existing staff resources	N/A	N/A

PRIORITIZATION NOTES:

ONLY ACTIONS INVOLVING ADDITIONAL RESOURCE NEEDS ARE PRIORITIZED.
POLICY EFFORTS ARE NOTED WITH AN "N/A," AS ARE ACTIONS THAT HAVE BEEN COMPLETED OR THAT HAVE NO FOLLOW-UP ACTIONS REQUIRING ADDITIONAL FUNDING (BEYOND MAINTENANCE OF EXISTING STAFF RESOURCES).

PRIORITY I: THE ACTION IS READY TO BE INITIATED IN FY 2011.
PRIORITY II: THE ACTION IS NOT IMPLEMENTABLE IN FY 2011, BUT COULD BE INITIATED IN FY 2012.
PRIORITY III: IMPLEMENTATION TIMING IS UNKNOWN—THE ACTION SHOULD BE CONSIDERED TO BE LONG-TERM IN NATURE.

Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
GL-B. Actions Underway				
GL07-03: Area Plan Amendments and Subsequent Rezonings Supporting Transit-Oriented Development and the Provision of Housing in Employment Centers	Ongoing implementation—e.g., Area Plans Review process; Springfield Connectivity Study; Tysons Corner Transportation and Urban Design Study; Annandale study; Baileys Crossroads study; rezoning approvals	Annual cost for implementation represents a considerable portion of DPZ's annual budget. Significant grant funds being used as well for Springfield Connectivity Study and BRAC	No additional funds needed	N/A
GL07-04: Planned Development District Zoning Ordinance Amendment (tree preservation and open space issues)	Draft proposals have been coordinated with a Planning Commission committee, ESI, NVBIA and various citizens groups. On Priority 1 list of the 2009 Zoning Ordinance Amendment Work Program	Existing staff resources	N/A	N/A

PRIORITIZATION NOTES:

ONLY ACTIONS INVOLVING ADDITIONAL RESOURCE NEEDS ARE PRIORITIZED.
POLICY EFFORTS ARE NOTED WITH AN "N/A," AS ARE ACTIONS THAT HAVE BEEN COMPLETED OR THAT HAVE NO FOLLOW-UP ACTIONS REQUIRING ADDITIONAL FUNDING (BEYOND MAINTENANCE OF EXISTING STAFF RESOURCES).

PRIORITY I: THE ACTION IS READY TO BE INITIATED IN FY 2011.
PRIORITY II: THE ACTION IS NOT IMPLEMENTABLE IN FY 2011, BUT COULD BE INITIATED IN FY 2012.
PRIORITY III: IMPLEMENTATION TIMING IS UNKNOWN—THE ACTION SHOULD BE CONSIDERED TO BE LONG-TERM IN NATURE.

Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
GL07-05: Tysons Corner Transportation and Urban Design Study	Task Force "Vision and Area Wide Recommendations" issued in September 2008. Staff "strawman" Plan text issued in February 2009. Draft Review Committee and Planning Commission Tysons Corner Committee reviews are ongoing. One demonstration project at the Tysons West transit station entrance is being evaluated. Economic/fiscal analysis under way.	Over $2,000,000 allocated for consultant services since 2004. Additional funding for neighborhood impact study. $5.45 million from Tysons Transportation Fund allocated for work in Tysons including support for the street grid and circulator system.	Additional projects, each with funding needs (e.g., Tysons Transp. Fund; General Fund; and/or Commercial & Industrial Real Estate Transp. Tax) to be pursued.	I
GL07-06: Pedestrian-Oriented Neighborhood Commerce: Plan Implementation	Continued efforts to implement and refine the Plan are anticipated	Part of the broader funding per GL07-03.	See GL07-03	N/A
GL07-07: Adequate Infrastructure Legislation	County support for legislation in the past; efforts anticipated to continue	Existing staff resources	N/A	N/A

PRIORITIZATION NOTES:

ONLY ACTIONS INVOLVING ADDITIONAL RESOURCE NEEDS ARE PRIORITIZED.
POLICY EFFORTS ARE NOTED WITH AN "N/A," AS ARE ACTIONS THAT HAVE BEEN COMPLETED OR THAT HAVE NO FOLLOW-UP ACTIONS REQUIRING ADDITIONAL FUNDING (BEYOND MAINTENANCE OF EXISTING STAFF RESOURCES).

PRIORITY I: THE ACTION IS READY TO BE INITIATED IN FY 2011.
PRIORITY II: THE ACTION IS NOT IMPLEMENTABLE IN FY 2011, BUT COULD BE INITIATED IN FY 2012.
PRIORITY III: IMPLEMENTATION TIMING IS UNKNOWN—THE ACTION SHOULD BE CONSIDERED TO BE LONG-TERM IN NATURE.

Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
GL07-08: Review of Federal NEPA Reports and State Environmental Impact Reports	Ongoing	Existing staff resources, but reviews are sometimes extensive	N/A	N/A
GL07-10: Maintaining Neighborhood Character Zoning Ordinance Amendment (formerly Residential Compatibility Zoning Ordinance Amendment)	Amendment on Priority 1 list of the 2009 ZO Amendment Work Program. Amendment that would require that the grade used for the purposes of determining single family detached dwelling building height be the lower of the pre-existing or post development ground level adjacent to the building, whichever is lower, is scheduled for a Board public hearing in September 2009. Final meeting with the work group to discuss other alternative methods to address the impact of a new taller house or an addition being constructed adjacent to an existing shorter house (looming) was held on July 28th and staff will be reporting to the Board's Development Process Committee on September 21st. Subsequent amendments to address looming and neighborhood character may occur.	Substantial staff resource needs; but to use existing resources	N/A	N/A

PRIORITIZATION NOTES:

ONLY ACTIONS INVOLVING ADDITIONAL RESOURCE NEEDS ARE PRIORITIZED.
POLICY EFFORTS ARE NOTED WITH AN "N/A," AS ARE ACTIONS THAT HAVE BEEN COMPLETED OR THAT HAVE NO FOLLOW-UP ACTIONS REQUIRING ADDITIONAL FUNDING (BEYOND MAINTENANCE OF EXISTING STAFF RESOURCES).

PRIORITY I: THE ACTION IS READY TO BE INITIATED IN FY 2011.
PRIORITY II: THE ACTION IS NOT IMPLEMENTABLE IN FY 2011, BUT COULD BE INITIATED IN FY 2012.
PRIORITY III: IMPLEMENTATION TIMING IS UNKNOWN—THE ACTION SHOULD BE CONSIDERED TO BE LONG-TERM IN NATURE.

Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
GL08-01: Review Zoning Ordinance Parking Requirements in Transit-Oriented Developments	Study of alternative parking standards in TOD areas is being considered as part of a broader Transportation Demand Management program effort. Study completion anticipated in the near future, followed by Plan and/or Zoning Ordinance amendments.	Consultant funding provided	N/A	N/A
GL08-02: Development of the Integrated Parcel Lifecycle System (IPLS)	Phase I (development of data warehouse structure and loading modules) and Phase II (incorporation of Comprehensive Plan information and demographic work) have been completed, and the IPLS data warehouse is now available to all county staff using GIS or Oracle tools. Phase III is under way—this involves development of new/improved reporting tools (e.g., use of custom geographies; existing land use summary reports; zoning and planned land use summaries). Resources are not fully available for development of a module summarizing the nonresidential development pipeline.	Remaining funds from Phases I and II being used in support of additional analysis and reporting needs.	The data warehouse structure, demographic analyses modules and planned database development are essentially complete. Ancillary actions would require additional resources	N/A

PRIORITIZATION NOTES:

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Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
GL08-05: Update the County's Planimetric Data Layer	Funding to initiate a four-year update cycle has been provided. Both a data capture and quality control contractor are under contract. The first quadrant (SE) is being processed and the second quadrant (NE) should initiate in the fall.	Funds approved for the first two years (quadrants) has been approved.	In view of budget cuts in FY 2010, there may not be sufficient funds to complete the third quadrant in FY 2010 and the fourth quadrant in FY 2011.	N/A
GL08-06: Mapping of Fairfax County's Vegetation Ecosystems	Funded and in progress. Timing of completion dependent on accuracy of differentiation of community types through spectral analysis, to be determined through field verifications. Countywide dataset based on 2002/3 imagery anticipated in 2012; update with imagery to be acquired in 2009 already funded.	Effort is funded.	Future updates beyond 2009 would cost approx. $180,000-$200,000	N/A
GL08-11: Urban Forestry Roundtable	The Urban Forest Management Division is actively participating in this interjurisdictional forum supporting regional communication and support for tree preservation and management efforts.	Existing staff resources	N/A	N/A

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GL08-12: Consider Amending Article 13 of the Zoning Ordinance (Landscaping and Screening)	The Tree Conservation Ordinance and associated amendments (adopted in October 2008) partially addressed this recommendation. A comprehensive review of landscaping and screening provisions of the Zoning Ordinance is on the Priority 2 list of the 2009 Zoning Ordinance Amendment Work Program.	Existing staff resources	N/A	N/A
GL08-13: Support for Regional Land Use and Related Transportation Planning Initiatives	Ongoing – County staff provides support for a number of regional land use planning initiatives.	Existing staff resources	N/A	N/A
GL09-01: Consideration of Green Building Incentives for Private Sector Development	A Virginia Constitutional amendment setting the stage for enabling legislation allowing property tax exemptions for green buildings has been proposed; local consideration of this idea can be considered further if this effort is successful and if enabling legislation is enacted. The county's site plan and building plan review processes provide for preferential timing of review for "green" plans. In addition, permitting fees are waived for the installation of solar energy equipment. Incentives are also being considered in the development of Comprehensive Plan guidance for Tysons Corner.	Existing staff resources, but tax incentives would have revenue implications	N/A	N/A

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Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
GL-C. New Actions				
GL07-09: Future Planned Development District Zoning Ordinance Amendment (expand number of uses allowed, as well as densities/intensities)	Identified as a Priority 1 item on the 2009 Zoning Ordinance Amendment Work Program; Zoning Administration staff is coordinating with Planning Division staff on the Tysons Corner Transportation and Urban Design Study to determine need for higher FARs and related Zoning Ordinance Amendment needs.	Existing staff resources	N/A	N/A
GL09-02: Review Effectiveness of Agricultural and Forestal District Program in Preserving and Managing Sensitive Lands	Interagency coordination would be needed to identify possible changes to the A&F District process; follow-up with A&F District Advisory Committee would be anticipated.	Existing staff resources for initial coordination. Follow-up TBD	N/A	N/A
GL09-03: Strengthened Zoning Case Submission Requirements: Preliminary Utility Plan	On the Priority 2 list of the 2009 Zoning Ordinance Amendment Work Program.	Existing staff resources	N/A	N/A
GL09-04: Consideration of No-Net Tree Canopy Loss Policy during the Development of County Facilities	Related to June 2007 Board Matter. Currently, the Urban Forest Management Division is in the process of data gathering, compilation and research prior to convening a reporting meeting on the feasibility of the No-Net Tree Canopy Loss Policy.	Existing staff resources to consider policy; TBD for follow-up	N/A	N/A

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GL09-05: Development of a County Green Building Program Through the Establishment of a Green Building Coordinator Position	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. Recommended grade is S-31.	Not funded	A total first-year cost of $114,997 is needed to fund position at mid-point of grade.	I

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II. AIR QUALITY AND TRANSPORTATION (AQ)

Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
AQ-A. Completed Actions				
AQ07-01(A): EZ Bus	The EZ Bus service has served its purpose during the building of the Burke Centre VRE station garage and is no longer needed.			
AQ07-13(A): Purchase of Wind Power	3-year contract, April 1, 2007 – March 31, 2010, to purchase up to 10% of county's electricity			
AQ09-03(A): Waiver of GVW Limits for Idle Reduction Equipment	Legislation implementing this action is in effect.			
AQ-B. Actions Underway				
AQ07-02(B): Employer Services Program	Initiated in 1997 to assist employers within Fairfax County to establish on-site Employee Transportation Projects to reduce single occupancy vehicle travel. A component of the regional Transportation Emissions Reduction Measures.	$2,404,250	$196,530 from VDOT and DOT staff support	I
AQ07-03(B): Ridesources Program	This program will continue at its current level, funded annually through a Virginia Department of Rail and Public Transportation (VDRPT) grant, local matching funds and supported by DOT Staff.	$2,300,000	$700,000 annually ($560K VDRPT grant; $140K in county sources)	I

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Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
AQ07-04(B): Transportation Benefits	This program received funding in FY 2009 to expand countywide for all County employees and increased the monthly allocation to $115.00. FY 2010 monthly allocation will increase to a maximum of $120.00 to each participant. Funding level reflects the amount required for the average number of participants.	$740,000	Up to $300,000 annually in DOT budget, and DOT staff support	I
AQ07-05(B): Residential Traffic Administration Program	Through FY 09, Board of Supervisors approved 78 traffic calming actions on residential roads. An additional 141 traffic-calming and cut-through restriction projects are in the community planning and approval phases.	$1.2 million	$200,000 annually (state funded) and DOT staff support	N/A
AQ07-07(B): Priority Bus Stop Improvement Program (Title changed from: Bus Stop Inventory and Safety Recommendations Implementation)	The Bus Stop Inventory and Safety Study identified 344 priority bus stops that require safety and accessibility improvements. There are 169 bus stop improvements in various phases. Twenty-two bus shelters are completed.	$9.35 million	$16.65 million	I
AQ07-08(B): Richmond Highway Public Transportation Initiative	Establishing major and minor transit centers; improving bus stops; establishing additional park-and-ride facilities; and significantly improving pedestrian safety and access to the transit facilities. Implementation of improvements identified in Phase II of the project is scheduled to continue in 2009 with a construction completion date of 2011.	Over $30.0 million. Funding is derived from a variety of sources	$25 million is projected to complete the initiative and DOT Staff Support.	I
AQ07-09(B): Air Quality Outreach	Continue to expand outreach efforts to educate residents and workers in the county to take voluntary actions that will improve the air quality in the region.	$30,000 was funded as Environmental Agenda Project for FY 2010.	$30,000 annually	I

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AQ07-10(B): Dulles Corridor Metrorail	Extend Metrorail from the vicinity of West Falls Church Metrorail Station to Tysons Corner, Dulles Airport and Loudoun County. Phase I (to Wiehle Avenue) construction began March 2009; opening scheduled for late 2013. Phase II projected opening to Dulles is in early 2017.	$2.64 billion for Phase I. Funding is derived from FTA Grants, Tax District revenue and Toll Road fees	Remaining capital cost for Phase II is $2.66 billion; provided from a special tax district in the Dulles Corridor and Toll Revenue	N/A
AQ07-11(B): Fleet User Forums	Alternative Fuels Clean Cities Partnership; Technology and Maintenance Council; National Truck Equipment Association; three work groups of the Mid-Atlantic Diesel Collaborative	None	Existing Staff Resources	N/A
AQ07-14(B): Participation on the Metropolitan Washington Air Quality Committee (MWAQC)	Active participation by BOS reps and staff	None	Existing Staff Resources	N/A

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Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
AQ07-15(B): Evaluation and Purchase of Hybrid Drive Vehicles	Purchasing production hybrids as scheduled replacements for conventional vehicles where mission and budget permit. Continuing evaluation of one plug-in (Prius). Grant funding anticipated for hybrid school bus and hybrid refuse truck. Seeking grant funding for further hybrid and electric vehicle and infrastructure exploration.	Anticipate $155,000 grant funding for hybrid school bus and hybrid trash truck from Energy Efficiency and Conservation Block Grant.	Seeking further grant funding for electric and hybrid exploration. Cost increment of $11K each for Escape Hybrids and Fusion Hybrids. Hybrid school bus incremental cost is $105K; trash truck is $50K. Proposed for EECBG funding.	N/A
AQ07-16(B): Support for Reductions in Ozone Transport	Coordination with MWAQC	N/A	Existing Staff Resources	N/A
AQ07-18(B): Board of Supervisors Four-Year Transportation Plan	The Plan is multi-modal and includes projects for major roadways, pedestrian and spot improvements, and transit. In addition to the 2007 Transportation Bond Projects, this plan also includes a number of projects funded through partnerships with state, federal, and regional agencies. Burke Centre VRE Station parking garage opened in the summer of 2008. Over sixty projects have been completed including the West Ox Bus Operation Center.	$165 million in county general obligation (G.O.) and DOT staff support.	$32 million in federal (RSTP and CMAQ) funds. DOT staff support. The total funding is $194 million.	I

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Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
AQ07-20(B): Fairfax County Transit Program	Service enhancements through implementation of new technologies, customer care initiatives and implementation of bus service such as "Richmond Highway. Express" (REX), as well as funding support for Metro and VRE system improvements and CUE bus service.	Ongoing	$74 million for Fairfax Connector, $98.3 million for Metrobus and Metrorail service, and $5 million for VRE commuter rail service. All annual costs.	I
AQ07-23(B): Periodic Assessment of Alternative Fuel Vehicle Technology	First edition completed summer of 2006.	None	No new staff required.	N/A
AQ08-01(B): Regional Urban Forestry SIP Working Group	This group of state and local urban forestry officials from Virginia, Maryland and D.C. has been organized by MWCOG and has been tasked to identify a set of specific urban forestry practices that can be included as a credited measure in future Metropolitan Washington Air Quality Plans.	None	Existing staff resources now, may need future funding.	N/A
AQ08-04(B): Fire Equipment Diesel Exhaust Retrofit	Continuation of Diesel Retrofit Program. On hold pending identification of more cost effective measures.	Estimated $300,000 already allocated.	None. Previously funded.	N/A

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Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
AQ08-05(B): Tree Planting at Governmental Building and Parking Facilities	This project shows several ways canopy shade can reduce ozone formation and energy usage. It provides educational signs to encourage adoption at private facilities. Adds about 500 trees and 20 signs to governmental buildings and parking lots. As of spring 2009, 384 trees have been planted on Fairfax County Government property toward this goal.	$170,000	$220,000	I
AQ08-06(B): Telework Initiative	The Board of Supervisors and the County Executive continue to champion telework. The goal is to continue to increase the number of Fairfax County employees who telework with a focus on Continuity of Operations.	Funds are contained in the departmental budgets of DIT, DHR, and DOT	Incorporated in departmental budgets	N/A
AQ09-01(B): Transportation Funding Bill	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 funding from fees and taxes will provide increased road and transit capacity and better connections between activity centers, use technology for more efficient system operations, maintain the existing system for maximum performance and provide a multi-modal solution.	$50 million per year through local fees and taxes	$50 million annually (from newly implemented commercial real estate tax)	I
AQ09-02(B): Comprehensive Bicycle Initiative	Enhances bicycling as a commuter option. Addresses bike lanes and route maps, bike racks and lockers serving Fairfax Connector users, other bike-related facilities and outreach.	$1,281,000 is available from various sources.	None	N/A

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AQ10-01(B): Columbia Pike Rail Initiative	Advanced streetcar transit system connecting the Pentagon/Pentagon City/Crystal City area with Bailey's Crossroads.	$18 million	Fairfax County's obligation is expected to be $32M of the $160M total capital cost and $1M of the $5M annual operating cost	I
AQ10-02(B): Reduce fuel consumption in heavy duty vehicles	Explore a series of measures to reduce idling and improve mechanical efficiencies in areas such as rolling and aerodynamic resistance and transmission shift scheduling.	$27,500	Exploration with existing staff time. Cost to implement measures will be among the selection criteria.	N/A
AQ11-01(B): Piezo Electric Generator Pilot Program	Parasitic energy harvesting demonstration to be installed in a walkway near a Tysons Corner Metro station.	$10,000 anticipated from Energy Efficiency and Conservation Block Grant.	None. Proposed for EECBG funding.	N/A
AQ11-02(B): School Bus SCR Retrofit	Technology demonstration of NOx-reducing retrofit without use of urea	$1.3M EPA grant and partner leveraged resources	None. Funded by federal grant.	N/A

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AQ-C. New Actions				
AQ07-22(C): Fuel Economy and Emissions Standards	Not under way. Develop a federal advocacy strategy, within the context of MWAQC, to increase fuel economy and emission standards for cars and light trucks.	None	Existing staff resources	N/A
AQ10-03(C): Continuing Purchase of Wind Power	3-year contract to purchase at least 10% of county's electricity	0	$783,000	I

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III. WATER QUALITY

Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
WQ-A. Completed Actions				
NONE				
WQ-B. Actions Underway				
WQ07-01(B): Watershed Management Planning (Development of comprehensive watershed management plans for all watersheds)	To date, six watershed management plans have been completed and adopted by the Fairfax County Board of Supervisors. Combined, these six plans cover approximately 50 percent of the land area in the county. Work on the other watershed management plans for the remaining 50 percent continues, with all plans anticipated to be completed by 2010.	$15.2M, (Comprised of $8.2M from the General Fund plus $7M in Pro Rata Share Funds)	This initiative is funded by allocations from previous budget years.	N/A
WQ07-02(B): Stormwater Management Implementation Plan (Ongoing implementation of the expanded Stormwater program.)	The County continued its capital improvement and infrastructure reinvestment strategies in CY 2008, with capital expenditures totaling $29,234,537. However, a more realistic reinvestment cycle needs to be established.	$29.2M	The total funding that ultimately will be needed for this is too great to accomplish in a single budget year. A multi-year approach should be considered and could begin with restoration of a full penny dedicated to capital projects.	I

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Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
WQ07-03(B): Stormwater Retrofits (Identification and implementation of retrofits to existing Stormwater facilities)	In FY 2008, the county retrofitted seven Stormwater management facilities to provide enhanced water quality and/or drainage. The retrofits included flood control, excavation of silt and sediment, planting wetland species in dry ponds, installation of BMP plates and trash racks, creation of micro pools and shallow wetlands, and construction of green roofs and bioretention basins.	Funding is included in the Capital Improvement Work Plan	The total funding that ultimately will be needed for this is too great to accomplish in a single budget year. A multi-year approach should be considered and could begin with restoration of a full penny dedicated to capital projects.	N/A
WQ07-04(B): Riparian Buffer Restoration (To restore buffers initially at seven sites, with 40 sites targeted.)	To date there are 35 ongoing projects throughout the county. These projects have focused on the conversion of mowed grass to areas of native trees and shrubs typical of riparian areas. Project size has varied from a few trees and shrubs to over a thousand. In 2008, 257 volunteers helped plant over 1200 native trees and shrubs at 6 sites.	$300K funded to date.	Current funding levels are adequate to support this initiative	N/A

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Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
WQ07-05(B): Stream Stabilization and Restoration Projects (Implementation of projects to restore and/or stabilize stream conditions that improve the overall health of the natural system.)	In 2008, the county completed 7 restoration projects with the assistance of various non-profit organizations and volunteers. Environmental consulting firms have been engaged through a multi-year contract to assist with these types of projects. In addition, construction contracts with qualified contractors are in place and restoration work in progress in various locations, based on their designated priority.	Funding is included in the Capital Improvement Spending Plan	The total funding that ultimately will be needed for this is too great to accomplish in a single budget year. A multi-year approach should be considered and could begin with restoration of a full penny dedicated to capital projects.	N/A
WQ07-06(B): Septic System Tracking and Assistance Program (Health Department program to development on-site systems and track performance.)	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.	$178K	None identified, pending results of the Feasibility Study	III
WQ07-08(B): Soil Survey	The mapping and data collection have been completed and have undergone quality control and assurance processes, and scanning and digitization, by the USDA-NRCS state office in Richmond. The 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.	$755K for the survey and $79K per year in FY08 and FY09 for ongoing soils expertise	Continued annual funding for one soil scientist	I

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Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
WQ07-09(B): Soil and Water Quality Conservation Planning for Horse Operations and Other Land in Agriculture	In 2008, NVSWCD prepared Soil and Water Quality Conservation Plans for seventeen parcels, comprising 830 acres of land, and included 46,712 linear feet of vegetated buffers for Chesapeake Bay Resource Protection Areas (RPA). Cumulatively, 11,968 acres and 350,698 linear feet of RPA are included in conservation plans that have been developed since the program began in 1994.	Resources are budgeted in the NCSWCD annual work plan.	Current funding levels are adequate to support this initiative	N/A
WQ07-11(B): SWM reviews during the Plan Amendment Process (Development of an SOP)	All such nominations are now being referred to the Stormwater Planning and Assessment Branch for review and comment. Costs of the enhanced DPWES coordination are being absorbed into the agency's operating budget. Experiences with this review process will be gauged upon completion of the current APR cycle and modifications will be made as needed.	Existing staff resources.	Current funding levels are adequate to support this initiative	N/A
WQ08-02(B): 2006 Radio Ad Campaign	This is an ongoing campaign that aired in 2008 on eight area radio stations with1,064 public service spots reaching 740,000 listeners.	$93,450	None	N/A
WQ08-03(B): Stormwater Management Review Process	In progress and ongoing	Performed by existing staff	None	N/A

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Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
WQ08-04(B): Low Impact Development Initiatives	In 2008, DPWES, NVSWCD, FCPA, nonprofit organizations and individual volunteers contributed to the design and implementation of 18 projects that incorporate one or more LID practices.	Design Manual: $40K FCPA LIDs:$150K Other LIDs: Funded in Stormwater Management Implementation Plan.	This effort is funded by existing Stormwater Management Implementation Plan funding	II
WQ08-05(B): Benchmarking Watershed Tree Cover Levels	This effort has been funded and tree cover analysis using high resolution satellite imagery is underway, with completion of all watersheds anticipated for June 2010.	Funding is included in the UFM Operating Budget	Current funding levels are adequate to complete the project as planned.	N/A
WQ08-06(B): Stream Flow Gauge Monitoring	In 2007, the county partnered with the US Geological Survey to install a water resources monitoring network. Both dry and wet weather (storm event) nutrient data are being collected by means of 4 USGS water gauging stations throughout the County. The data is posted to a USGS web page, typically within 15 minutes after collection.	-0-	Current funding levels are adequate to support this initiative	N/A
WQ08-07(B): MS4 Permit Application	Negotiations continue and the county is operating under the five-year MS4 permit issued in 2002, which has been administratively continued by DCR. DCR submitted a third preliminary draft of the permit to the county in January 2009. The FCPS Phase II MS4 Permit is being coordinated with the county Phase I MS4 Permit.	$140K	None identified. Currently authorized funding is adequate to complete the project as planned.	N/A

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Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
WQ08-08(B): Outreach and Education Program	In 2008, Stormwater Management staff created a series of educational brochures to encourage public involvement in the current comprehensive watershed management planning effort. Stormwater Management continues to make regular presentations to various groups throughout the county regarding non-point pollution sources and other watershed basics. The presentations include an overview of watersheds and Stormwater management practices that residents can implement to protect the water quality of local streams, the Occoquan Reservoir, the Potomac River and the Chesapeake Bay.	Funding is included in the operating budgets of the participating partners.	Current funding levels are adequate to support this initiative	N/A
WQ08-09(B): Establishing Tree Cover Goals for Watersheds	Benchmarking is underway to quantify tree cover within the County's 30 watersheds, with tree cover goals expected to be established by CY2010.	Funding is included in the UFM Operating Budget	None identified for FY2011	N/A
WQ-C. New Actions				
WQ07-10(C): Comprehensive Review of the County's Code and Zoning Requirements (ID regulatory impediments and policy conflicts re: better site design principles)	This has not been initiated. Consideration of various approaches is being evaluated.	-0-	Depending on approach, this will require staff and external resources ($100,000 to $250,000)	III

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Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
WQ07-12(C): Review of Standards and Guidelines for SP, SE, and Public Uses in the R-C District	This item is included on the Priority 1 Zoning Ordinance Amendment Work Program for 2009.	-0-	TBD, but substantial staff resources (significant commitment of two to four planner positions) will be needed	N/A
WQ10-01(C): Riparian Buffer Maintenance	This new project is to maintain and supplement the 31 riparian buffer restoration projects on parkland throughout the County. Maintenance activities may include watering, invasive species removal, amendment of plantings with additional shrub, herbaceous and trees as needed, expansion of buffer projects to adjacent areas and monitoring of restoration projects.	-0-	$55,000 for first year	I

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IV. SOLID WASTE (SW)

Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
SW-A. Completed Actions				
SW07-02(A): Expand Recycling Programs	Chapter 109 revised (now, Chapter 109.1) to include an expanded list of materials and expansion of non-residential programs. Outreach, education, and coordination w/ other affected agencies underway.	N/A	N/A	N/A
SW08-04(A): Clean Streets Initiative	This new program, to cleanup debris piles left at the curb, is underway and has proven enormously successful and effective. Requests for action are ongoing.	N/A	N/A	N/A
SW-B. Actions Under Way				
SW07-03(B): Encourage Use of Recycled Products through Environmentally Preferable Purchasing (EPP)	This action was combined with **SW07-04(B): Increase County Use of Recycled Products** due to the considerable overlap in general intent. County Procedural Memoranda (PM) 143 updated - SWMP provided technical support to DPSM toward development of such a program. County Procedural Memoranda (PM) 144 also updated.	Funding source not identified.	$15,000 for program needs.	II

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Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
SW07-05(B): Remote HHW Collection Events	Fourth consecutive year of remote events is in progress. Previously funded for fund five (5) scheduled events in 2008. Participation in these events continues to grow, with costs directly linked to the number of residents using the program.	$90,000 for FY 2009 events.	Future events anticipated to cost $123,000 per year	I
SW07-06(B): Develop Long-Term Plans to Manage Electronic Waste within Fairfax County	Revised plan to include monthly "Electric Sundays" at the I-66 Transfer Station. First year of I-66 events is in progress, funded in part by $35,000 annual contribution by Covanta Energy. Participation in these events has far exceeded anticipated levels, with costs directly linked to the number of residents using the program. Covanta's annual contribution has been spent in the events held thus far.	Existing Program funding can cover 5-6 events at I-66 in FY10. Funding not yet identified for remainder.	$250,000 per year	I
SW07-07(B): Develop A Toxics Reduction Campaign	No change in status. The "KnowToxics" Program has been established as a regional effort to address management of fluorescent bulbs, rechargeable batteries, and obsolete electronics. The main features of the program is a website entitled "KnowToxics.com" and selected radio and print advertising.	Basic Program established, but funding source for ongoing operation not yet identified.	$10,000 per year.	I

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Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
SW08-01(B): Maximize Energy Recovery from LFG Resources	Construction of the necessary infrastructure to use landfill gas from the I-66 Complex (closed landfill) as a source of renewable energy at the Transfer Station is complete. A total of $300,000 was funded to complete the DVS West Ox garage project in two separate increments of $150,000 each. That project was completed in Oct. 2008. Work will now focus on investigating feasibility for heating use at the new West Ox Bus Operations Center.	An additional $150k was requested and approved in the Fy2010 budget to investigate the feasibility to expand the project to the new West Ox Bus Operations Center.	Additional 50k needed to complete the Bus Operations Center expansion project.	I
SW08-02(B): WWTP Effluent Reuse at Covanta E/RRF from Noman Cole WWTP	Initial feasibility study was completed and project deemed technically and economically feasible. Efforts must now focus on developing the project final design and negotiating water use rates and terms with Covanta and other potential water users.	$124,000 for initial study.	Project will be funded through water user fees, while still saving E/RRF at least 25% over potable water costs.	II
SW09-01(B): Support Trash-Free Potomac Watershed Initiative	This Program, managed by the Alice Ferguson Foundation, is a regional program to reduce litter and increase recycling, education and awareness of solid waste issues in the Watershed. The Program commitments are summarized in the Potomac Watershed Trash Treaty to which the Board is a signatory. Support to consist of a donation.	$25K from Virginia Litter Grant	$50,000	I

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Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
SW-C. New Actions				
SW09-02(C): Renewable Energy Demonstration Park	Initial feasibility study to identify a suite of modest renewable energy projects that can be demonstrated as technically and economically feasible. Projects to be installed at the I-95 Landfill Complex as part of the continued productive use of the property. Efforts will initially focus on identifying technologies and scope for one or two simple projects that can be constructed at the landfill within the next 6-12 months. Existing/completed renewable energy projects at the facility will be considered Phase I of the Demonstration. The first new project, Phase II, will likely be the purchase and initial deployment of a solar-powered pond aerator. Later Phases may include a solar water heater at the truck driver's restroom at I-95, a windmill to extract groundwater, and a solar panel array.	Approximately $50,000 in equipment and staff time to install the solar-powered pond aerator.	$50,000 to complete a detailed feasibility study and overall Park concept/ design. Further start-up funding may be necessary to complete specific projects in later Phases	I

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Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
SW10-01(C): Litter Management System Efficiency Enhancements	A small project intended to enhance existing solid waste management system efficiency. It is anticipated that this enhancement will reduce costs, air pollutant/GHG emissions, and otherwise reduce the environmental footprint of the County's waste management operation. Specific technology to be deployed is a battery of solar-powered self-compacting litter bins to be deployed at one or more County facilities still TBD.	N/A	$5,000 each	I
SW10-02(C): Single-Stream Recycling Toters for County Customers	Bigger toters will reduce collection costs, air pollutant/GHG emissions, and otherwise reduce the environmental footprint of the County's recycling operations.	N/A	$2.5M to cover all Sanitary Districts	I

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V. PARKS, TRAILS, AND OPEN SPACE (PT)

Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
PT-A. Completed Actions				
PT07-04(A): Pedestrian Improvements as part of the State's Secondary Construction Program	Complete. Additional projects will be included in PT07-03(B): Pedestrian Improvements in the Four Year Transportation Plan	$2,900,000 funded through FY 2010	N/A	N/A
PT-B. Actions Underway				
PT07-01(B): 10-Year Pedestrian Capital Plan	Underway. 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. Seeking funding to implement.	N/A	$46 million through 2011.	I
PT07-02(B): Trail Projects/Pedestrian Improvements	Underway	$4,500,000	$2,000,000 per year	I
PT07-03(B): Pedestrian Improvements in the Four Year Transportation Plan	Underway	$25,000,000	N/A	N/A

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Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
PT07-05(B): Trails Inventory and Planning Continue to update the existing trails map to help identify missing trail links.	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).*	Most mapping costs absorbed in existing resources.	$2,000,000 per year (see PT07-02(B))	N/A
PT07-06(B): Upgrades for the Cross County Trail	After 6 years of work the Cross County Trail was completed in December 2005. 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.	See EIP10-PT07-07	In future years, additional funding in the amount of $4,000,000 will be needed for improvements to the existing trail.	I

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Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
PT07-07(B): Park Authority Trail System 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. Trail plans are underway for Laurel Hill and Sully Woodlands where the complexity and breadth of the land and variety of uses will require careful planning.	$7,750,000	$60,000,000	I
PT07-08(B): Interpretive Signs Along FCPA Trail System 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.	Five interpretive signs have been developed, incorporating themes from the natural and cultural components of the trail. Themes have been outlined and prioritized for new signs as funding allows.	$28,000 in FY 2006	$750,000	I
PT07-09(B): FCPA Urban Pocket Parks	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.	$1,000,000 (approximate)	$10,000,000 plus	II

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Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
PT07-10(B): Parks and Recreation Needs Assessment Process 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 in order to capitalize on changes in the County demographics as well as coincide with funding cycles. Update to the Needs Assessment is planned in FY 2011,	$300,000	TBD	N/A
PT07-11(B): Parks and Recreation Needs Assessment Implementation 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.	A portion of the Near Term Needs will be satisfied through the acquisition and build out of the current and upcoming Capital Improvement Plans.	$155,000,000 (includes land acquisition)	$93,258,403 (not including land acquisition)	I
PT07-12(B): Parkland Acquisition The Park Authority has an ongoing program for acquisition of property, including vacant and underutilized parcels, for open space.	Congressman Connolly has challenged the Park Authority to acquire 10% of the land in the county. Current land holdings account for 9.6% of the county, with an additional 1,00 need to reach the 10% target.	$10,000,000 (remaining in 2008 bond)	$80,000,000	I

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Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
PT07-13(B): Open Space Easements/NVCT Partnership	Ongoing	$239,740 (Approved County Contribution for FY10)	Future Cost: $239,740 + CPI (annual cost)	N/A
PT07-14(B): Park Authority Conservation Easement Initiatives	Ongoing $10,000,000 would help establish a more aggressive Park Authority conservation easement program.	$10,000,000 (remaining in 2008 bond)	$10,000,000	II
PT07-17(B): Park Authority Natural Resource Management Plan Implementation--Encroachment Enforcement	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.	N/A	$250,000 needed annually	I

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Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
PT08-01(B): Park Natural Resource Management 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 2011 will mark the 7th year of plan implementation. The Park Authority is now at a critical stage in which we can not continue to make significant progress without additional staff and funding.	Three years into implementation, the Park Authority is doing what they can with existing resources - making changes to policy and practices, educating staff and residents and asking all Fairfax County Park Authority staff to help where they can. The county's natural areas are rapidly degrading and need management. The intent of the Natural Resource Management Plan – to manage natural resources can not occur without additional funding and staff.	Existing Resources	Phase 1: $650,000 per year including six new staff positions. $3,000,000+ per year needed for full program.	I
PT08-03(B): Park Information Systems This project will expand the use of Geographic Information Systems (GIS) for Park Authority natural resource management.	The project is 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.	$180,000 funded by Board of Supervisors at FY 2004 carryover	$200,000-$1,000,000 to test and implement the model.	I

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PT09-01(B). Creation of District-Wide Park Plans	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.	N/A	N/A	N/A
PT09-03(B). Synthetic Turf Athletic Fields	The Park Authority has begun developing synthetic turf fields to increase usability and to reduce maintenance and environmental impacts.	$14,000,000	TBD	I
PT-C. New Actions				
PT07-21(C): Park Authority Natural Resource Management Plan Implementation--Boundary Survey and Marking	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.	N/A	$250,000 needed annually	I

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Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
PT08-05(C): Sully Woodlands Interpretive Center and Resource Management The Park Authority is developing a regional master plan for all parks within the boundaries of the Cub Run and Bull Run watersheds. 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.	$290,000 for a conceptual plan is included in the 2008 park bond.	TBD	I
PT08-06(C): Implementing Natural Landscaping Practices on County Properties Multi-agency effort to implement natural landscaping practices on County properties.	Funding related to 2004/2005 BOS directive to implement a five-year natural landscaping plan to implement techniques that reduce current maintenance practices that can cause harmful environmental impacts and reduce the need and expense of mowing, pruning, edging, and using fertilizers, pesticides, and herbicides	N/A	$100,000	I
PT10-01(C): Weather Stations for Efficient Water Use at Golf Courses	This project would allow the installation of a weather station at both Twin Lakes and the Laurel Hill Golf Club. Providing irrigation water in an efficient manner would reduce impacts to the environment by using less water	N/A	$10,000	I

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VI. ENVIRONMENTAL STEWARDSHIP (ES)

Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
ES-A. Completed Actions				
ES09-05 (A) NACo/Energy Star Change a Light Program An initiative to replace incandescent lights at home with compact fluorescent lamps (CFL).	In FY2007, phase I was for county employees and phase II was for citizens. The program resulted in 835 total pledges, 606,583 kWh saved and 1.1 million pounds of CO2 emissions prevented. In 2007 the County won 1st place NACO award for public outreach, and received 1,000 CFL bulbs, which were distributed at public events.	Promotional materials were funded by FMD operating budget.	N/A	
ES09-18 (A) Energy Manager, Park Authority *formerly PT09-02 (B)*	After several years of planning and in support of the Park Authority's Strategic Plan 2006-2010, an energy manager position was established and filled in October 2007. The framework for the agency's Energy Management Plan for has been developed. energy surveys, monitoring and audits are being done. Projects are being identified.	$107,120 funded in FY 2007 carryover. $278,100 funded in FY 2009 budget.	N/A	
ES10-03 (A) Implement Environmental Management System for Wastewater Management Program	Currently Wastewater Management has achieved recognition in the Virginia Environmental Excellence Program at the E3 level, and has a commitment to achieve the next level of recognition, E4.	Existing staff resources and funding provided in FY 2009	No additional	N/A

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ES10-04 (A) Water Use Reduction in Wastewater Management Program Laboratory Process	In 2007, the Lab realized a reduction in deionized water usage by 8,040 gallons per year	Existing staff resources	No additional	N/A
ES10-05 (A) Use Reclaimed Water in the Irrigation System for Noman Cole Pollution Control Plant Landscaping	The installation of an irrigation system was completed in March 2008, and use began in May 2008. The system is designed for future expansion.	Funding provided in FY 2008	N/A	N/A
ES11-01 (A) Installation of a Solar Powered Water Mixer by Waste Water Treatment Division at Noman M. Cole, Jr. Pollution Control Plant	In 2005 the WTD installed a solar powered mixer in one of its equalization ponds in lieu of refurbishing the existing electrically powered mixers. The WTD saw an almost immediate payback from the installation in electrical cost savings.	Funding provided in FY 2006	N/A	N/A
ES11-02 (A) Installation of Solar Water Heater at the Wastewater Treatment Division's Noman M. Cole, Jr. Pollution Control Plant	In November 2008, the Noman M. Cole Jr. Pollution Control Plant installed a primary solar hot water heater to provide hot water for the showers, bathroom and lunch room in the old Admin. Building.	Funding provided in FY 2009 budget	N/A	N/A
ES11-03 (A) Installation of Solar Powered Meters by the Wastewater Collections Division	In 2008, the Meter Section installed solar batteries in 10 locations instead of installing electric power saving several thousands of dollars	Existing staff resources and funding provided in FY 2008	N/A	N/A

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ES-B. Actions Underway				
ES07-02 (B) Volunteer Stream Monitoring Quality assured citizen-based biological and observational monitoring complements DPWES monitoring, provides trend data and flags emerging problems.	NVSWCD provides program management and coordination of volunteers, training, quality assurance, and data management; efforts are multiplied through 'hub' in Reston. Program has associated education programs, connects residents to their watershed, and provides links to other programs and activities. Coordination with DPWES on county stream data reporting. FCPA staff conduct monitoring and support volunteer efforts.	Staff support is budgeted as part of NVSWCD work plan; assistance from interns and volunteers; supplies through grants. (Volunteer monitor contributions valued at $42,131).	None	N/A
ES07-10 (B) Storm Drain Marking – Pollution Prevention Program Adult and youth volunteers carry out neighbor-hood education programs and place markers on storm drain inlets, to inform community that pollutants dumped in storm drains pollute local waterways.	NVSWCD provides program management, coordinates with VDOT for permits, and guides volunteers as they implement community education program and apply labels on storm drain inlets. DPWES-Stormwater funds markers and glue and assists with program promotion.	Staff support is part of NVSWCD work plan. DPWES provides $12-15,000 annually for supplies	None at current level. Further expansion would require additional resources	N/A

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Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
ES08-01 (B) Education and Outreach Programs and Activities A broad array of programs and activities inform the public about watershed issues and promote environmentally responsible behaviors and stewardship.	Initiatives include: newsletters, brochures, handbooks and other resource materials; seminars, workshops, watershed walks, and park programs; exhibits, demonstrations, and events; rain barrel programs; websites and email lists; watershed advisory committees; seed collections and seedling programs; technical advice and technical assistance. Many programs involve partnerships.	Budgeted as part of FCPA, NVSWCD and DPWES annual work plans.	None.	N/A
ES08-02 (B) Environmental Education Programs Involving Youth Programs, many in partnership with schools, build understanding and respect for natural resources and further environmental stewardship among youth.	Hands-on activities take place in schools and parks. Elementary science programs taught in parks promote stewardship and support the school curriculum. Teacher training and coordination with Middle School programs help meet Chesapeake Bay goals. High School students monitor streams, recycle, compete in the Envirothon competition, and participate in environmental clubs, community outreach programs and volunteer opportunities.	Budgeted as part of FCPA, NVSWCD and DPWES annual work plans.	None	N/A
ES08-03 (B) Stream and Watershed Cleanup Efforts Volunteer efforts include participation in larger, regional efforts and in local community/ watershed sponsored projects	Volunteer stream and watershed cleanups are conducted in conjunction with the International Coastal Clean Up in the fall, the Alice Ferguson Foundation Potomac River Clean Up in the spring, and throughout the year by 'Friends of' groups, Adopt-A-Stream groups and others. Agencies support these efforts by coordinating, publicizing, identifying sites, delivering supplies, participating , and facilitating disposal.	Budgeted as part of NVSWCD, FCPA and DPWES annual work plans. Supplies are provided by sponsoring organizations	None	N/A

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ES08-04 (B) Support of Citizen-Based Environmental Stewardship Programs and Activities Information and technical advice are provided. Appropriate county services are identified and made available	Friends of groups, civic, community and environmental groups engage in education programs and planting projects, improve habitats, conduct cleanups, plant buffers, monitor streams, and alert county staff to potential environmental problems. These groups receive information, technical advice and problem solving assistance. Training is provided to newly formed organizations, such as the Fairfax Chapter of the Virginia Master Naturalist Program.	Staff resources to support these efforts are budgeted as part of the DPWES, NVSWCD and FCPA annual work plans.	None	N/A
ES08-05 (B) Park Authority Stewardship Education The Park Authority educates both staff and citizens countywide in important stewardship issues, the County's commitment to stewardship, and to engage them in practicing good stewardship.	The Park Authority is implementing the stewardship education initiative through a series of brochures and products related to natural resource stewardship. Twelve brochures and six Highway Cards have been published to date. In 2007, the Park Authority's Stewardship Education Team developed media for a storm drain marking initiative in staff parks, including a poster, a highway card, buttons for staff to wear and window clings for park entryways. In spring 2008, the Park Authority released a set of non-native invasive plant identification and control cards for 29 of the most commonly found non-native invasive plants in Fairfax County.	Existing resources used in FY2004-FY2009 Also, Carryover funding received in FY2004 and FY2006	None	N/A

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Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
ES08-06 (B) Invasive Management Projects A Park Authority program to remove and control invasive plants on parkland and to involve citizens in this effort.	The Park Authority continues to sponsor the Invasive Management Area (IMA) volunteer program, as well as other initiatives. Currently 43 trained leaders have committed to four work-days per year at 41 sites. In 2008, the Park Authority will implement its second year of the Invasive Conservation Corps (a summer intern program) with a focus on manual removal of invasive species at IMA sits, riparian buffer planting sites and staffed sites. In addition, funds are being used to supplement efforts at staffed sites with equipment and contractor services. A report on non-native invasive plants in Fairfax County will be developed by a contractor to include assessment, prioritization (species and locations) and a control program.	Funding for FY2005-FY2010 came from existing resources, carryover funding and grants.	$200,000 + per year needed beginning in FY2011 for program to continue	I
ES08-10 (B) Partnering with Non-Profit Tree Planting Groups in Establishing a Countywide Tree Planting Program Program to plant more than 25,000 trees in a 5-year period	This action builds upon the success that has resulted from partnerships formed with non-profit tree planting groups. It complements an existing BOS directive to establish a countywide tree planting program for air quality improvement. It will help to meet the Fairfax County 30-Year Tree Canopy Goal, adopted in June 2007. In FY 2008, Canopy goal partners and non-profits planted an estimated 9,000 trees. In FY 2009, funding was provided to three non-profits to build organizational capacity in support of a countywide tree planting program.	$50,000 funded in FY2008 $109,000 funded in FY2009 $93,350 was funded in 2010	$110,000 is needed in 2011	I

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ES09-06 (B) Joined Energy Star Challenge 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.	The County tracks energy usage and has a plan for energy improvements, including during capital renewal projects. Programs such as Change a Light Campaign raise awareness with others.	Existing FMD staffing will be used.	None	N/A
ES09-08 (B) 30 Year Tree Canopy Goal In 2007 Fairfax County adopted a tree canopy goal of 45%. To reverse anticipated loss and achieve the goal, an increase of 20,400 acres of trees is needed by 2037. This requires that 21,000 trees be planted annually for 30 years	This action is underway with short-term needs identified in ES08-10 (B) and ES08-11 (C). An analysis has been made to determine potential areas for tree planting. Most will need to be planted on private property, making an educational campaign essential for success. The cost to achieve the goal is more than offset by benefits for air pollution removal, carbon sequestration, energy conservation and stormwater management.	Short-term needs identified in ES08-10 (B) and ES08-11 (C)	$2.6 million over 30 years	I
ES09-09 (B) Development of an Energy Management Program Through the Establishment of a Countywide Energy Coordinator Position	The county's newly formed Energy Efficiency and Conservation Coordinating Committee is currently performing the role and tasks as were envisioned for the Energy Coordinator. The Energy Coordinator position is currently on hold. In the short term, the EECCC has developed a list of projects to be funded using the federal EECBG money.	None	$9 million has been proposed for EECBG funding in 2010	I
ES09-12 (B) Government Center HVAC Component Replacement	Chillers should be replaced with more efficient and environmentally friendly type. Pumps, cooling towers, kitchen heat recovery equipment, also need replacement. Replace pneumatic VAV boxes with DDC to take full advantage of building automation system.	$2,200,000 chiller replacement approved by BOS in FY 2009 budget	$2,200,000 for additional items unfunded	II

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ES09-14 (B) Increase Energy Conservation Code Compliance	The Building Plan Review Division of DPWES Land Development Services has developed and provided training on an Energy Code Compliance Certification/checklist form. BPR continues emphasis on insulation and HVAC equipment sizing.	Existing staff will be used	No additional resources are required	N/A
ES10-03 (B) Implement Environmental Management System for Wastewater Management Program	Currently Wastewater Management has achieved recognition in the Virginia Environmental Excellence Program at the E3 level, and has a commitment to achieve the next level of recognition, E4.	Existing staff resources and funding provided in FY 2009	No additional	N/A
ES10-04 (B) Water Use Reduction in Wastewater Management Program Laboratory	In 2007, the Lab realized a reduction in deionized water usage by 8,040 gallons per year	Existing staff resources	No additional	N/A
ES10-05 (B) Use Reclaimed Water in the Irrigation System for Noman Cole Pollution Control Plant Landscaping	The installation of an irrigation system was completed in March 2008, and use began in May 2008. The system is designed for future expansion.	Funding provided in FY 2008	N/A	N/A
ES10-06 (B) Maintain Potable Water Savings and Additional Opportunities for Reduction in Potable Water Use at Noman Cole Pollution Control Plant	Reclaimed water is used in many ways, such as for backwashing filters, seal water, wash down, foam controls sprays, generator cooling, air scrubber, polymer makeup, chemical carrier water and onsite irrigation. Staff will continue to seek ways to incorporate plant effluent water into plant processes.	Existing staff resources	N/A	N/A
ES10-07 (B) Establish a Rain Garden at Noman Cole Pollution Control Plant	A design and cost estimate is being developed, with assistance from NVSWCD.	Existing resources	N/A	N/A

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ES10-12 (B) "Earth Hour" Event Participation An event to raise energy awareness by turning off non-essential lights and other electrical equipment for one hour.	The cost-benefit of participating in this world wide international outreach event, sponsored by the World Wildlife Fund, is needed. The Board of Supervisors proclaimed 8:30 p.m. on March 29, 2009 as Earth Hour 2009 and encouraged participation by turning off non-essential lights in county facilities and by county residents.	Existing staff resources could be used for preliminary evaluation of county participation	TBD	
ES11-04 (B) Wastewater Treatment Division is Participating in the Energyconnect's Demand Response Program for the Summer 2009 Season	The WTD staff has begun active participation in the program for the summer 2009 season. The Operation's and Electrical staff worked together to develop an appropriate curtailment strategy to meet the requirements of the energyconnect program. On June 11 the WTD joined with other local energyconnect participants for a curtailment test exercise.	Existing resources	N/A	N/A
ES11-05 (B) Cast-iron and Asphalt Recycling by the Wastewater Collections Division of the Wastewater Management Program	Wastewater Collection Division is recycling 30 tons of asphalt a year which saves approximately $1,600.	Existing resources	N/A	N/A
ES11-06 (B) Window Replacement at Noman M. Cole Jr. Pollution Control	This project has been proposed for the Noman M. Cole, Jr. Pollution Control Plant and is planned to be implemented in FY10. It was proposed for Energy Efficiency and Conservation Block Grant stimulus funding.	Existing staff resources and funding provided in FY 2010	N/A	N/A
ES11-07 (B) Calculate and Validate the Wastewater Collections Division Carbon Footprint	The WCD staff is planning on working with Wastewater Treatment Division (WTD) Plant Operations Branch Manager in order to learn the method for calculating the Carbon Footprint for the WCD per the WRI/WBCSD protocol.	Existing staff resources	N/A	N/A

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Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
ES11-08 (B) Establish a Rain Garden Onsite at Wastewater Collections Robert P. McGrath Facility	Currently the Wastewater Management Program is in the initial phase of considering the feasibility of the design and installation of a rain garden at the Wastewater Collections Robert P. McMath facility. Staff in the Wastewater Collections Division is planning on working with the Northern Virginia Soil and Water Conservation District in the design of the structure and preparing a cost estimate for its installation.	Existing staff resources. May require funding if feasible to implement installation of the rain garden	N/A	N/A
ES—New Actions				
ES08-07 (C) Neighborhood Ecological Stewardship Training (NEST) Educates citizens and inspires stewardship through hands-on, multi-discipline experiential activities that connect people to their environment.	Pilot project initiated in spring 2006 by NVSWCD demonstrated significant community interest in adult natural resources programs and tested an effective method to foster environmental stewardship. More than 145 participated in the program and 25 partners were involved. In 2008, 73 partners were engaged with 261 participants. To continue NEST, funding is needed for both staff support and resources. (A staff person assisting with this program could also assist with other environ-mental stewardship initiatives, e.g. ES10-15 (C).	Existing funding used in FY2006 and FY2008. Loss of staff and funding in FY2009-FY2010.	$35,000 For a part-time person and supplies.	I

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Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
ES08-09 (C) Promoting the Use of Natural Landscaping Practices by the Private Sector Public education and engagement to encourage natural landscaping on private property, in conjunction with implementing the Natural Landscaping Plan on county properties.	This program coordinates with implementation of Natural Landscaping Program projects on county-owned properties. It focuses on public education through interpretive signage at county demonstration sites, brochures, PSAs, and workshops, and on public engagement through hands-on experience for individuals and groups interested in planting and maintaining natural landscape gardens and on County property.	None	$50,000 To produce educational materials, install interpretive signs and host workshops	II
ES08-11 (C) Promoting Stewardship Of Urban Forest Resources Program to build appreciation for trees and urban forests by residents	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. Addresses BOS Environmental Committee concerns relating to the removal of healthy, mature trees on private properties.	None	$100,000 Funds will be used to develop an education and outreach plan and to develop and print educational materials.	I
ES09-10 (C) Energy Outreach Program ▪ Residential Energy Audits ▪ Distribute free Compact Fluorescent Lamps (CFL's) to county citizens ▪ Energy Scholarship for student committed to pursuing education in energy conservation ▪ Website & brochures	Outreach program is currently being developed by the county's Energy Efficiency and Conservation Coordinating Committee. Residential energy audits are included in the county's EECBG projects. The county's energy outreach webpage is also being developed. It is anticipated that this program will continue to evolve over time.	None	TBD Residential energy audits proposed for EECBG funding.	II

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ES09-13 (C) Install Energy Management Control Systems in Remaining County Facilities *****Implementation could begin in 2009, but would be a long term project to incorporate into all remaining facilities.	RFP needs to be developed to manage the installation of this many additional systems and to obtain competitive pricing. In the event that sufficient funding is not adequate for installation in all remaining facilities, installation can be done in phases, or only implemented for select projects with the greatest need and fastest payback (Gum Springs Community Center and Bailey's Community Center)	None	$4,000,000 for all remaining facilities, or approximately $400,000 for installation in two specific facilities. (EECBG funding proposed for the two facilities)	I/III*
ES09-15 (C) Government Center Energy project	Funding is needed to implement a feasibility study on various Green building technologies and renewable energy technologies that could be implemented at the Government Center. The study should also include ways to use the new technologies to educate citizens, allow research for students, etc.	None	TBD	III
ES09-16 (C) Feasibility study for Renewable Energy Technologies	A study is needed to assess appropriate facilities and payback analysis for implementation of renewable energy technologies such as solar.	None	TBD	II
ES09-17 (C) Perform Energy Audits for county facilities	Physical inspection needs to be conducted of all the county facilities to make suggestions for energy improvements, separate from capital renewal projects.	None	$500,000 needed to perform energy audits in 100 facilities (EECBG funding proposed for some of the audits)	III

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ES10-08 (C) Park Authority RecCenters Lighting Improvement for Swimming Pools and Racquetball Courts	Initiative relates to energy survey conducted in FCPA facilities. The Park Authority has 9 RECenters with indoor swimming pools, racquetball courts, and other activity rooms. Upgrading these systems will provide an opportunity to significantly reduce energy consumption and reduce energy bills, as well as reduce CO2 emissions to atmosphere.	None	$900,000	I
ES10-09 (C) Park Authority Athletic Fields Lighting Improvement	Initiative relates to energy survey conducted in FCPA facilities. Using appropriate energy efficient technology for athletic field lighting could provide better quality of light, less maintenance costs, and better scheduling by switching lights on and off only when needed, and providing the appropriate light levels for different activities. FCPA has several athletic fields and some of these fields are using old lighting systems, which are not very efficient don't have appropriate control system. Upgrading these systems will reduce energy consumption and energy bills and will reduce CO2 emissions to the atmosphere.	None	$700,000	I

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ES10-10 (C) Building Envelope Assessment and Improvement for Park Authority Facilities	Initiative relates to energy survey conducted in FCPA facilities. A better building envelope can help make a building energy efficient and environmentally friendly. Some Park Authority facilities have old buildings that need to be evaluated in terms of building envelope and air flow control between indoors and out doors. This action will save energy uses for HVAC systems, will reduce energy bills, and will reduce CO2 emissions to atmosphere.	None	Assessment Cost: $300,000	I
ES10-11 (C) Park Authority Facilities Small HVAC Systems	Initiative relates to energy survey and life cycle of equipment that was done in all FCPA facilities. By replacing the older air conditioner or heat pumps, FCPA could be protecting the FCPA from the potentially rising costs of servicing R-22 products and environmentally could contribute in prevention of Ozone layer depletion, which is a critical environmental issue. FCPA currently have 58 small HVAC units that need to be upgraded to be more energy efficient and comply with the federal mandates for the use of HCFC's. Most of these units are more than 10 years old. The plan is replacement of old units to high efficient units from 8/10 to 14 SEER rating.	None	Retrofit Cost Estimate: $130,000/year (for every 8 units) and totally, $950,000 (unfunded) during 7 years (for a total of 58 units)	I

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POLICY EFFORTS ARE NOTED WITH AN "N/A," AS ARE ACTIONS THAT HAVE BEEN COMPLETED OR THAT HAVE NO FOLLOW-UP ACTIONS REQUIRING ADDITIONAL FUNDING (BEYOND MAINTENANCE OF EXISTING STAFF RESOURCES).

PRIORITY I: THE ACTION IS READY TO BE INITIATED IN FY 2011.
PRIORITY II: THE ACTION IS NOT IMPLEMENTABLE IN FY 2011, BUT COULD BE INITIATED IN FY 2012.
PRIORITY III: IMPLEMENTATION TIMING IS UNKNOWN—THE ACTION SHOULD BE CONSIDERED TO BE LONG-TERM IN NATURE.

Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
ES10-13 (C) Master Watershed Stewards Certification Program Training in watershed issues, technology and outreach to prepare County residents to participate in watershed plan implementation and other watershed improvement activities.	This is a partnership project with a non-profit group to provide intensive training during eight 2 ½ hour workshops led by specialists in technical and organizational topics. Additional activities, including 24 hours carrying out watershed activities, are required in order to receive certification as a Master Watershed Steward.	Program coordinator provided by Potomac River Greenways Coalition. Existing NVSWCD and DPWES staff would provide support	$40,000 to fund an environmental educator and program expenses	I
ES10-14 (C) Water Conservation Education and Device Distribution Program ***Water: Use it Wisely*** color brochures in pdf format are available through the Council of Governments. Faucet aerators can be distributed at Schools and major public events.	***Water: Use it Wisely*** brochures can be printed, folded and distributed by a county vendor at a rate of approximately 23 cents per household. Faucet aerators can be distributed at a rate of approximately $1 each. Schools and public events could be the major distribution mechanism for the aerators. This effort would be a joint effort between Fairfax Water and Fairfax County Government.	None	TBD	II

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Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
ES10-15 (C) Environmental Stewardship Matching Grants Program for Watershed Protection and Energy Conservation An environmental stewardship grant program for watershed protection and energy conservation actions by residents, HOAs and schools.	Green Living workshops would focus on how to save energy, create sustainable landscapes, protect local water quality and conserve water. Workshop attendees would become eligible for matching grants and technical assistance for specific projects, such as installation of permeable pavers, rain gardens, cisterns, green roofs and tree canopy, riparian buffer or shoreline enhancement, energy efficiency or water conservation measures. Projects would help the County meet the goals of minimizing runoff, reducing pollutants to local waters, increasing biodiversity, habitat and forest resources, counter-acting global warming, conserving water, building community and stimulating environmental stewardship.	None	$75,000 to fund grants and a full-time program coordinator. $25,000 for a pilot project with a temporary part-time coordinator.	I
ES11-09 (C) Wastewater Management Program IT Computer Server Virtualization	This project has been proposed for the Noman M. Cole, Jr. Pollution Control Plant and is waiting for funding. It was proposed for Energy Efficiency and Conservation Block Grant stimulus funding.	None	$837,500 is needed for equipment. WWM IT staff would perform work	I
ES11-10 (C) Site Lighting Upgrades for Monomedia Filters at Noman M. Cole Jr. Pollution Control	This project has been proposed for the Noman M. Cole, Jr. Pollution Control Plant and is waiting for funding. It was proposed for Energy Efficiency and Conservation Block Grant stimulus funding.	None	$42,791 is project cost. Submitted for a EECBG; $25,000 grant anticipated; plant staff would perform labor	I

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Title of Action	Status	Funding Already Allocated	Additional Funding Needed	Priority
ES11-11 (C) Mercury Vapor Lighting Replacement at Noman M. Cole Jr. Pollution Control Plant	This project has been proposed for the Noman M. Cole, Jr. Pollution Control Plant and is waiting for funding. It was proposed for Energy Efficiency and Conservation Block Grant stimulus funding.	None	$15,000 (proposed for EECBG funding)	I
ES11-12 (C) Establish a Green Roof Onsite at Wastewater Treatment Divisions Noman M. Cole, Jr. Pollution Control Plant	Currently the Wastewater Management Program's WTD is in the very initial phase of researching the feasibility of the design and installation of a green roof at the Noman M, Cole, Jr. pollution Control Plant.	Existing staff resources.	TBD	N/A
ES11-13 (C) Installation of Lighting Control Systems at Athletic Fields	The Park Authority has installed programmable lighting control systems at numerous athletic fields to control lighting remotely with a high degree of accuracy. It proposes to upgrade lighting control systems at 11 more facilities.	None	Assessment Cost: $330,000 This action has been submitted to DOE as one of the EECBG Fairfax County projects	I
ES11-14 (C) Outdoor Lighting and Control System Retrofits	The Park Authority conducted a study of 300 existing outdoor lighting systems and identified systems that would most benefit from energy efficiency improvements. This action would upgrade those systems.	None	Assessment Cost: $220,000 This action has been submitted to DOE as one of the EECBG Fairfax County projects	I

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FAIRFAX COUNTY, VIRGINIA

Environmental Improvement Program (EIP)
Section E: Fact Sheets

Fiscal Year 2011

Prepared September 2009

Growth and Land Use (GL)	E-1
Air Quality and Transportation (AQ)	E-45
Water Quality (WQ)	E-93
Solid Waste (SW)	E-132
Parks, Trails, and Open Space (PT)	E-146
Environmental Stewardship (ES)	E-186

EIP11-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 Stabilization Initiative

Lead Agency

DPZ

Status/Plans/Outcomes

The PRM District was established in 2001; as of April 2009, 19 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 vehicle sale and rental establishments in the PRM District with special exception approval. This amendment is on the 2009 Priority 2 Work Program which means that the amendment is being maintained on a list for future prioritization.

Resources

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

EIP11-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. The 2008-2009 North County APR cycle involved fewer amendments related to this topic, as the current Plan supports a significant amount of development potential in these areas that has yet to be realized. During this cycle, several nominations in the Reston Herndon Suburban Center were deferred so that they could be considered in a special study to evaluate the current planned intensities adjacent to the four transit stations that are planned for this area. The 2005 Base Realignment and Closure (BRAC) actions resulted in the creation of a special BRAC Area Plans Review (APR) cycle, which examined the planned land use in activity centers near Fort Belvoir and the Engineer Proving Grounds in the southern portion of the county. The Board of Supervisors adopted several amendments to the Comprehensive Plan in January and August 2009. Additional Plan amendments and revitalization area studies 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.

In regards to the Comprehensive Plan, the 2005-2006 South County APR cycle resulted in the adoptions of several nominations 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. In the more recent cycle, several 2008-2009 North County APR nominations in the Reston-Herndon Suburban Center were deferred so that they could be considered in a special study to examine the planned intensities at the four transit stations that are planned for this area, and finally several nominations proposing more commercial and residential uses in activity centers (in such places as Huntington and Springfield) were adopted as part of the special BRAC APR cycle. The Lake Anne Study also concluded with a Plan amendment, adopted in March 2009. The amendment added components to the Plan, such as transit accessibility and the provision of pedestrian and bicycle facilities.

As for current planning efforts, the ongoing Tysons Corner Transportation and Urban Design Study, which is addressed as EIP11-GL07-05(B), provides an example of efforts to support both TOD and housing within employment centers. Another example of County efforts to achieve this objective is the Springfield Connectivity Study, which began in 2006. This study is evaluating mobility, accessibility and urban design in the Springfield area. The revitalization areas of Annandale and Bailey's Crossroads also currently have studies ongoing. Plan amendments are expected no earlier than May 2010. The studies are evaluating improvements to pedestrian orientation in these areas and linkages to the surrounding neighborhoods. In addition to discrete projects and studies, a Plan amendment was adopted in March 2007 that incorporated transit-oriented development (TOD) guidelines in the Policy Plan. Further information on planning-related and supporting actions can be found in item EIP11-GL07-06(B), pedestrian-oriented neighborhood commerce.

Several approved rezoning applications also support the objective of focusing growth in TOD and employment centers. In the Merrifield Suburban Center, the Board of Supervisors approved two rezoning applications related to this objective. The first application, RZ 2005-PR-039 (approved in December 2004), rezoned the property within the Dunn Loring Metro Center and added 550-720 units of residential development potential. The second application, RZ 2007-PR-001 (approved in October 2007), requested redevelopment of industrial property for mixed use to include both residential and non-residential uses. Finally, the Board of Supervisors approved (in October 2007) rezoning application RZ 2005-PR-041 in the Merrifield Town Center; the proposed development would add 500-900 dwelling units.

Other examples of transit-related rezoning are pending or have been adopted in other areas of the County as well. A mixed use rezoning proposal approved in Tysons Corner Center in January 2007 added the potential for 950-1,385 dwelling units. In October 2008, the Board also approved in the Tysons area RZ 2008-PR-011, which includes an additional office building of approximately 160,000 square feet, near one of the four proposed Metrorail stations. 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 Board also approved a rezoning application (RZ 2007-MA-017) in Annandale, along Little River Turnpike, that would allow for a maximum of 305,000 square feet to include a mix of residential, office, retail and other commercial uses, with an intensity up to 2.04 FAR. Finally, the Board of Supervisors approved the Springfield Town Center rezoning proposal (RZ 2007-LE-007) in July 2009. The redevelopment will expand upon the existing Springfield Mall and create a mixed-use town center near the Joe Alexander Transportation Center. This rezoning will allow for approximately 2,200 multi-family units and approximately 2 million square feet of office and additional ground-floor retail uses at the base level.

The Wiehle Avenue Joint Development project was re-issued in January 2008 after the County failed to obtain a negotiated agreement with the selected developer. Four proposals were received and evaluated and one proposal was eliminated from further consideration. In January 2009, the County entered into negotiations with three developers to secure a 'market based' ground lease for the property; one developer met the conditions imposed by the County and negotiations on a development agreement concluded in mid-April 2009. The selected developer will construct an underground garage, housing the Metrorail landside facilities. The landside facility generally refers to the facilities outside of the station, which include 2,300 underground parking spaces, 12 bus bays, a 46-space kiss and ride lot, and 150 bicycle storage racks. The developer will also develop the County's site with 800,000 sf of commercial and retail space and 235 residential units. The Board of Supervisors held a public hearing on this project in June 2009 and approved a ground lease and development agreement for the project. It is anticipated that all rezoning approvals will be completed by mid-2010 and that the rail facilities and approximately 1/3 of the private development will be in place as the Metrorail extension opens to the public in November 2013.

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. Follow-up studies to these ULI studies are underway. The consultant services of the Springfield Connectivity Study were funded by the Department of Defense Office of Economic Adjustment (OEA), as part of a larger grant. The original grant included approximately $1,550,000, which

was also used to address the greater BRAC impact of land use in Fairfax County. The grant was reauthorized this year for approximately $3,600,000 to support a number of efforts including the Springfield Connectivity and BRAC studies. The appropriations are to be determined. The Bailey's and Annandale studies will cost approximately $380,000 and $280,000, respectively. The Tysons Corner study will be funded in totality in the amount of around $2 million for consultant services over a multiyear period. These cost estimates do not include the significant level of staff resources from DPZ and other agencies needed for study preparation and support.

EIP11-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 Stabilization 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. The consideration of a Zoning Ordinance Amendment is on the Priority 1 list of the 2009 Zoning Ordinance Amendment Work Program, although there is not yet an anticipated date for authorization of public hearings.

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.

EIP11-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 EIP11-GL07-03.

Environmental Agenda Objectives Supported:

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

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

Comprehensive Plan
Cool Counties Climate Change Initiative

Lead Agencies:

DPZ and DOT

Status/Plans/Outcomes

In January 2005, the initial consultant contract was executed to conduct transportation and urban design analyses. In May 2005, the Board established a Task Force to guide this study, recommend Plan language and provide extensive stakeholder and community outreach. During the next year, the Task Force conducted a series of 20 Initial Community Dialogues and used this input to formulate and adopt its Guiding Planning Principles. In May 2006, the Task Force identified the need for additional consultant services from an urban planning team experienced in redevelopment of substantial land areas for transit-oriented uses. In June 2006 the Board of Supervisors directed the County Executive to identify funds needed for the additional consultant services. In September 2006 the Board approved the use of funds from FY07 carryover.

In October 2006 the Task Force selected a consulting team headed by PB PlaceMaking. In March 2007 the Task Force sponsored a series of six public workshops to solicit public input on the growth scenarios being formulated for analyses by the consulting team. Another series of public meetings was held in July 2007; these meetings focused on the reporting of the results of the consultants' initial testing and analyses. At these meetings, public input was solicited; this input was used by the consultants to develop proposed advanced alternatives. After workshops with the consultants in November 2007, the Task Force approved two Prototypes for analyses by the consulting team. The results of these analyses were presented at three public workshops in February 2008. Input from these workshops was used by the consultants to develop a "Straw Man" alternative in April 2008.

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

In May 2008 the Task Force developed a Preferred Alternative which formed the basis of the report, Transforming Tysons: Vision and Area Wide Recommendations. The Task Force's outreach consultant, The Perspectives Group, summarized this report in a document entitled, Transforming Tysons: Overview of Tysons Land Use Task Force Recommendations. The Preferred Alternative was also used by George Mason University's Center for Regional Analysis to forecast likely market absorption of residential and nonresidential space at Tysons by 2050. The Task Force presented the Vision and Recommendations document, the Overview document, and the GMU Forecast to the Board of Supervisors on September 22, 2008. The Board accepted these documents and instructed the Task Force's Draft Review Committee to work with the Planning Commission and County staff to develop detailed Comprehensive Plan text. The Board also instructed staff to conduct an economic/fiscal analysis comparing the impacts of growth at Tysons under the GMU High Forecast versus the current Comprehensive Plan.

In the fall of 2008, the GMU Forecast was used in analyses by public facility providers and by the County's transportation consultant, Cambridge Systematics. The findings of the public facility analysis, along with the Task Force's Vision and Recommendations, were incorporated by staff into draft "Straw Man" Plan text completed on February 6, 2009 and entitled, Transforming Tysons: Tysons Corner Urban Center Areawide and District Recommendations.

In October 2008, the Planning Commission established a five-member Tysons Corner Committee to work with staff and the Task Force's Draft Review Committee on revising the Straw Man Plan text. The PC Tysons Corner Committee conducted a series of public meetings in November and December, 2008, to familiarize themselves with the concerns of the Task Force, landowners at Tysons and residents of surrounding communities. In January 2009 the Committee heard presentations from the public facility providers on their analyses of the GMU Forecast. In February 2009 the Committee heard presentations from FCDOT staff on the transportation analysis and related issues.

Also in February 2009, the Task Force's Draft Review Committee began working with staff to provide comments on the draft Plan text. In March and April 2009, the PC Committee heard from the Draft Review Committee and staff on such issues as Green Buildings, Workforce and Affordable Housing, Stormwater Management and Parks and Open Space.

In March 2009, the PC Tysons Corner Committee directed staff to develop criteria for accepting and evaluating one or more demonstration redevelopment projects located at the future Metrorail station entrances in Tysons, in order to help achieve the following objectives: integrating the construction of buildings adjacent to the stations concurrently with the opening of Metrorail; informing the development of the Comprehensive Plan and Zoning Ordinance Amendments for Tysons; and advancing implementation strategies for consolidation, phasing, urban design, the

grid of streets and other public infrastructure. In July 2009, the Georgelas Group proposal at the Tysons West transit station entrance was accepted as a demonstration project. Work on the demonstration project is on-going. Also in March 2009, the County retained MuniCap, Inc. to conduct an economic/fiscal analysis, as directed by the Board of Supervisors. This analysis is ongoing, as are Board-directed analyses of transportation impacts on surrounding communities.

In addition to the above, Fairfax County Department of Transportation (FCDOT) is working on additional projects to further the vision of Tysons Corner as an urban environment that is conducive to the maximization of transit and non-motorized means of travel. For example, included in these projects are the establishment of urban street design standards that accommodate all modes of transportation; an efficient circulator system to maximize the use of transit within Tysons; parking and transportation demand management (TDM) provisions that support the reduction of vehicular trips; and the phasing of transportation improvements with development to create a balance between land use and transportation. Most of these projects are expected to be completed by the end of 2009 with several extending into 2010.

Resources

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

In September 2006 the Board approved an additional $1.2 million for substantial additional planning and urban design consulting services, as requested by the Task Force. In September 2007, staff requested approximately $100,000 in carryover funds for the analysis of Prototypes.

In January 2008, staff requested approximately $30,000 for visualization services by PB PlaceMaking, in support of the February 2008 workshops. In March 2008, staff requested $20,000 for PB's consulting services in connection with development of the Task Force's preferred alternative.

In 2008 staff requested a total of $76,432 for community outreach and facilitation services for Task Force activities including the February 2008 workshops, development of a preferred alternative, and summarizing the Vision and Overview document for presentation to the Board of Supervisors.

In 2009 staff requested $15,000 for the economic/fiscal analysis requested by the Board of Supervisors.

Due to the length of time the Task Force has been meeting and the number of scenarios analyzed, additional resources have been directed toward transportation consulting services. The new state requirements (Chapter 527) that now require VDOT to review Plan Amendments of this magnitude will also require additional resources. In addition the Board requested that a

supplemental neighborhood impact study be conducted to assess the impact outside of Tysons Corner of the proposed Plan changes for Tysons. The Board has funded this along with other transportation projects from the new transportation funds. In addition, the Tysons Transportation Fund is being used to fund a number of efforts in Tysons Corner, including preliminary engineering of the proposed Tysons Corner grid of streets and a feasibility study of the proposed circulator system. Funds dedicated to these efforts total approximately $5.45 million.

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

The costs of the additional projects that FCDOT is conducting and plan to conduct in future range from $20,000 to $2,500,000 per project. Funding for these projects is provided through Board action and originates from the Tysons Transportation Fund, the Fairfax County general fund, and the Commercial and Industrial Real Estate Transportation Tax.

EIP11-GL07-06(B). Pedestrian-Oriented Neighborhood Commerce: Plan Implementation

Description of Action

In the past few years, there has been an increase in proposed high density residential developments that integrate pedestrian oriented neighborhood commerce. Examples include, but are not limited to, the approved redevelopment of the Fairlee neighborhood adjacent to the Vienna Metro station in December 2004 and an approval of a Plan Amendment for residential and office mixed use with pedestrian-oriented retail use in the Fairfax Center Area in February 2006. The recently adopted Plan amendment and related approved rezoning application for the Springfield Mall area (PA S06-IV-01; RZ 2007-LE-007) also emphasizes the need for pedestrian-oriented design and ground-floor retail in the mixture of uses on the property.

Comprehensive Plan policy supports the integration of neighborhood-serving commercial uses within residential areas, and both a Zoning Ordinance amendment (see EIP11-GL07-02) and Area Plan amendments (see EIP11-GL07-03(B)) 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 EIP11-GL07-03. No additional resources are needed.

EIP11-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 past 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, for the last several years, the county has included in its Legislative Programs a position statement supporting APF legislation.

As in past years, the 2009 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.

EIP11-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 associated with Fort Belvoir, other development projects at Fort Belvoir, development projects at Washington Dulles International Airport (including new runways), development projects at George Mason University, changes to airspace design in the Washington, D.C. metropolitan area, the proposed Metrorail extension to and beyond Dulles Airport, and major highway projects such as the Manassas Battlefield Bypass and the Tri-County Connector. County staff reviews and comments on most NEPA and EIR documents that it receives and conducts follow-up actions as appropriate.

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

Resources

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

EIP11-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 EIP11-GL07-04, which focuses on tree preservation and open space considerations associated with the Infill and Residential Development Study, and EIP11-GL07-02, which focuses on the addition of two specific uses in the PRM District.

Environmental Agenda Objectives Supported:

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

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

Comprehensive Plan
Cool Counties Climate Stabilization Initiative

Lead Agency:

DPZ

Status/Plans/Outcomes

The 2009 Zoning Ordinance Amendment Work Program identifies, as a Priority 1 item, the consideration of increases to maximum allowable floor area ratios the PDC and PRM Districts. The maximum allowable densities in the PDC and PRM Districts can currently support the existing Plan recommendations throughout the County. However, it is anticipated that the Plan may be revised in the future to reflect higher densities than those currently allowed by the Zoning Ordinance, particularly in the Tysons Corner area and in transit areas. Zoning Administration staff is coordinating with Planning Division staff on the Tysons Corner Transportation and Urban Design Study (EIP11-GL07-05(B)), and it is likely that a Plan amendment for the Tysons Corner area that would allow higher floor area ratios than currently allowed by the Zoning Ordinance will be considered. It is anticipated that Zoning Ordinance amendments will occur concurrently with the Plan amendment, or shortly thereafter, that will result in a new planned development district that would accommodate the higher Plan densities.

Resources

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

EIP11-GL07-10(B). Maintaining Neighborhood Character Zoning Ordinance Amendment[1]

Description of Actions
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.

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 the maintenance of neighborhood character is on the Priority 1 list of the 2009 Zoning Ordinance Amendment Work Program.

Currently staff is working on an amendment that would address neighborhood character issues by revising the residential building height requirement to require that grade be taken from the pre-development grade or post-development grade, whichever is lower. The amendment was recommended for approval by the Planning Commission and has been scheduled for a Board of Supervisors public hearing on September 14, 2009. In addition, the Board has requested staff to continue reviewing other methodologies to address the protection of neighborhood character, and staff is coordinating with a work group to further explore ways of addressing impacts associated with large new residences looming over smaller existing residences. A series of work group meetings concluded on July 28, and staff will be reporting to the Board's Development Process Committee on September 21. It is anticipated that subsequent amendments addressing residential compatibility (e.g., "looming;" neighborhood character) may follow, which may include the imposition of a lot coverage requirement.

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.

[1] Formerly titled "Residential Compatibility Zoning Ordinance Amendment"

EIP11-GL08-01(B). Review Zoning Ordinance Parking Requirements in Transit-Oriented Developments

Description of Action

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

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

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

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

Fairfax County has adopted a number of policies and established numerous programs that encourage and support Transportation Demand Management (TDM). These efforts include the objectives identified in the County's Policy Plan, the implementation of these objectives through the existing development process and the provision of direct TDM services. The overall purpose of TDMs in the development process is to reduce vehicle trips by using TDM techniques. In order to better integrate the use of TDMs into the land use and development processes, the County has acquired the services of a consultant that has skills and experience in this area. A Project Steering Committee, consisting of County staff, Planning Commissioners and Board of Supervisors members, has been established for the project to provide oversight, review and comment on the study. Completion of the study by the consultant has been delayed due to some difficulties in obtaining the necessary data. It is anticipated that the study should be competed in

the near future and that any necessary amendments to the Plan and/or Zoning Ordinance will subsequently follow.

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 Stabilization Initiative

Lead Agencies:

DOT and DPZ

Status/Plans/Outcomes

The 2009 Zoning Ordinance Amendment Work Program identifies, as a Priority 1 item, the consideration of a reduction in the minimum parking requirements in transit-oriented areas and/or transportation demand management provisions; and to consider a reduction of the minimum parking requirements for affordable dwelling units and/or workforce housing units in TOD areas. Specific proposals are pending completion of the aforementioned consultant study of transportation demand management measures.

Resources

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

EIP11-GL08-02(B). Development of the Integrated Parcel Lifecycle System (IPLS)

Description of Action

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

Environmental Agenda Objectives Supported:

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

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

Comprehensive Plan

Lead Agency:

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

Status/Plans/Outcomes

This effort has been funded to develop a data warehouse of parcel data and create tools for demographic analysis. Phase I, development of the data warehouse structure and loading modules, has been completed. Work has been completed on Phase II, which incorporates Comprehensive Plan information and creates demographic estimates and forecasts and provides some demographic reporting tools. The IPLS data warehouse is now available to all county staff using GIS tools or Oracle tools. An initial training and introductory session was conducted in May 2008. The third phase of work on IPLS has begun. Two of the existing reporting tools have been expanded to allow users to run the reports by custom geographies – the housing market value report and the demographic estimates and forecasts report. In addition, a module has been completed that generates an existing land use layer and provides two reporting tools that create summary reports from that layer. Also complete are the reporting tools for zoning information. Development is currently underway to develop tools to summarize planned land use.

A module summarizing the nonresidential development pipeline may not be completed as part of Phase 3. Technical resources are in place to build this module but no resources have been

identified in the Department of Planning and Zoning to write the business rules for this work process. Funding not spent during the initial two phases has been transferred to the Public Access Technologies (PAT) branch of the Department of Information Technology. Using this remaining funding, the PAT branch has been tasked with identifying an enterprise solution for meeting the additional analysis and reporting needs of IPLS.

Resources

The Integrated Parcel Lifecycle System data warehouse structure and demographic analyses modules have been funded and the planned database development is essentially complete. The PAT branch has been provided initial funding and has been charged with identifying an enterprise solution for the additional reporting and analysis needs of IPLS. Ancillary actions, such as the updating of the county's planimetric data layer (see EIP11-GL08-05), are not part of this project and will require additional resources.

EIP11-GL08-03(A). Plan Amendment to Strengthen Air Quality Guidance and to Incorporate Support for Green Building Concepts

Description of Action

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

Environmental Agenda Objectives Supported:

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

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

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

Lead Agency:

DPZ

Status/Plans/Outcomes

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

In addition to adopting the Plan Amendment, the Board requested that staff, in coordination with the Planning Commission's Environment Committee, continue to evaluate green building incentive options. The review of green building incentives is discussed in EIP11-GL09-01(B).

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

Resources

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

EIP11-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 cost-shared with the state to increase the imagery resolution to one-half foot. The higher resolution will increase the positional accuracy of features captured from the aerial imagery as well as make more detail available to users of the 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 have been added to assist in environmental and transportation needs include:

- Driveways
- Sidewalks
- Pools
- Patios
- Decks
- Sheds
- Tennis & basketball courts
- 2-foot Contours (currently have 5-foot Contours)
- Bus-stop pads
- Building elevations.
- Multi-level parking garages

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 (but using the same imagery set for all 4 quarters). 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 for two years. The first quadrant (SE) update is underway with aerial imagery flown in March 2007. The second quadrant should start in the Fall of 2009. Note that there are funds for the first two quadrants but that full funding for the third and fourth quadrants remains uncertain.

To keep costs down, project vendors have relied in large part on offshore work, including work performed by companies in China. This has resulted in cost savings from what was initially estimated to be required for this effort. With respect to the SE quadrant, however, the offshore work has raised security issues with the Department of Defense relating to Ft. Belvoir data being prepared in China; as a result, a more costly on-shore approach is being pursued for Fort Belvoir, and cost savings are therefore not as great as they otherwise would have been.

The SE Quadrant raised security issues with the Department of Defense due to security concerns about Ft. Belvoir data being prepared in China. Statements of work were developed for both the data capture and quality control components of the update. A quality control contractor has also been selected and is reviewing the data deliveries.

There may be sufficient funds for the third quadrant, depending on the bids that will come in; however, an additional $380,000 is needed to cover the cost of the fourth quadrant. While there may be sufficient funds from cost savings in the first two quadrants to cover the current shortfall for the

third quadrant, this is not certain, and therefore the updates of both the third and fourth quadrants may be delayed absent additional funding. An additional $80,000 may be needed for the third quadrant.

Resources

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

The second option, to pursue a recurring, cyclical process through which planimetric data for one-fourth of the county would be updated each year, was funded. Under this four-year revolving cycle approach, an average of $322,000 would be needed each year to update the existing planimetric data for 1/4 of the county; an additional $82,000 per year would be needed for the additional data layers. The additional costs are from additional administrative and set up activities. Quality control was estimated to add an additional 17% to the cost. Actual costs for the SE quadrant came in under the projected cost. Total project cost for the first quadrant is $471,000, including quality control. This includes 25% of the amount of the cost share with the state for the six inch resolution imagery. This quadrant has the highest cost of the four due to the security restrictions. Subsequent quadrants will be less. As noted above, in view of budget cuts in FY 2010, there may or may not be sufficient funds to complete the third quadrant in FY 2010, and funding of the final quadrant is in doubt.
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EIP11-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
Tree Conservation Ordinance

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

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 2012.

Funding has been identified to acquire updated satellite imagery in the spring of 2010, and to contract-out the spectral analysis component of the mapping project. Once the new imagery is analyzed, staff will update the NVCS dataset to reflect conditions found at the time of image acquisition. Although the inventory and classification of vegetation communities is prerequisite to managing the County's forest resources and will support other natural resource management initiatives (see EIP11-PT08-03(B), Park Information Systems), Urban Forest Management has had to delay this project in order to refocus staff resources on the development of proposed tree conservation ordinance amendments, which were adopted by the Board of Supervisors in October 2008 (see EIP11-GL08-10(A)).

Resources

Funding has been dedicated for the current mapping effort and for obtaining and processing updated satellite imagery (Spring 2010).

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

EIP11-GL08-10(A). Tree Preservation Legislation and Tree Conservation Ordinance

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, until recently, sections of the Code of Virginia that provide authority to preserve trees and forests during land development have either been ineffective or limited in application. This action relates to a continuing, and now successful, 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 Stabilization Initiative
Fairfax County Tree Action Plan
Tree Conservation Ordinance

Lead Agency:

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

Status/Plans/Outcomes

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

The enabling authority stems from two bills (House Bill 1437 and Senate Bill 710) that were passed by the 2008 Virginia Legislative Assembly. The language of these bills was developed by a committee that was formed as a result of a conference sponsored by the Northern Virginia Urban Forest Roundtable. The committee included Virginia State Senator Patricia Ticer and Virginia State Delegate David Bulova plus representatives of the Northern Virginia Building Industry Association, the Fairfax County Tree Commission, the Virginia Department of Forestry Board, and the Fairfax County Urban Forest Management Division.

As a result of House Bill 1437 and Senate Bill 710 being passed by the Virginia Legislative Assembly and signed into law by the Governor of Virginia on March 4, 2008, staff received a directive from the Board at the March 10, 2008, Board meeting to prepare a tree conservation ordinance in accordance with House Bill HB 1437. Fairfax County's Tree Conservation Ordinance was adopted by the Board of Supervisors in October 2008 and became effective January 1, 2009. Fairfax County was the first jurisdiction to implement a local tree conservation ordinance based on this new enabling authority. The Tree Conservation Ordinance received a 2009 Achievement Award (Best in Category) from the National Association of Counties.

Resources

This action has been completed; no additional resources are needed.

EIP11-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 Stabilization Initiative
Fairfax County Tree Action Plan
Tree Conservation Ordinance

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 work shop was attended by over 50 people including officials from Virginia Forestry Board and speakers from the Virginia State Senate and House of Delegates. Participation in the NVUFR is critical for the success of the county's tree conservation legislative efforts and regional efforts to embed a credited urban forestry ozone mitigation measure in the 2009 Metropolitan Washington Air Quality Plan.

In late 2007, NVUFR held a conference that lead to the formation of an ad-hoc group that included Virginia State Senator Patricia Ticer and Virginia State Delegate David Bulova plus representatives of the Northern Virginia Building Industry Association, the Fairfax County Tree Commission, the Virginia Department of Forestry Board, and the Fairfax County Urban Forest Management Division. The work of that NVUFR sponsored committee lead to the writing of House Bill 1437 and Senate Bill 710 which were tree conservation bills. Both bills were passed by the 2008 Virginia Legislative Assembly and signed into law (§ 15.2-961.1) by the Governor of Virginia on March 4, 2008 (see EIP11-GL08-10(A), Tree Preservation Legislation). This new authority represents the first broad-based authority for localities to require tree conservation during land development. Staff will continue to participate in NVUFR on forest and tree related issues of regional concern.

NVVFR continued to host regional conferences in 2009 and in the fall of 2009 is scheduled to commence an annual conference entitled "Community Forests Provides Community Benefits."

Resources

No additional resources are needed to support this action.

EIP11-GL08-12(B). Consider Amending Article 13 of the Zoning Ordinance (Landscaping and Screening)

Description of Action

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

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

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

Environmental Agenda Objectives Supported:

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

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

Comprehensive Plan
Fairfax County Tree Action Plan
Tree Conservation Ordinance

Lead Agency:

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

Status/Plans/Outcomes

As part of a broader set of amendments associated with the new Tree Conservation Ordinance (Chapter 122 of the Fairfax County Code, see EIP11-GL08-10(A)) that were adopted in October 2008 and that became effective in January 2009, the Zoning Ordinance transitional screening

requirements were revised to ensure a better chance of survival of the landscaping materials and the landscaping maintenance requirement for landscaping was also clarified.

A Priority 2 item on the 2009 Zoning Ordinance Amendment Work Program recommends a comprehensive review of landscaping and screening provisions to include the following:

- Appropriateness of modification provisions.
- Address issue of requirements where property abuts open space, parkland, including major trails such as the W&OD trail) and public schools.
- Increase the parking lot landscaping requirements.
- Include tree preservation and planting requirements.
- Consider requiring the use of native trees and shrubs to meet the landscaping requirements for developments along Richmond Highway.

Priority 2 items will not be worked on this year, but will be maintained on the list for future prioritization.

Resources

N/A.

EIP11-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 (CFDS) of the Metropolitan Washington 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 planning and funding purposes. County staff provides population, household and employment forecasts for Fairfax County. These data are updated regularly. In 2008, a forecast was provided for COG Round 7.2, from year 2005 to 2040.
- 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. Each COG Round forecast prepared by CFDS is reviewed by this committee and recommended to MDPC for approval. Projects undertaken by the Technical Advisory Committee (such as the publication of "Metropolitan Washington Regional Activity Centers: A Tool for Linking Land Use and Transportation Planning") enhance the coordination between regional land use and transportation planning in Metropolitan Washington.
- Participation on the Joint Technical Working Group that undertook the Regional Mobility and Accessibility Study. This study evaluated alternative regional land use and transportation scenarios to determine the extent to which these scenarios would be consistent with a vision statement adopted by the National Capital Region Transportation Planning Board in 1998 that calls for an efficient, accessible, environmentally sensitive and financially feasible transportation system in the 21st century. The technical report was released in November 2006. The follow-up study, entitled *Greater Washington 2050* will examine many implications of growth within the region. DPZ staff worked with COG staff in 2008 in an effort to expand the Regional Mobility and Accessibility Study; DPZ staff also provided data for the development of the CLRP Aspiration Scenario.
- Participation in efforts to determine next steps for the regional "Reality Check," which has resulted in the new initiative called "Greater Washington 2050". This initiative focuses on achieving greater collaboration and improving communication among existing organizations and stakeholders to advance consensus goals for the region.

Participation on the Metropolitan Washington Air Quality Committee is addressed by EIP11-AQ07-14(B). County staff also participates actively in a variety of other regional committees addressing a variety of environmental and transportation issues.

Environmental Agenda Objectives Supported:

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

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

Comprehensive Plan
Cool Counties Climate Change Initiative

Lead Agencies:

DPZ; DOT

Status/Plans/Outcomes

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

Resources

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

EIP11-GL09-01(B). Consideration of Green Building Incentives for Private Sector Development

Description of Action

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

Fairfax County has adopted a Sustainable Development Policy for Capital Projects that supports incorporation of green building practices into the county's public facilities projects (see ES09-07(retired)) and has amended the Comprehensive Plan to incorporate support for green building practices into County policy (see EIP11-GL08-03(A)). The County has also joined the U.S. Green Building Council and has accepted the U.S. Environmental Protection Agency's ENERGY STAR® Challenge, through which the County will promote energy efficiency in buildings (see EIP11-ES09-06(B)).

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

Staff met several times with the Planning Commission's Environment Committee during the first half of 2008 to discuss green building incentive options and considerations. On June 9, 2008, staff presented an overview of such options and considerations to the Board of Supervisors' Environmental Committee and identified as a possible approach the development of enabling legislation to support tax credits for costs of green building practices in combination with establishment of a requirement for contributions to a green fund for development projects that do not pursue a requisite level of green building performance. Because of concerns about the likely failure of legislation proposing authority for a green fund contribution requirement, and because of concerns regarding the timing of a request for a Constitutional Amendment that would set the stage for enabling authority for a tax credit (i.e., requesting such authority during a severe recession), these legislative ideas were not pursued by the County. However, legislation was introduced by a State Senator during the 2009 General Assembly session proposing a

Constitutional Amendment that would enable the General Assembly to allow localities to exempt or partially exempt properties from taxation where such properties were "constructed or designed to conserve energy and natural resources in a manner that meets or exceeds performance standards or guidelines established for such purposes." This bill was passed by both the Senate and House of Delegates. For the Constitution to be amended, the proposed amendment must again be passed by the Senate and House of Delegates after the next general election (which will occur in November 2009) and then be supported by a majority of voters.

If the aforementioned Constitutional Amendment is enacted and the General Assembly follows with enabling legislation, the tax incentive idea should be considered further.

It is also noted that the Board of Supervisors is on record in support of state tax credits for energy efficiency, which could be adopted by the General Assembly without the need for a Constitutional Amendment (and therefore no second passage or referendum would be needed). The Board sent letters to the Governor's Commission on Climate Change and the Virginia Commission on Energy and Environment encouraging their support in particular of state tax incentives for homeowners who install solar panels.

While tax incentives are not currently being pursued, other incentives are being implemented or considered. Both residential and nonresidential development projects that will be designed to attain certain thresholds of green building design are now eligible for shorter waiting times during the site plan and building plan review processes. In addition, permitting fees are waived for the installation of solar energy equipment. Green building incentives are also being considered in the development of Comprehensive Plan guidance for Tysons Corner.

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 Stabilization Initiative

Lead Agency:

DPWES

Status/Plans/Outcomes

It is anticipated that discussions of possible green building incentives will continue as revised Comprehensive Plan guidance is developed for Tysons Corner. Tax incentives could be considered further pending further legislative action.

Resources

Resource implications are dependent on the specific green building incentive concepts that would be considered. If a green building tax incentive is to be considered, there would be impacts to county revenues that would need to be considered in the decision-making process. The consideration of such an incentive cannot occur until further legislative action is taken.

While it is not clear at this time what form a Tysons Corner-specific green building incentive may take (as discussions regarding Comprehensive Plan guidance continue), it is not anticipated that a density-based incentive would have adverse fiscal impacts, although implications of additional density to transportation, schools and infrastructure may be a factor as this concept is considered further.

EIP11-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.

EIP11-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
Tree Conservation Ordinance

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 has been retained on the Priority 2 list in conjunction with the Board's adoption of the 2009 Zoning Ordinance Amendment Work Program. It is anticipated that no action will take place on this item this year and it will remain on the list for future prioritization.

Resources

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

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

Description of Action

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

Environmental Agenda Objectives Supported:

Growth and Land Use 8
Air Quality and Transportation 7

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

Comprehensive Plan
Fairfax County Tree Action Plan
Fairfax County 30-year Tree Cover Goal
Cool Counties Climate Stabilization 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.

EIP11-GL09-05(C). Development of a County Green Building Program Through the Establishment of a Green Building Coordinator Position

Description of Action

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

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

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

Fairfax County has adopted a Sustainable Development Policy for Capital Projects that supports incorporation of green building practices into the county's public facilities projects (see ES09-07(retired)) and has amended the Comprehensive Plan to incorporate support for green building practices into County policy (see EIP11-GL08-03(A)). The County has also joined the U.S. Green Building Council and has accepted the U.S. Environmental Protection Agency's ENERGY STAR® Challenge, through which the County will promote energy efficiency in buildings (see EIP11-ES09-06(B)). Further, the Department of Public Works and Environmental Services, Land Development Services (LDS) has strengthened its green building review capacity—LDS staff provides assistance with green building practices to people who inquire about such practices, provides internal training to plan reviewers and inspectors on green building practices, continues to improve compliance with energy code requirements through training and improved resources, and participates in local, regional and national energy initiatives.

LDS plans to use a contractor to apply funds from the Energy Efficiency and Conservation Block Grant Program (American Reinvestment and Recovery Act of 2009) to provide energy efficiency educational and outreach efforts aimed at county homeowners. However, this funding will not be recurring.

The County currently lacks a comprehensive green building program that can proactively and energetically promote the application of green building practices. In order to build capacity in this area, the establishment of a Green Building Coordinator position is recommended. This position would support the MWCOG resolution to provide public education and staff training. In addition, this position would oversee the public and private sector green programs that are implemented in various agencies to provide a coordinated effort countywide.

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

(1) Proactively promote the incorporation of energy efficiency and other green building practices into home renovation and addition projects and be a highly visible liaison to county residents who may be interested in pursuing green building practices; the Coordinator would not duplicate LDS efforts in assisting homeowners in addressing Code issues associated with green building practices but would provide assistance to homeowners in identifying resources and would more actively promote such efforts beyond the current energy code.
(2) Much in the same manner, serve as a liaison to county businesses and developers who may be interested in incorporating energy efficiency and other green building practices into their operations and/or development projects.
(3) Develop or compile available green building resource guidance for use by interested homeowners and businesses and publicize the availability of this guidance. The Coordinator would not duplicate homeowner education and outreach efforts that are under way but would build upon and continue these efforts; it is noted that these efforts are limited to what will be pursued with funding by one-time Federal grant monies.
(4) Consider the concept of development of a green building fund (to support green building efforts in the county) and develop recommendations as to whether or not such a concept should be pursued.
(5) Serve as the County's representative on the Metropolitan Washington Council of Governments' Intergovernmental Green Building Committee.
(6) Serve on the County's Environmental Coordinating Committee, Energy Efficiency and Conservation Coordinating Committee, EIP Action Group, and core team supporting the County's Cool Counties Climate Stabilization Initiative and the Metropolitan Washington Council of Governments' Global Climate Change efforts.
(7) Coordinate efforts with the Fairfax County Environmental Coordinator and Air Quality Program Manager to ensure seamless government.
(8) Coordinate an interagency green building subcommittee of the Environmental Coordinating Committee that would develop recommendations for strengthening green building efforts in Fairfax County. Staff from the Department of Planning and Zoning, Department of Public Works and Environmental Services (Land Development Services, Capital Facilities, and Stormwater), Fairfax County Park Authority, Fairfax County Public Schools, and Facilities Management Department, as well as the Fairfax County Environmental Coordinator and other agencies as needed, would serve on this subcommittee. The subcommittee would prepare recommendations for consideration by the Board regarding staffing, resources, and training needed to strengthen public and

private sector-related green building efforts in Fairfax County as well as policy, regulatory and legislative considerations.

(9) Report directly to a Deputy County Executive.

(10) Provide staff training as may be determined to be needed through the aforementioned interagency coordination effort.

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 Stabilization Initiative
Fairfax County Sustainable Development Policy for Capital Projects

Lead Agency:

County Executive's Office

Status/Plans/Outcomes

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

Resources

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

EIP11-AQ07-01(A). EZ Bus Program

Description of Action

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

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

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

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.

The parking garage is open. The EZ Bus service is no longer needed, having served its purpose.

Environmental Agenda Objectives Supported:

Growth and Land Use 3
Air Quality and Transportation 1

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
Cool Counties Climate Stabilization Initiative

Lead Agency:

Fairfax County Department of Transportation

Status/Plans/Outcomes

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

Construction of Burke Centre VRE Station Parking Garage began in the Fall 2006, and the garage opened in June 2008. The EZ Bus service was discontinued in early 2009, having served its purpose.

Resources

The EZ Bus service was operated by the Fairfax Connector, and therefore, was 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 were $798,740.00.

EIP11-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 Employer Outreach Program will receive $196,530 in funds from Virginia Department of Transportation 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, which 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. The program also supports the VaMega Projects Outreach programs.

Environmental Agenda Objectives Supported:

Growth and Land Use 7
Air Quality and Transportation 1 and 2

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
Cool Counties Climate Stabilization Initiative

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 $196,530 from the Virginia Department of Transportation and supported by FCDOT Staff.

EIP11-AQ07-03(B). Ridesources Program

Description of Action

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

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

Environmental Agenda Objectives supported:

Growth and Land Use 7
Air Quality and Transportation 1 and 2

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.
Cool Counties Climate Stabilization Initiative

Lead Agency:

Department of Transportation

Status/Plans/Outcomes

The RIDESOURCES Marketing and Ridesharing Program continues to market ridesharing and transit marketing activities. In addition to promotion of specific marketing campaigns the program provides free ridematching services to County residents and to employees who work at employment sites within the County. No additional funding for DOT Staff was requested in the FY 2010 grant application.

Resources

This program is supported with an annual VDRPT grant, which has risen to $560,000 for the last two years, and $140,000 in local matching funds. The grant application for FY10 requested funding to support existing positions of two Transportation Planners III, one Transportation Planner II, one Graphics Artist III, two Administrative Assistants II and one Planning Technician.

EIP11-AQ07-04(B). Transportation Benefits

Description of Action

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

The Transportation Benefits Program works just like many other commonly available fringe benefits such as employer-provided health insurance. Employees are not taxed for the value of the Transportation Benefits they receive, and employers can deduct the cost of providing the program as a business expense. The monthly Transportation Benefits can be any amount the employer chooses to provide, although a maximum of $230 per month is allowable tax-free or pre-tax to employees.

Environmental Agenda Objectives Supported:

Growth and Land Use 7
Air Quality and Transportation 1

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.
Cool Counties Climate Stabilization Initiative

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 $120 per month. The program is funded from the Department of Transportation Annual Budget.

Resources

Annual Costs: The program is funded by DOT up to $300,000.00 annually. The program is supported by DOT Staff.

EIP11-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:

Growth & Land Use 7
Air Quality & Transportation 1

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 2009 the Board of Supervisors has approved:

- 78 traffic residential road calming plans
- 141 projects were initiated for a traffic calming study
- 2 road for $200 Fine for Speeding
- 142 intersections for Multi-way Stop Signs
- 31 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.

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

Description of Action

The Bus Stop Safety and Inventory Study Plan identified 344 priority bus stops that require safety improvements, accessibility improvements, and amenities. The plan includes enhanced ADA accessibility improvements and bus stop amenities including bus stop shelters. Ultimately, improved accessibility and bus stop improvements will increase transit ridership reducing roadway congestion, promote improved economic vitality and improve air quality by reducing the use of single occupancy vehicles. There are 169 bus shelters in various phases of the program, between land acquisition, design and construction. Twenty two shelters have been completed.

Environmental Agenda Objectives Supported:

Air Quality & Transportation 1

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
Cool Counties Climate Stabilization Initiative

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. (This funding was reduced in FY09 Third Quarter Review by $650,000.)

Resources

The Priority Bus Stop Improvements has received $1.85 million from the General Fund in FY 2007 funds and $7.5 million from a transportation bond that passed in November 2007. Additional funding from commercial and industrial taxes totaling $2 million ($500,000 per year

over four years) is anticipated in future year annual budgets. Support of DOT staff is anticipated throughout the program.

EIP11-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:

Air Quality & Transportation 1, 3

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
Cool Counties Climate Stabilization Initiative

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 (FHWA)/Federal Transit Administration (FTA) Congestion Mitigation and Air Quality (CMAQ) grant. These funds were used primarily for pedestrian improvements and bus service enhancements such as bus shelters.

Construction of pedestrian and intersection improvements began in the summer of 2006. The continuous planning, acquisition of funds and implementation of the initiative is done by a team of staff from various county agencies and a private transportation consultant. Phase I of the pedestrian and intersection improvements was completed in October 2007. The implementation of improvements identified in Phase II of the project continued in 2009 with a construction completion estimated date of 2011.

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

Resources

The Richmond Highway Public Transportation Initiative is funded by a variety of funding sources. They include, but are not limited to, state funds (such as Virginia Department of Transportation's Revenue Sharing); federal funds (including CMAQ funds, Job Access/Reverse Commute (JARC) funds, FHWA and FTA appropriations); and County Funds (Board of Supervisors' Environmental funding, General Fund support, Commercial and Industrial Property Tax for Transportation, General Obligation Bonds). Since 2002, the project has received over $30 million from a variety of funding sources. 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.

EIP11-AQ07-09(B). Air Quality Outreach

Description of Action

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

Environmental Agenda Objectives Supported:

Air Quality and Transportation 2 and General
Environmental Stewardship (General)

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

Air Quality Management Plan
Cool Counties Climate Stabilization Initiative

Lead Agency:

Office of Public Affairs and Health Department

Status/Plans/Outcomes

The Office of Public Affairs and Health Department partnered with Clean Air Partners again in 2009 to continue a county media sponsorship that was started in 2005. Clean Air Partners, a public-private partnership chartered by the Metropolitan Washington Council of Governments, provides a comprehensive regional media campaign to build awareness of air quality issues and to promote voluntary actions individuals and employers can take to reduce air pollution and to improve health and quality of life in the region. The campaign includes radio and television announcements, brochures, flyers, fact sheets, press releases, Metrorail placards, Metrorail fare card ads and web resources. The Office of Public Affairs and the Health Department have developed additional outreach materials to be used at public gatherings such as the Fairfax Fair and placed in public locations including county buildings, recreation sites and libraries. To ensure a broad audience, articles are distributed through internal County publications and external outreach, including e-mail, Courier, Web sites, cable Channel 16 and homeowners associations. In 2009 the available materials were again offered to county school staff where the response continues to be extremely positive, and to the Fairfax County Public Library Summer Reading Program. Staff will continue to research and to develop new outreach materials and methods of distribution to reach as many residents as possible. A county staff member is on Clean Air Partners' Education Committee. The air quality education curriculum that was recently developed continues to be presented at additional elementary schools in the county and the region. These materials are now available in a shortened version, which can be used in childcare

programs and summer camps. Staff would like to continue the media sponsorship with Clean Air Partners.

Resources

The cost for 2009 actions totaled $25,000, which included $10,000 for the Clean Air Partners media sponsorship and $15,000 for the air quality education and outreach endeavors. Approved funding for FY 2010 is $30,000: $15,000 for Clean Air Partners; and $15,000 for education and outreach. Funding requested is $30,000 per year and comes from the county's Environmental Fund.

EIP11-AQ07-10(B). Dulles Corridor Metrorail

Description of Action

The Dulles Metrorail Extension – Phase I to Wiehle Avenue is expected to become operational in late 2013. The Commonwealth has shifted management of the project to the Metropolitan Washington Airports Authority (MWAA) as an initial step in the transfer of the operation and maintenance of the Dulles Toll road to MWAA. Phase II is expected to be operational in early 2017. On March 12, 2009 construction of Phase I of the Dulles Corridor Metrorail Expansion began.

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

Environmental Agenda Objectives Supported:

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

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

Board of Supervisors Four-Year Transportation Program
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 Region Constrained Long-Range Plan (CLRP)
Cool Counties Climate Stabilization Initiative

Lead Agency:

Department of Transportation

Status/Plans/Outcomes

- Construction began in March 2009 on Phase I of the Dulles Rail project (Extension to Wiehle Avenue)
- Opening year ridership to Wiehle Avenue in late 2013 is projected at 63,000 daily person trips
- The County is continuing to work with Western land owners to secure funding for Phase II.

Resources

- Total Capital Cost is $5.3 billion; Phase I cost is $2.64 billion.
- Non-federal funding for Phase I is in place through Dulles Rail Phase I Special Improvement District (Fairfax County), State, and Dulles Toll Road Revenues.
- Cost allocation for Phase I is 34 percent federal; 66 percent State, Dulles Toll Road, and Fairfax County.
- Metropolitan Washington Airports Authority assumed management of the project in the Spring of 2007
- Board of Supervisors approved funding agreement with MWAA in July 2007

EIP11-AQ07-11(B). Fleet User Forums

Description of Action

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

Environmental Agenda Objectives Supported:

Air Quality and Transportation 6

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

None

Lead Agency:

Department of Vehicle Services

Status/Plans/Outcomes

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

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

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

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

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

Resources

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

Beginning in FY09, funding constraints have limited the opportunities for travel in general and, in particular, for participation in the TMC and NTEA efforts. The DVS representatives in those bodies identified alternative funding in FY09. Alternative funding may not always emerge, and continued budget restrictions jeopardize participation for the next few years. Travel costs are approximately $1,500 for each trip for a total of $3,000.

EIP11-AQ07-13(A). Purchase of Wind Power

Description of Action

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

Environmental Agenda Objectives Supported:

Air Quality and Transportation 4 and General

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

Air Quality Management Plan
Cool Counties Climate Stabilization Initiative

Lead Agency:

Department of Cable Communications and Consumer Protection

Status/Plans/Outcomes

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

Resources

Fairfax County's cost was approximately $130,500 in 2007-2008; $163,250 in 2008-2009; and $261,000 in 2009-2010. FY 2010 funding was available within the Facilities Management Department budget.

EIP11-AQ07-14(B). Participation on the Metropolitan Washington Air Quality Committee (MWAQC)

Description of Action

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

Environmental Agenda Objectives Supported:

Air Quality and Transportation 1, 2, and 4

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

Air Quality Management Plan
Cool Counties Climate Stabilization Initiative

Lead Agency:

Board of Supervisors

Status/Plans/Outcomes

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

Resources

None

EIP11-AQ07-15(B). Evaluation and Purchase of Hybrid Drive Vehicles

Description of Action

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

Environmental Agenda Objectives Supported:

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

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

Air Quality Management Plan
Cool Counties Climate Stabilization Initiative

Lead Agency:

Department of Vehicle Services

Status/Plans/Outcomes

Hybrid drive trains are expected to reduce all regulated emissions and CO_2 significantly due to higher fuel efficiency leading to lower fuel consumption. Plug-in hybrids and electric vehicles enhance that advantage by shifting all or part of the fuel requirement to the electrical grid, which is generally cleaner and more easily regulated than millions of individual tailpipes. As electrical power generation becomes cleaner, the vehicles using the grid power contribute less to harmful emissions.

As DVS and user agencies plan vehicle replacements, they consider commercially available hybrid drive vehicles where practical. The fleet now includes 54 Toyota Priuses, 54 Ford Escape Hybrids, two Ford Fusion Hybrids and one Freightliner M2-106 dry cargo van.

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

DVS placed a medium duty, dry cargo van in service with the Department of Purchasing and Supply Management incorporating a hybrid-electric drive system. At the same time, an otherwise identical, conventional diesel truck went into service for the same mission. The similar employment of these two trucks should afford opportunity for side-by-side comparison of performance and cost effectiveness.

The county and FCPS jointly are a member of the Evaluation Committee (formerly the Buyers' Consortium) of the Hybrid Electric School Bus Project, which is coordinated by Advanced 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. The county did not purchase a bus under that project due to lack of funds. We continue to seek grant funding to make a purchase and to participate fully in the purchase of a more advanced version of the bus in the project's second phase. The purchase of a Phase-1 plug-in hybrid school bus has been accepted for submission as one of the projects in the 2009 Energy Efficiency and Conservation Block Grant application. Department of Energy approval is expected in late 2009.

DVS requested grant funding for the incremental cost of a refuse collection truck with a hybrid-hydraulic "launch assist" system. This hybrid drive system accumulates hydraulic pressure in a cylinder by capturing energy normally lost in braking and uses it to get the truck moving again from a stop. This strategy displaces fuel the diesel engine would have used in one of the diesel's least fuel efficient operating regimes. Purchase of a hydraulic hybrid "launch assist" refuse collection truck has been accepted for submission as one of the projects in the 2009 Energy Efficiency and Conservation Block Grant application. Department of Energy approval is expected in late 2009.

DVS continues to seek grant funding for further exploration of hybrid and electric drive vehicles.

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

Resources

Through FY 2007, the county was able to fund the incremental cost of fleet hybrid drive vehicles through the Vehicle Replacement Fund. Budgets in FY 2008 and subsequent have severely limited our ability to meet the incremental capital cost of production hybrid vehicles. The Ford Escape Hybrid is the only such vehicle on state contract. Its incremental cost is now $11,000. Ford Fusion Hybrids carry a similar cost increment. Incremental cost of the plug-in Hybrid-Electric School Bus is $105,000 and of the hydraulic "launch assist" refuse truck is about $50,000. Energy Efficiency and Conservation Block Grant funding will cover increments for the first school bus and the first refuse collection truck.

EIP11-AQ07-16(B). Support for Reductions in Ozone Transport

Description of Action

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

Environmental Agenda Objectives Supported:

Air Quality and Transportation 4

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.

EIP11-AQ07-18(B). Four Year Transportation Plan

Description of Action

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

Environmental Agenda Objectives Supported:

Air Quality & Transportation 1

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

Comprehensive Plan
Cool Counties Climate Stabilization Initiative

Lead Agency:

Department of Transportation

Status/Plans/Outcomes

FCDOT provides the Board of Supervisors with a Four-Year Transportation Plan status report on a quarterly basis. Over sixty projects have been completed, including the Burke Centre VRE Parking Garage and the West Ox Bus Operations Center.

Resources

Funding for the capital program is a combination of $32 million in Federal Regional Surface Transportation Program (RSTP) and Congestion Mitigation and Air Quality (CMAQ) funds anticipated to be received by the County as well as $55 million in County General Obligation (G.O.) bonds approved by the voters in November 2004 and $110 million in G.O. bonds approved in November 2007. The total funding is $194 million.

EIP11-AQ07-20(B). Fairfax County Transit Program

Description of Action

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

Environmental Agenda Objectives Supported:

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

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

Comprehensive Plan
Cool Counties Climate Stabilization Initiative

Lead Agency:

Department of Transportation

Status/Plans/Outcomes

Fairfax County's transit system, as part of a multi-modal transportation system, continues to enhance customer service through implementation of new technologies, customer care initiatives and implementation of bus service such as "Richmond Highway Express" (REX). As part of the County's multi-modal transportation program strong support continues for Metro and VRE service. Funding has been identified for purchase of new trains and rehabilitation of existing train cars allowing for expansion to eight car Metrorail trains under the Metro Matters Funding Agreement approved by the Board in November 2004. Financial support for VRE has contributed toward the purchase of new bi-level passenger cars and purchase of new locomotives. The County subsidizes CUE bus service within Fairfax County for bus service to the Vienna/Fairfax GMU Metro Station. Ridership on all transit systems serving Fairfax County has remained essentially steady with Fairfax Connector FY 09 continued ridership projected to be 10 million, Metrobus ridership at 9.4 million, Metrorail boardings in Fairfax County projected to be 29.4 million and VRE boardings to be 833,000. Budget constraints in FY 10 have eliminated free transit rides on Code Orange and Code Red air quality action days in the entire region.

Resources

Fairfax County supports our multi-modal transit system with annual general fund and general obligation bond support of $74 million for Fairfax Connector, $98.3 million for Metrobus, Metrorail and Metro Access service, and $5.0 million for VRE commuter rail service.

EIP11-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

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

Cool Counties Climate Stabilization Initiative

Lead Agency:

Office of the County Executive – Environmental Coordinator

Status/Plans/Outcomes

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

Resources

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

EIP11-AQ07-23(B). Periodic Assessment of Alternative Fuel Vehicle Technology

Description of Action

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

Environmental Agenda Objectives Supported:

Air Quality and Transportation 6
Environmental Stewardship (General)

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

Air Quality Management Plan
Cool Counties Climate Stabilization Initiative

Lead Agency:

Department of Vehicle Services

Status/Plans/Outcomes

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

Resources

DVS will absorb the cost of periodic 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. Competitive federal grants are often available 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.

EIP11-AQ08-01(B). Regional Urban Forestry SIP Working Group

Description of Action

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

Environmental Agenda Objectives Supported:

Air Quality and Transportation 7
Environmental Stewardship (General)

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

Comprehensive Plan
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
Cool Counties Climate Stabilization Initiative

Lead Agency:

DPWES, Urban Forest Management Division (UFMD)

Status/Plans/Outcomes

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

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

May 23, 2007 MWAQC Ozone SIP document). Fairfax County's contribution to this measure specifically identifies the following urban forestry practices and programs, some of which are actions in the FY 2011 Environmental Improvement Program:

- Fairfax County tree canopy requirement for new development (Tree Cover Requirements of the Zoning Ordinance and Public Facilities Manual)
- Fairfax County parking lot canopy ordinance (Interior and Peripheral Parking Lot Landscaping Requirements of Zoning Ordinance and Public Facilities Manual)
- Fairfax County government land planting program (EIP11-AQ08-05(B))
- Fairfax County countywide nonprofit tree planting program (EIP11-ES08-10(B))

The Urban Forestry SIP Working Group will quantify the discrete impacts of specific urban forestry practices on air quality in order to focus on the most effective actions and to gain significantly higher levels of ozone reduction projections in any future regional ozone SIP.

Resources

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

EIP11-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 is a continuation of the Diesel Retrofit Program to retrofit all diesel vehicles in the county fleet. No sufficiently viable and cost effective technologies are available for this project. It is on hold until a more satisfactory avenue emerges.

Resources

Preliminary estimate of cost is $300,000, but actual cost will depend on what technologies become available. Funding for this project is already allocated. 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.

EIP11-AQ08-05(B). Tree Planting at Governmental Building and Parking Facilities

Description of Action

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

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

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

Environmental Agenda Objectives Supported:

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

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

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

Lead Agency:

DPWES – Urban Forest Management

Status/Plans/Outcomes

The strategic placement of shade trees adjacent to one and two story buildings will conserve energy used to cool those buildings and will lower the cost of utility bills. Well-placed deciduous trees on the western and southwestern sides of buildings provide shade from summer sun and can lower cooling costs by 10 to 50 percent. In addition to energy cost savings, the reduction of energy used to cool the building directly translates to less carbon dioxide produced during the generation of electrical power. Shade in parking areas reduces evaporation of fuel from the parked vehicles. UFMD identified planting opportunities at certain buildings and parking areas in county facilities, schools and parks. In FY 2008, the Urban Forest Management Division used $170,000 from *FY2007 Carryover* to plant 377 shade trees at governmental facilities to demonstrate to the public how trees can be used as an air quality improvement and energy conservation practice. The program included measures to protect plantings from herbivory. UFMD also installed 20 associated educational signs in these locations. This action supports efforts of the Natural Landscaping Committee (NLC) and is identified as part of the tree conservation measure in the 2007 DC/MD/VA Metropolitan Area Air Quality Plan. As of spring 2009, 384 trees have been planted on Fairfax County Government property toward this goal.

Resources

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

Funding request for FY 2011: $220,000 to plant approximately 500 more shade trees and 20 more educational signs on County property in support of air quality objectives in the 2007 SIP, conservation recommendations of the NLC, and the 30-year Tree Canopy Goal. This action is intended to be on-going for about 25 years.

EIP11-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

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

Air Quality Management Plan
Cool Counties Climate Stabilization Initiative

Lead Agency:

Office of the County Executive

Status/Plans/Outcomes

The Fairfax County Board of Supervisors and the County Executive have supported telework as a work option for the county workforce since 1996 and endorsed the Metropolitan Washington Council of Governments (MWCOG) goal of 20% of the eligible area workforce teleworking by 2005. In October 2001, the county launched the Telework Expansion Project to increase county government employee participation to reach a goal of 1,000 teleworkers by the end of 2005. Fairfax County government reached its goal in January 2006. The Telework Expansion Project continues, and today almost every county department has teleworkers. The number of teleworkers rose from 138 in December 2001 to 1,275 at the end of 2007, when we considered the original EIP action completed. The number has continued to rise to 1,496 as of June 2009. The goal is to continue to increase the number of staff teleworking with a focus on Continuity of Operations.

Resources

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

EIP11-AQ09-01(B). Transportation Funding Bill

Description of Action

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

Environmental Agenda Objectives supported:

Air Quality and Transportation (General)

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

Cool Counties Climate Stabilization Initiative

Lead Agency:

Department of Transportation

Status/Plans/Outcomes

Fairfax County is moving forward with local transportation improvements with annual revenue authorized under HB3202 from increased fees and taxes. The General Assembly has not restored regional transportation funding for Northern Virginia. The effort to acquire this funding during the 2010 Virginia General Assembly will continue.

Resources

Nine Northern Virginia cities and counties have the authority to raise commercial real estate taxes and a local vehicle registration fee, as well as establish impact fees on new developments. Fairfax County has implemented a commercial real estate tax rate of $0.11/$100 valuation. This tax will raise an additional $50 million per year for transportation. However, the Northern Virginia regional funding package was intended to use $300 million annually. These funds have not been restored.

EIP11-AQ09-02(B). Comprehensive Bicycle Initiative

Description of Action

In 2006, the Fairfax County Board of Supervisors approved the Comprehensive Bicycle Infrastructure Program, a program that encompasses a variety of initiatives directed at making Fairfax County "bicycle friendly and safe." Emissions reductions are achieved by increased bicycle trips and miles displacing motorized trips and miles.

This program includes:

- Creating the position of Bicycle Program Coordinator within DOT
- Establishing a network of on-road bicycle lanes countywide
- Establishing 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 of bike related paths and facilities
- Bike racks on Fairfax Connector Buses- purchase and installation of 300 racks
- Bicycle locker rental program at county owned/maintained park and ride lots
- Assisting County TDM Coordinator with developing bicycle component of TDM Toolbox
- Outreach and coordination – work with bicycle advocacy groups and area-wide bicycle coordinators to promote development of bicycle facilities

Environmental Agenda Objectives Supported:

Air Quality and Transportation (General)

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

Cool Counties Climate Stabilization Initiative

Lead Agency:

Department of Transportation

Status/Plans/Outcomes

The intent of the program is to increase the modal-split of trips by bike, thereby reducing motorized trips and miles traveled and their related emissions and fuel consumption. 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 bicycle program utilizes funding from federal, state and local resources. The program has so far received a total of $1,281,000 including an allocation of $1 million from commercial and industrial real estate taxes over a four-year period (FY 2009 – FY 2012). The Bicycle Route Map initiative has received funding from the General Fund and proffers. CMAQ funding has been used to initiate the on-road bike lane program and to purchase and install bicycle racks and lockers. No further funding is required for FY 2011.

EIP11-AQ09-03(A). Waiver of GVW Limit for Idle Reduction Equipment

Description of Action

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

Environmental Agenda Objectives Supported:

Air Quality and Transportation 1
Environmental Stewardship (General)

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

Cool Counties Climate Stabilization Initiative

Lead Agency:

Department of Vehicle Services

Status/Plans/Outcomes

Enacted as HB2073 in the 2009 session, modifying the Code of Virginia to add section number 46.2-1129.1

Resources

No new funding is required. No further action is required.

EIP11-AQ10-01(B). Columbia Pike Rail Initiative

Description of Action

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

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

Environmental Agenda Objectives supported:

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

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

Board of Supervisors Four-Year Transportation Plan
Comprehensive Plan
Cool Counties Climate Stabilization Declaration

Lead Agency:

Department of Transportation

Status/Plans/Outcomes

- The Board of Supervisors has approved project agreements with WMATA and Arlington County for planning and environmental work.
- The project team has been working on redevelopment of the financial strategy since the state Supreme Court decision regarding NVTA authority to generate revenues.

Resources

Funding for this project is anticipated from federal earmarks and from local and state transportation fund fees and taxes, including $18 million approved so far from the Commercial and Industrial Real Estate Tax revenue. Fairfax County's estimated, anticipated commitment is 20 percent of the total capital and operating expenses. Total capital costs including systems, facilities, and vehicle procurement but not including row or parking structures were projected to

be $160 million. The annual operations and maintenance costs based on assumed operating plans and fleet sizes were estimated to be $5 million.

EIP11-AQ10-02(B). Reduce Fuel Consumption in Heavy Duty Vehicles

Description of Action

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

Environmental Agenda Objectives Supported:

Air Quality and Transportation 4 and General

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

Air Quality Management Plan
Cool Counties Climate Stabilization Initiative

Lead Agency:

Department of Vehicle Services

Status/Plans/Outcomes

- The movement of solid waste transfer tractors over the same route day after day could present opportunity to optimize the transmission shift schedule by tailoring it to the route profile. DVS supplied route profile data to Allison (manufacturer of the tractor transmissions). Allison programmed an optimized shift schedule into new vehicles delivered to us in 2009. DVS will compare fuel consumption to the existing fleet to determine whether to reprogram those transmissions.
- Examination of mission segments high in idle time may point to methods to reduce unproductive engine operating time. DVS downloaded engine data on solid waste transfer tractors and found they were experiencing substantial idling time. Consultation with Solid Waste indicated much of that time might be eliminated with proper cab climate control. In 2009 DVS installed battery-operated heating and air conditioning units in six trucks as a pilot demonstration. DVS will compare idling time and fuel consumption with other, similar trucks to determine whether further retrofits are warranted.
- Hydraulic and electric launch assist systems are appearing on the market that could reduce fuel consumption in repetitive stop-and-go operations like trash pickup. In 2009 the U.S. Department of Energy (DOE) allocated funding to the county under the Energy Efficiency and Conservation Block Grant Program. The incremental cost of a hybrid hydraulic “launch assist” refuse collection truck was among the projects the county chose to fund. The vehicle is projected to arrive about the first quarter of FY11. This project is also reported in EIP11-

AQ07-15(B), "Evaluation and Purchase of Hybrid Drive Vehicles," where it will appear in future EIPs.

- Single-wide tires in place of dual mounts have been shown to reduce rolling resistance and therefore fuel consumption in some applications.
- Certain fairings added to trailers have been shown to reduce air resistance and therefore fuel consumption in some applications.

Resources

Exploration of possible measures involves staff time of currently assigned members of DVS. The cost of implementing promising technologies or procedures would be one of the criteria in selecting the ones to be incorporated in the fleet. The programming of the 2009 transfer tractor transmissions incurred no additional cost, since we arranged for it in conjunction with the purchase of the trucks. The battery a/c retrofit demonstration ($27,520.44) was funded from the *FY 2003 Carryover* funding set aside for diesel emissions reduction projects. The costs for additional actions are unknown and would depend on what measures are chosen.

EIP11-AQ10-03(C). Continuing Purchase of Wind Power

Description of Action

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

Environmental Agenda Objectives Supported:

Air Quality and Transportation 4 and General

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

Air Quality Management Plan
Cool Counties Climate Stabilization Initiative

Lead Agency:

Department of Cable Communications and Consumer Protection

Status/Plans/Outcomes

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

Resources

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

EIP11-AQ11-01(B). Piezo Electric Generator Pilot Program

Description of Action

The Piezo Electric Generating System (IPEG) is a pioneering invention in the field of parasitic energy harvesting and generates energy from weight, motion, vibration and temperature changes. Initially, the system can be configured to generate and store energy from roads, airport runways and rail systems at the same time as delivering real-time data on the weight, frequency and spacing between passing vehicles.

The technology has been installed in some rail stations, but KW-H generated varies with the number of people walking on tiles. Company literature states typical application yields enough power to light one street light for a year. Typically street lights require about 675 KW-H per year.

The Piezo Electric Generator will be installed within immediate proximity of a Tysons Corner Metrorail Station. Tysons Corner is becoming a high-density, mixed-use development, encouraging people to live and work in the same community. The projected residential, job and visit growth in this area offers an opportunity to provide a high level of pedestrian traffic to support an IPEG System.

Based on 1,000 pedestrian trips per hour for 10 hours per day, this proposed ½-mile installation could support 20 streetlights. Based on 675 KW-H per year and a cost of $0.08 per KW-H, it is estimated that the annual electric cost for each street light is $54. The annual savings for the 20 lights would be $1,080. Compared to the installation cost of $10,000, we estimate that it would take 9.26 years to repay the investment. The equipment is expected to last 30 years and to require negligible maintenance costs

Environmental Agenda Objectives Supported:

Air Quality and Transportation (General)

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

Cool Counties Climate Stabilization Initiative

Lead Agency:

Department of Transportation

Status/Plans/Outcomes

The intent of the program is to demonstrate the ability to generate electric power through alternative power sources. This system is anticipated to generate enough power daily to operate

20 streetlights in close proximity to the installed system. If additional power is generated it could go into the electric power grid system for credit from the electric utility.

Resources

The Piezo Electric Generator is funded through a $10,000 grant from the Energy Efficiency and Conservation Block Grant Program. The pilot program will be coordinated by FCDOT Staff.

EIP11-AQ11-02(B). School Bus SCR Retrofit

Description of Action

Retrofit of 32 school buses with a selective catalytic reduction (SCR) system to reduce emissions of oxides of nitrogen. This project is a technology demonstration.

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

The U.S. Environmental Protection Agency (EPA) has a program in which manufacturers of emissions reduction products suitable for retrofit on diesel engines can earn a place on a "Verified Retrofit Technologies" list. "Verified technologies" require no further demonstration or documentation of their effectiveness to be eligible for use in a grant-funded retrofit program. The list also gives confidence to owners who wish to install retrofits without grant funding. The verified emissions reduction levels are sufficient basis for calculation of SIP credits.

Verification testing and certification is rigorous and expensive. Many companies, especially small ones, have struggled to complete the process if they could do it at all. USEPA now also has an "Emerging Technologies" program in which a manufacturer can receive a certification for a product as an "emerging technology" upon submission of an approvable test plan and some preliminary data. "Emerging technologies" are eligible for funding assistance to enable the manufacturer to complete field testing and development under a competitive grant program. The grant applicant must be the fleet that will provide the vehicles for the field testing.

The county was awarded an Emerging Technologies grant for field testing of an SCR retrofit applicable to a type of engine installed in several model years of FCPS school buses. SCR technology will be incorporated in most diesel manufacturers' new engines beginning in model year 2010. Only a very few SCR retrofit products are currently offered, and those are relatively expensive. The unique feature of the candidate technology is that it does not require use of diesel emissions fluid (DEF), a product carried in a separate tank in the vehicle and required by all other currently available SCR systems and all those planned for original equipment in 2010. The candidate technology also has the potential to be less costly than currently offered retrofit systems and may be in a cost range similar to the planned 2010 original equipment systems.

The project plan includes installation of the no-DEF SCR system on 32 FCPS school buses at no cost to the county or FCPS. FCPS and the county will contribute some staff time to administering the project. The county will provide some work space for the installations, and FCPS will absorb the cost of a small reduction in fuel economy. At the end of the grant performance period, the retrofits will remain on the buses and will belong to the county.

Resources

Estimated cost of the project is $1.55 million. This project is funded by an Emerging Technologies grant from the USEPA of $1.35 million and a contribution of leveraged resources from the manufacturer of $150,000. The county and FCPS will contribute $70,000 in leveraged (non-cash) resources.

EIP11-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 to plan Total Maximum Daily Load (TMDL) strategies. The Plans will generate project recommendations, policy recommendations and county-wide strategies, with a planning horizon for projects ranging from ten to twenty-five years.

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

Environmental Agenda Objectives Supported:

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

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

Comprehensive Plan

Lead Agency:

DPWES

Status/Plans/Outcomes

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

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

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

Resources

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

EIP11-WQ07-02(B). Stormwater Management Implementation Plan

Description of Action

Fairfax County's Stormwater Management Implementation Plan includes runoff controls, an extensive drainage system composed of pipe, open channels, stormwater management facilities, detention and retention ponds, and natural waterways that are located within County storm drainage easements or on County property. In addition, the County regulates development practices and the management of stormwater by private property owners.

Environmental Agenda Objectives Supported:

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

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

Comprehensive Plan
Watershed Plans

Lead Agency:

DPWES

Status/Plans/Outcomes

The County continued its capital improvement and infrastructure reinvestment strategies in CY 2008, with capital expenditures totaling $29,234,537. However, a more realistic reinvestment cycle needs to be established. It is anticipated that the on-going services for Stormwater management will grow annually. A continued reinvestment is required to maintain the Stormwater infrastructure, both natural and man-made. Priorities will continue to be established through the watershed master planning process, through physical inspections and as additional needs are identified through other methods. The current funding means, which includes $0.01 per $100 of assessed valuation on real property (via the newly established Stormwater Service District) plus pro-rata funds collected for new development, is expected to face increasing demands over the next few years and the foreseeable future, as inventory and newly identified priorities continue to grow.

Resources

The current funding, which includes $0.01 per $100 of assessed valuation on real property via the newly established Stormwater Service District, is expected to face increasing demands as inventory continues to grow and new regulatory requirements become effective. The current funding distribution structure within Stormwater Management has necessitated a reduction in watershed plan implementation and infrastructure reinvestment since FY 2006 when the dedicated penny was first allocated. Initially, Stormwater operating, fringe benefits and contributory agency costs, approximately $10.1 million per year, remained with the General Fund, which allowed the entire dedicated penny to be used for water quality mandates, dam safety regulations, flood mitigation and infrastructure reinvestment needs. But in FY 2009, operating costs were shifted from the General Fund to the penny fund.

In FY 2010, in addition to operating costs, costs for fringe benefits and contributory agencies also will be funded from the $0.01 that was established as the stormwater tax and only ½ of the tax will be collected since the first available collection cycle begins in December 2009 rather than July 2009. That reduces the FY 2010 tax collection by 50%. It is currently estimated that the storm sewer pipe and convenance systems has a 75 year life expectancy. With an inventory of 1,565 miles, 21 miles (1.3% of the inventory) should be rehabilitated annually. Absorbing the additional costs noted will only allow the County to rehabiliate approximately 1 mile of conveyance system in FY 2010 (0.06% of the inventory). This is equivalent to a 1,565 year rehabilitation cycle. A more realistic reinvestment cycle will be needed, with additional funding to ensure safe and effective operation of our storm drainage infrastructure.

EIP11-WQ07-03(B). Stormwater Retrofits

Description of Action

Retrofitting exiting Stormwater management facilities to provide improved Stormwater management and water quality controls is a key part of the County's reinvestment program. The County is responsible for the maintenance of 1,237 Stormwater management facilities. There are various types of Stormwater management facility retrofits, but many are intended to improve the capacity of ponds beyond their original designs for better water quality and/or quantity control. Water quality retrofits enhance nutrient uptake and increase the infiltration, uptake and transpiration of stormwater.

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

The following table describes selected pond retrofit projects completed by the DPWES and the FCPA in CY 2008.

Project Name	***Description***	***Partners***
Cardinal Glen Section 2 Pond Phase I	Phase I was completed in September 2008 and included repairing the failed dam embankment by installing a new principal spillway pipe and riser.	DPWES
Countywide Trash Racks and BMP Plates Installation	Fabricated and installed 12 new galvanized trash racks and BMP plates for increased water quality control. Installed wing walls and concrete aprons at certain locations to minimize erosion and facilitate maintenance.	DPWES
Poplar Tree Sec 2 Trash Rack Retrofit	Designed and installed a new trash rack for the outfall pipe to discourage future blockage and prevent flooding of adjacent residential yards.	DPWES
North Twin Lake Dam Reconstruction	Design was initiated to renovate the North Twin Lake dam and outlet structure to reduce peak flow and bring the dam into conformance with state and local standards. Construction is scheduled to begin in late 2010.	FCPA

Project Name	***Description***	***Partners***
South Run RECenter Expansion	Repaired and expanded a non-functioning storm water management pond to improve storm water quality by reducing peak flows during large storm events. The renovated pond will improve storm water quality by reducing peak flows and phosphorus during storm events. Renovation work was completed in September 2008.	FCPA
Lake Accotink Park Dredging Project	Completed dredging with removal of approximately 195,000 cubic yards of material in 2008. Since dredging began in 2006, 204,000 cubic yards of material have been dredged from Lake Accotink to increase storage volume and reduce peak flows. The project included the enhancement of existing wetlands, creation of more than one acre of additional wetland, creation of an in-lake forebay and the addition of an access channel from the marina.	FCPA, DPWES
Pinecrest Golf Course Pond Renovation	The project will replace two pond embankments that failed in 2006. Embankments and outfall structures will be reconstructed to meet State/county dam standards, increase storage capacity and reduce peak flows. This project will increase storage capacity and reduce peak outflows. A feasibility study was completed in September 2008 and the Park Authority Board approved the project scope on December 10, 2008. Design work is scheduled to begin in 2009 with construction tentatively scheduled for 2012 and 2013.	FCPA

Resources

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

EIP11-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.

Environmental Agenda Objectives Supported:

Water Quality 3, 7 and 8.

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

Comprehensive Plan
Watershed Management Plans

Lead Agency:

DPWES

Status/Plans/Outcomes

Fairfax County continued its countywide riparian buffer restoration project in collaboration with various partners to mitigate Stormwater runoff into local streams and to support the Board of Supervisors' adopted Environmental Agenda. Since the program's inception in 2004, the county, the Earth Sangha, regional partners (including the Fairfax County Park Authority, the Virginia Department of Forestry, Fairfax ReLeaf, Northern Virginia Soil and Water Conservation District and McLean Trees), and many volunteers have restored 35 stream buffer areas. Invasive plants were removed and over 9,600 trees or shrubs have been planted by over 1,900 volunteers.

To date there are 35 ongoing projects throughout the county. These projects have focused on the conversion of mowed grass to areas of native trees and shrubs typical of riparian areas. Project size has varied from a few trees and shrubs to over a thousand. In 2008, 257 volunteers helped plant over 1200 native trees and shrubs at 6 sites.

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

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

encouraging stream and buffer area protection and restoration in these headwaters areas. The Planning Commission's Environment Committee currently is reviewing potential regulatory approaches to strengthen protection of these streams. More information is available online at www.fairfaxcounty.gov/dpwes/stormwater/riparianbuffer/.

Resources

In FY 2005, 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.

In order to maintain the plantings on parkland, as identified in EIP11-WQ10-01 (C), Riparian Buffer Maintenance, $55,000 per year is needed.

EIP11-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 FY 2008, the county completed seven stream restoration projects. The project types, locations and partners are as follows:

Project Name	***Problem***	***Solution***	***Partners***
Clarke's Landing	Eroded Streambank	Constructed a retaining wall to provide structural protection to two adjacent dwellings and used bio-engineering techniques to establish a buffer area and stabilized 285 linear feet of streambank	DPWES
Beach Mill Road	Eroded Streambank	Installed 200 linear feet of streambank stabilization	DPWES
Chesterbrook Road Drainage Improvement Project	Eroded Streambank	Stabilized 70 linear feet of streambank with revegetation techniques	DPWES

Project Name	***Problem***	***Solution***	***Partners***
1362 Kirby Road	Eroded streambank	Constructed a retaining wall to provide structural protection to an adjacent dwelling and used bio-engineering techniques to establish a buffer area and stabilized 200 linear feet of streambank	DPWES
Mount Vernon Estates	Eroded streambank	Rehabilitated 600 linear feet of severe streambank erosion. Used bio-engineering techniques to reestablish the stream buffer	DPWES
Hollington Place	Eroded streambank	Rehabilitated 730 linear feet of severe streambank erosion. Used bio-engineering techniques to reestablish the stream buffer	DPWES
Turkeycock Run at Green Spring Gardens	Eroded streambank	Constructed 1,000 linear feet of streambank stabilization	FCPA

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

Resources

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

EIP11-WQ07-06(B). Septic System Tracking and Assistance Program

Description of Action

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

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

Environmental Agenda Objectives Supported:

Water Quality 10, 11

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

VPDES MS4 Permit

Lead Agency:

Health Department

Status/Plans/Outcomes

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

Phase 1: Background Research:

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

Phase 2: Implementation Method:

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

Phase 3: Service Methods Alternatives:

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

Phase 4: Findings and Recommendations:

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

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

Resources

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

EIP11-WQ07-08(B). Soil Survey Project

Description of Action

Fairfax County initiated the completion and update of the Fairfax County Soil Survey, which was done under the leadership of the USDA's Natural Resources Conservation Service, in partnership with the county and NVSWCD. The original Soil Survey was published in 1963. It was based on field work completed in 1955 and covered 60% of the county. Over the last 50 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 that 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 field work and mapping for the Soil Survey update have been completed. Areas of the county that were not surveyed previously are now mapped. All previously mapped areas have been checked and updated. The updated soil survey reclassifies the soils and provides updated and expanded interpretive information, including the type of information needed for urban/suburban land-uses and development. It also includes information on soils that have been disturbed, such as when an area is developed. This is one of the first instances in the nation of surveying disturbed soils. The survey is certified to USDA National Cooperative Soil Survey standards and incorporated into the USDA's National Soils Information System database. The new soil survey is published in its entirety (maps, descriptions, interpretations and data tables) and available on the USDA's Web Soil Survey and Soil Data Mart websites and integrated into the County's GIS system and website via the Digital Map Viewer.

Environmental Agenda Objectives Supported:

Growth & Land Use 5
Water Quality 2, 5

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

Watershed Plans

Lead Agency:

NVSWCD, GIS, DPWES

Status/Plans/Outcomes

The mapping and data collection have been completed and have undergone quality control and assurance processes, and scanning and digitization, by the USDA-NRCS state office in Richmond. There is 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 are

renamed and there are a few newly created soil names, such as 'Gunston.' In addition, the special study to characterize the large percentage of disturbed soils in the County has been completed. Disturbed soils no longer have their original structure, are generally denser and less permeable than undisturbed soils, and create more runoff than undisturbed soils. Knowing the behavior and characteristics of human disturbed soils is vital for understanding the stormwater management, water quality and erosion issues that will affect Fairfax County in the future, especially as efforts towards meeting the Chesapeake Bay Agreement intensify.

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

The new soil survey has been integrated into the county's GIS system. Maps showing soil types layered over county property maps have been created for each tax grid in the county. These maps are available to the public through the GIS Department's Digital Map Viewer on the county website. The soil survey information is also available online at two USDA-NRCS web sites; the soil map and tabular data are available at the Web Soil Survey website, and tabular data alone is available at the Soil Data Mart website. The tabular and map data available at the USDA-NRCS websites are much broader and more extensive than that found on the county website, but the data on the county website is more specific to the needs of Fairfax County residents and the maps include county property information.

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

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

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

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

- Maintain and update the County's soil survey, including coordinating with USDA-NRCS and GIS;
- Evaluate and interpret complex and inter-related soils information, including the emerging field of disturbed soils;
- Conduct soils investigations;

- Retrieve and apply the appropriate soils information for given situations;
- Conduct soils-related research in order to meet county needs, especially to expand knowledge on the behavior of human disturbed soils.
- Evaluate and test soils for infiltration capability to assist with the design of rain gardens, swales and other low impact development techniques;
- Monitor and evaluate the function of installed infiltration measures;
- Provide scientific, unbiased advice in the public interest to internal and external customers, and;
- Develop and lead training and education programs on soils and the appropriate and effective use of soil maps and soils information.

Resources

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

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

EIP11-WQ07-09(B). Soil and Water Quality Conservation Planning for Horse Operations and Other Land in Agriculture

Description of Action

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

Environmental Agenda Objectives Supported:

Water Quality 1, 7, 10
Environmental Stewardship 2

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

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

Lead Agency:

NVSWCD

Status/Plans/Outcomes

In addition to those mentioned in earlier status reports, in 2008, NVSWCD prepared Soil and Water Quality Conservation Plans for seventeen parcels, comprising 830 acres of land, and included 46,712 linear feet of vegetated buffers for Chesapeake Bay Resource Protection Areas (RPA). Cumulatively, 11,968 acres and 350,698 linear feet of RPA are included in conservation plans that have been developed since the program began in 1994.

In the fall of 2008, NVSWCD used a $26,000 grant from DCR to build a manure composting facility at a horse-keeping operation in Great Falls. This is a demonstration project to show the appropriate and economical management of manure. The site is being used as part of a series of workshops for horse owners that include pasture management, horse waste management, and site planning for horse-keeping operations.

During 2008, the Virginia Department of Agriculture and Consumer Services received four complaints about water quality pollution because of poor manure management. These complaints were filed under the Agricultural Stewardship Act. NVSWCD provided technical assistance and conservation plans for three of the landowners and the problems have been successfully resolved. The fourth case is under investigation.

Resources

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

EIP11-WQ07-11(B). Standard Operating Procedure for Stormwater Management Reviews During the Comprehensive Plan Amendment Process

Description of Action

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

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

Environmental Agenda Objectives Supported:

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

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

Comprehensive Plan
Watershed Management Planning

Lead Agencies:

DPWES and DPZ

Status/Plans/Outcomes

Ongoing.

Resources

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

EIP11-WQ08-02(B). Radio Ad Campaign

Description of Action

Conduct an outreach campaign in partnership with the Clean Water Partners of the Northern Virginia Regional Commission and surrounding local jurisdictions to educate citizens about non-point source pollution. This is a companion effort to the storm drain marking program. Measure the effectiveness of the campaign by means of a pre-ad survey and a post-ad survey.

Environmental Agenda Objectives Supported:

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

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

Comprehensive Plan
Watershed Management Plans
VPDES MS4 Permit

Lead Agency:

DPWES

Status/Plans/Outcomes

This is an ongoing campaign that aired in 2008 on eight area radio stations with1,064 public service spots reaching 740,000 listeners.

Resources

No additional funding needs are anticipated.

EIP11-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.

Resources

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

EIP11-WQ08-04(B). Low Impact Development Initiatives

Description of Action

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

Environmental Agenda Objectives Supported:

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

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

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

Lead Agency:

DPWES

Status/Plans/Outcomes

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

In CY 2008, DPWES continued to partner with NVSWCD and FCPA on LID demonstration projects at the Mount Vernon Recreation Center and the Cub Run Recreation Center. Additionally, in CY 2008, DPWES, NVSWCD, FCPA, nonprofit organizations and individual volunteers contributed to the design and implementation of 18 projects that incorporate one or more LID practices. Those projects are summarized in the following table.

Project	***Description***	***Partners***
Audrey Moore RECenter Rain Garden	Installed a rain garden retrofit next to the entrance of the RECenter in a depression with a drop inlet that previously directed stormwater runoff directly to a storm drainage system. The new rain garden has 1,600 square feet of surface area and receives 1.8 acres of drainage, including the surrounding grassed and fertilized area and .25 acres of parking lot.	FCPA, NVSWCD
Beach Mill Road Storm Drain Improvement Project	Installed approximately 200 linear feet of streambank stabilization using bio-engineering techniques to establish the stream buffer and improve water quality	DPWES
Braddock Park Field Renovation	Renovated an existing adult-sized natural turf soccer field into a synthetic turf field with a supporting open-graded aggregate base providing storage capacity to reduce peak flows during large storm events and eliminate need for fertilizer and pesticides.	FCPA
Bryant Center School Site Field Renovation	Renovated an existing adult-sized natural turf soccer field into a synthetic turf field with a supporting open-graded aggregate base providing storage capacity to reduce peak flows during large storm events and eliminate need for fertilizer and pesticides.	FCPA
Fire Station 26 Bio-filtration Facility Project	Retrofitted existing infiltration trench as a bio-filtration facility.	DPWES
Fort Hunt Elementary School BMP Retrofit Project	Constructed two biofilters that collect runoff from southern part of school building and the parking lots located next to the building in the south. The biofilters will improve water quality as well as attenuate flows before discharging to a nearby outfall.	DPWES
Franconia District Park Field Renovation	Renovated an existing adult-sized natural turf soccer field into a synthetic turf field with a supporting open-graded aggregate base providing storage capacity to reduce peak flows during large storm events and eliminate need for fertilizer and pesticides.	FCPA
Hutchinson School Site	Renovated an existing adult-sized natural turf soccer field into a synthetic turf field, which included replacing a proposed dry pond with several low impact design stormwater management facilities to provide quantity and quality control of stormwater.	FCPA

Project	***Description***	***Partners***
Hybla Valley Elementary School BMP Retrofit Project	Constructed a biofilter west of the school building to collect runoff from the parking lot to the front and west of the school building, and a bioswale to the east of school building to collect runoff from the parking lot east of the building. These structures will improve water quality as well as attenuate flows before discharging to nearby outfalls.	DPWES
Lake Fairfax Core Area Phase II Improvements	Constructed a new administration building, restroom and kiosk buildings, parking lot, stormwater quality facilities and trails. Water quality control is provided by ten rain gardens constructed within the islands of the new parking lot. The project reached substantial completion in December 2008.	FCPA
Mount Vernon RECenter Rain Garden	A vegetated swale and rain garden were constructed in 2007. In 2008, warranty work included the replacement of shrubs from a local nursery.	FCPA, NVSWCD, DPWES
Nottoway Park Field Renovation	Renovated an existing adult-sized natural turf baseball diamond field into a synthetic turf field with a supporting open-graded aggregate base providing storage capacity to reduce peak flows during large storm events and eliminate need for fertilizer and pesticides.	FCPA
Spring Hill Park Renovations	Renovated an existing adult-sized natural turf soccer field into a synthetic turf field with a supporting open-graded aggregate base providing storage capacity to reduce peak flows during large storm events and eliminate need for fertilizer and pesticides.	FCPA
Wakefield Park Rain Garden	Renovated an existing SWM pond to install a rain garden in 2007. It controls runoff from 2.43 acres, including a 0.22 acre parking area. Planting was completed and an interpretive sign was installed in 2008. Additional maintenance is planned for spring and summer 2009.	FCPA
Walt Whitman Middle School Retrofit Project	Constructed a biofilter in the northeast corner of the parcel that collects parking lot runoff, four bioswales in the east of parcel that collect parking lot runoff, and a bioswale and a biofilter in the southeast corner of the parcel that collects runoff from the offsite building located next to the school. The structures will improve water quality and attenuate flows before discharging to nearby outfalls.	DPWES

Project	***Description***	***Partners***
Wessynton	Construction of a bioretention basin, two drainage structures, 20 linear feet of concrete channel retrofit and extensive plantings to restore stream buffer and improve water quality.	DPWES
Falls Hill LID Residential Demonstration Project	Several LID measures were installed on one homeowner's property to demonstrate to the community six landscaping practices that can be used to solve their on-going drainage and flooding problems. A grant from the Chesapeake Bay Restoration Fund paid for the cost of construction. The project also included two workshops for the community, publishing a *Residential Low Impact Landscaping Handbook*, providing technical assistance by NVSWCD staff to help individual residents, and awarding mini-grants to help implement solutions.	NVSWCD DPWES Providence District Supervisor's Office Homeowner NVRC
Ft. Willard Park Infiltration Project	Vertical infiltration columns were installed in the moat surrounding Ft. Willard to reduce standing water and solve associated problems. The cost was significantly less than other proposed solutions.	NVSWCD FCPA

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

Resources

This effort is funded by existing Stormwater Management Implementation Plan funding.

EIP11-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 EIP11-WQ08-09(B))
- to support attainment of a countywide tree cover goal (see EIP11-ES09-08(B))
- to conduct geographic information system (GIS) analyses for natural resource management purposes
- to provide information relevant to land use planning and the review of proposed zoning cases

Environmental Agenda Objectives Supported:

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

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

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

Lead Agency:

DPWES, Urban Forest Management Division

Status/Plans/Outcomes:

This effort has been funded and is underway. This action supports a recommendation of the Tree Action Plan. Urban Forest Management Division is conducting a tree cover analysis using high-resolution satellite imagery acquired in 2002 and 2003 to establish tree cover percentage levels for the 30 major watersheds in Fairfax County. The 2002/2003 tree cover data will also be used to support periodic countywide canopy change detection analyses. The end product of this analysis will be a GIS dataset that can be utilized in conjunction with other GIS datasets such as streets, building footprints, and topography for a wide variety of uses including watershed planning. It is anticipated that tree cover analysis for all watersheds will be completed by June 2010. 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.

EIP11-WQ08-06(B). Stream Flow Gauge Monitoring

Description of Action

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

Environmental Agenda Objectives Supported:

Water Quality 1, 3, 8, 10

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

Comprehensive Plan
Watershed Planning
VPDES MS4 Permit

Lead Agency:

DPWES

Status/Plans/Outcomes

During 2007, the county partnered with the US Geological Survey to install a water resources monitoring network. Dry and wet weather storm event flow data, nutrient data, as well as real time water quality parameters, are being collected by means of 4 automated USGS water gauging stations throughout the County. The continuous water quality data is posted to a USGS web page, typically within 15 minutes after collection. In addition, 10 less-intensely (manually) sampled stations are located throughout the County. The water quality trend information gleaned from the gauged stations will be extrapolated to the less intensely monitored sites for a fuller picture of water quality trends in watersheds of varying characteristics countywide.

Resources

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

EIP11-WQ08-07(B). VPDES MS4 Permit Application

Description of Action

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

Environmental Agenda Objectives Supported:

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

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

Comprehensive Plan
Watershed Planning
VPDES MS4 Permit

Lead Agency:

DPWES

Status/Plans/Outcomes

Negotiations continue and the county is operating under the five-year MS4 permit issued in 2002, which has been administratively continued by DCR. DCR submitted a third preliminary draft of the permit to the county in January 2009. The FCPS Phase II MS4 Permit is being coordinated with the county Phase I MS4 Permit. In 2008, coordination activities included drafting a Memorandum of Understanding between the county and FCPS, which outlines the roles and responsibilities of each organization for permit compliance under a combined MS4 program. The MOU is being negotiated and has not yet been finalized.

Resources

Currently, authorized funding is adequate to meet the minimum requirements of the existing MS4 permit.

EIP11-WQ08-08(B). Outreach and Education Program

Description of Action

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

Environmental Agenda Objectives Supported:

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

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

Comprehensive Plan
Watershed Management Plans
VPDES MS4 Permit

Lead Agency:

DPWES

Status/Plans/Outcomes

In 2008, Stormwater Management staff created a series of educational brochures to encourage public involvement in the current comprehensive watershed management planning effort. One brochure summarizes the general watershed issues that residents identified during the first round of watershed planning. This will help participants become familiar with issues they may see in their watersheds. Seven other brochures were created to provide more specific background information on the areas covered by the seven watershed plans currently under development. In addition, Stormwater Management staff completed a brochure describing the floatables monitoring program, and a brochure to educate residents on the basics of maintaining their private stormwater management facilities.

Stormwater Management continues to make regular presentations to various groups throughout the county regarding non-point pollution sources and other watershed basics. The presentations include an overview of watersheds and Stormwater management practices that residents can implement to protect the water quality of local streams, the Occoquan Reservoir, the Potomac River and the Chesapeake Bay. In addition, the county works with residents on each stormwater project, of which education is a component. In 2008, the county presented this information to homeowner's associations, school groups (teachers and students), civic associations, Fairfax Master Naturalist trainees, master gardeners, Northern Virginia Community College students and others.

Stormwater Management also hosts educational booths at several public events annually to raise awareness among residents about Stormwater issues and to encourage watershed-friendly behaviors. In 2008, Stormwater Management participated as an exhibitor or environmental educator at more than 47 events, including: Celebrate Fairfax; Boy Scout Camporee at Lake Fairfax Park; Fall for Fairfax; and Board of Supervisors' town meetings, resource fairs, and environmental fairs.

Resources

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

EIP11-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 2010. 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 plating 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 EIP11-ES09-08(B))
- Identifying target dates to achieve those goals
- Identifying ways to assess gain or loss of social and ecological benefits resulting from changes to tree cover on watershed and Countywide basis

This action will identify realistic and achievable tree cover goals for all major watersheds, along with the policies, practices, actions and funding needed to support those goals. In addition the action will investigate ways to use tree cover goals in the support of watershed management and planning efforts. It is anticipated that tree cover goals could be generated by CY 2010.

Resources:

Considerable staff hours will be needed to accomplish this action. No additional funding is requested to support the action in FY 2011; however, future funding and additional staff resources may be needed to support the implementation of associated policies and projects.

EIP11-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 implement 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.

EIP11-WQ07-12(C). Review of Standards and Guidelines for Special Permit, Special Exception, and Public Uses in the Resource Conservation (R-C) District

Description of Action

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

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

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

Environmental Agenda Objectives Supported:

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

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

Comprehensive Plan

Lead Agency:

DPZ

Status/Plans/Outcomes

This review has not yet been initiated. However, this item is included on the Priority 1 Zoning Ordinance Amendment Work Program for 2009. 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).

EIP11-WQ10-01(C). Riparian Buffer Maintenance

Description of Action

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

Environmental Agenda Objectives Supported:

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

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

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

Lead Agency:

Fairfax County Park Authority

Status/Plans/Outcomes

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

Resources

Funding needed: $55,000 for FY 2011.

EIP11-SW07-2-(A) Expand Recycling Programs

Description of Action

The Fairfax County Solid Waste Management Program will continue its emphasis on recycling for residents and businesses. Curbside recycling for single-family homes and townhouses was expanded to include additional materials for which markets exists, such as mixed paper, corrugated cardboard, and plastic bottles and jugs. In order to improve recycling opportunities for County businesses, the business recycling improvement program has focused 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:

This environmental action has been completed: 1) Fairfax County's solid waste management code, Chapter 109.1 was modified to require refuse and recycling collection companies to collect additional recyclables from residential properties; 2) code modifications also included the requirements for all nonresidential and multifamily properties to recycle paper and cardboard, at a minimum; and 3) all construction projects in Fairfax County are required to recycle cardboard.

Resources

Since this action has been completed, it should be removed from the EIP.

EIP11-SW08-4-(A) 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 purse 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, DPWES staff worked with the Fairfax County Health Department take the lead in enforcing Chapter 46, which is the county's health ordinance. Fairfax County Solid Waste Management Program developed an agreement to work with the Health Department when it receives complaints about illegal dumping or the improper disposal of waste materials in the county.

When the Health Department receives a complaint about illegal/improper disposal, it contacts the Fairfax County Solid Waste Management Program and an inspector from the program inspects the site. The inspector identifies the owner of the property and a letter is sent to notify the owner that he/she has 10 days to clean up the materials. The letter also states that if the property owner does not clean up the site, then the Fairfax County Solid Waste Management Program will cleanup the property and place lien on the property to recover the cost of the cleanup which will eventually be forwarded to the Fairfax County Solid Waste Management Program. This program is established and currently in effect; therefore, this action item should be removed from the EIP.

Resources:

Since this action has been completed, it should be removed from the EIP.

EIP11-SW07-3-(B) Encourage Use of Recycled Products through Environmentally Preferable Purchasing (EPP)

Description of Action

The county should encourage the purchase and use of recycled products by developing an Environmentally Preferable Purchasing (EPP) Program for use by county purchasing staff. This program will provide information to potential buyers about products that include recycled content and/or have the least negative impact on the environment. It is widely accepted that promoting the purchase of environmentally-preferable 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:

Fairfax County Framework for Excellence
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)
Department of Purchasing and Supply Management (DPSM)

Status/Plans/Outcomes:

The Department of Purchasing and Supply Management (DPSM) has established a team of representatives from a variety of county agencies to develop an environmentally-preferable purchasing (EPP) policy for Fairfax County government employees to use when making purchasing decisions. The Solid Waste Management Program is working with the team to draft an EPP policy which will eventually be forwarded to the County Executive for review and eventual implementation.

This EPP policy is intended to give guidance about the benefits of EPP in purchasing decisions. It will also provide tools for employees to use to help to find articles/items that they need to purchase which will have less negative impact on the environment from their use than other items.

Two EIP actions, EIP10-SW07-3-(B), regarding environmentally-preferable purchasing, and EIP10-SW07-4-(B), regarding increased use of recycled-content products, have been combined into one action item due to the overlap in the intent of each of these environmental actions.

Resources

Annual program costs are estimated at approximately $15,000. 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.

EIP11-SW07-5-(B) Remote HHW Collection Events

Description of Action

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

Environmental Agenda Objectives Supported:

Solid Waste IV

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

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

Lead Agency:

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

Status/Plans/Outcomes:

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

Resources:

The Solid Waste Management Program has been funded, through the EIP, for two more household hazardous waste collection events in calendar year 2009: one on June 13th and one on September 12th. This will complete the fourth consecutive year of remote events used to augment the permanent HHW facilities open every week at two different locations in the county.

Funding in the amount $115,000 is needed for five of these events. This funding is used to pay for the services of a professional hazardous waste management company with the necessary permits and approvals to legally dispose of hazardous waste. The actual total for the five events is approximately $123,000, since we use some of our own employees to work the events as well as paying for print advertisements to announce the availability of the service.

EIP11-SW07-6-(B) Develop Long-Term Plans to Manage Electronic Waste within Fairfax County

Description of Action:

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

Environmental Agenda Objectives Supported:

Solid Waste IV

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

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

Lead Agency:

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

Status/Plans/Outcomes

The Fairfax County Solid Waste Management Program was continuously requested to collect old computers for recycling. With the switchover to digital television, additional requests were made to staff to collect televisions in addition to computers and other e-waste. Specific requests were made to accommodate the collection at all times of the year, rather than conducting outdoor collections in months only when the weather can be expected to be temperate.

To address this year-round need, the Fairfax County Solid Waste Management Program decided to accept electronics and televisions for recycling at the I-66 Transfer Station one Sunday per month. This service is provided at no charge to county residents. Prior to the use of the Transfer Station to collect e-waste, individual e-waste recycling events were held in a variety of locations around the county since 2002. These events will eventually be phased out because of the monthly service at the Transfer Station. The use of the Transfer Station allows the collections to occur even during inclement weather since the collections are held under roof.

Resources:

Annual program costs for collecting and recycling e-waste 12 times per year are estimated to be approximately $250,000 per year. Funding sources have not yet been identified.

EIP11-SW07-7-(B) DEVELOP A TOXICS REDUCTION CAMPAIGN

Description of Action:

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

Environmental Agenda Objectives Supported:

Air Quality and Transportation II
Solid Waste IV

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

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

Lead Agency:

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

Status/Plans/Outcomes:

Fairfax County has worked with the Northern Virginia Regional Commission and its partners to create a website entitled www.Knowtoxics.com. The purpose of the website is to provide information and resources to businesses in Fairfax County about their obligation to properly dispose of or otherwise properly manage these materials when they have reached the end of their useful life. The website had been on line since 2006 and is updated periodically to ensure its accuracy and relevance. It has been an effective tool for governmental solid waste managers to use to assist in educating businesses about their environmental responsibilities.

Resources

Annual program costs will be approximately $10,000 per year. Funding sources have not yet been identified.

EIP11-SW08-1-(B) Maximize Recovery of Energy From Landfill Gas (LFG) Resources

Description of Action

The County has two closed municipal solid waste (MSW) landfills, one each at the I-95 and I-66 solid waste management facilities, that generate landfill gas (LFG) as the 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-generators 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 partnership with DWWM, the Solid Waste Management Program (SWMP) teamed with the DPWES-DWWM to use LFG from the closed I-95 landfill to incinerate sludge at the Noman Cole Waste Water Treatment Plant three miles away in Lorton. A similar project at I-66 uses LFG from the closed I-66 landfill to heat the Administration Building and the Department of Vehicle Services' maintenance garage. The final phase of this work will be to investigate the feasibility of using LFG to supplement heating needs at the new West Ox Bus Operations Center.

Resources
$300,000 of EIP funds used for project design and construction cost. $150,000 is needed to expand the project to the Bus Center

EIP11-SW08-2-(B) Effluent Reuse at Covanta E/RRF from Noman Cole WWTP

Description of Action:

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

Environmental Agenda Objectives Supported:

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.

EIP11-SW09-1 (B) SUPPORT TRASH-FREE POTOMAC WATERSHED INITIATIVE

Description of Action:

This is a regional program, developed and supported by the Alice Ferguson Foundation, to reduce litter and increase recycling, and education and awareness of solid waste issues in the Potomac River Watershed with the goal of eliminating litter in the river by 2013.

Environmental Agenda Objectives Supported:

Water Quality III
Solid Waste IV

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

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

Lead Agency:

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

Status/Plans/Outcomes:

The Solid Waste Management Program has supported the Trash-Free Potomac Watershed Initiative through donations to the Alice Ferguson Foundation (AFF), a non-profit organization dedicated to protecting and improving the quality of the Potomac River watershed. The foundation holds annual summits to gather talented and visionary people to promote thinking and dialogue, which in turn identifies and recommends key steps to achieve the goal of a Trash-Free Potomac by 2013.

One of the primary venues to address the health of tributaries to the Potomac River is through the annual stream cleanups that are promoted by the AFF. This year, the Solid Waste Management Program assisted in the Potomac River Watershed cleanup in the following ways:

- Individual outreach efforts conducted by the Fairfax County Stormwater Program, the Fairfax County Park Authority, the Northern Virginia Soil & Water Conservation District and the Fairfax County Solid Waste Management Program were coordinated to augment and support each others' efforts. This included press releases, articles in *Newslink* and information on the county website that directed interested parties to the AFF website to learn how to participate in the annual Potomac River Watershed cleanup.

- The Fairfax County Solid Waste Management Program developed a flyer that was printed and distributed to about 90,000 Fairfax County Public School students in their weekly teacher packets. This flyer contained information about the annual Potomac River watershed cleanup and directed interested students to the AFF website for information on how to become involved. This was funded by the Fairfax County Solid Waste Management Program.

- Copies of flyers were sent to each Board of Supervisor's offices for distribution to residents.

- The Fairfax County Solid Waste Management Program purchased a full-page advertisement in the *Fairfax Weekly* of the *Washington Post* to announce and advertise the opportunity for residents to get involved in the stream cleanups directing them to the AFF's comprehensive listing of all of the 123 cleanups scheduled for Fairfax County. There was a 20% increase in the number of stream cleanups scheduled for Fairfax County this year as compared to the previous year.

Resources:

The Solid Waste Management Program donated $25,000 to the Alice Ferguson Foundation in FY 2009. This donation came from the annual amount of funding directed to the Fairfax County Solid Waste Management Program from the Virginia Litter Prevention and Recycling Fund, managed and administered by the VA Litter Prevention and Recycling Fund Board and the VA Department of Environmental Quality. Other funding for the school flyers and the print ad was provided by the Fairfax County Solid Waste Management Program, which amounted to about $5,000.

In fiscal 2010, the AFF has requested an additional $50,000 in funding from Fairfax County. A funding source has not been identified.

EIP11-SW09-2 (C) RENEWABLE ENERGY DEMONSTRATION PARK

Description of Action:

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

Environmental Agenda Objectives Supported:

Solid Waste IV
Environmental Stewardship VI

Other Plans or Documents where this action appears or supports:

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

Lead Agency:

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

Status/Plans/Outcomes:

Efforts have focused on identifying technologies suitable for simplistic, renewables-centered projects that can be constructed at the landfill within the next 6 to 12 months. Existing/completed renewable energy projects are considered Phase I of the Demonstration. The first new project, Phase II, will likely be the installation of a solar-powered pond aerator, followed by the installation of solar water heaters in selected restrooms at the facility. Later Phases may include a windmill and solar panel array.

Resources:

Approximately $50,000 in equipment and staff time to install the Phase II projects (pond aerator and water heaters), with a significant supplementary donation from Covanta Fairfax, Inc. Funding in the amount of approximately $50,000 is needed to complete initial feasibility study and overall Park concept/design. Additional start-up funding may be necessary to complete specific projects in later Phases.

EIP11-SW10-1 (C) LITTER MANAGEMENT EFFICIENCY ENHANCEMENTS

Description of Action:

This is an initial technology demonstration to identify a suitable location and install a solar-powered self-compacting litter bin.

Environmental Agenda Objectives Supported:

Solid Waste IV
Environmental Stewardship VI

Other Plans or Documents where this action appears or supports:

Board of Supervisors Environmental Agenda (2005)

Lead Agency:

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

Status/Plans/Outcomes:

The unit can be purchased immediately upon funding. Initial research into a suitable demonstration site for the unit suggests the new Lorton Arts Foundation or the soon-to-be-completed equestrian center, also in Lorton.

Resources:

Approximately $5,000 in equipment and staff time to install the first unit.

EIP11-SW10-2 (C) SINGLE-STREAM RECYCLING TOTERS FOR COUNTY CUSTOMERS

Description of Action:

Industry experience and the professional literature demonstrate that bigger recycling rolling carts are needed by residents living in a modern integrated solid waste management system. Bigger recycling rolling carts will reduce collection costs, reduce air pollutant/GHG emissions from collections, and will otherwise reduce the environmental footprint of the County's operation.

Environmental Agenda Objectives Supported:

Solid Waste IV
Environmental Stewardship VI

Other Plans or Documents where this action appears or supports:

Board of Supervisors Environmental Agenda (2005)

Lead Agency:

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

Status/Plans/Outcomes:

Efforts have focused on identifying the most suitable rolling cartsize and design.

Resources:

Approximately $2.5M in equipment and staff time.

EIP10-PT07-04(A). 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

The funding for this project has been expended, additional projects are included in **EIP10-PT07-03(B). Pedestrian Improvements in the Four Year Transportation Plan.**

Resources

$2,900,000 funded through FY 2010

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

Description of Action

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

Environmental Agenda Objectives Supported:

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

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

Comprehensive Plan

Lead Agency:

DOT

Status/Plans/Outcomes

Underway

Resources

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

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

Description of Action

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

Environmental Agenda Objectives Supported:

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

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

Comprehensive Plan

Lead Agency:

DPZ/DOT

Status/Plans/Outcomes

Underway

Resources

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

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

Description of Action

The Fairfax County Board of Supervisors Second Four-Year Transportation Program for FY 2008 through FY 2011 provides funding of $25 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

$25,210,000 funded
Approximately $25 million for pedestrian improvements throughout the County as provided in Board's Second Four-Year Transportation Program. Actual expenditures on yearly basis undetermined; approximately $25 million total available for timeframe of FY 2008 through FY 2011. Board of Supervisors Second Four-Year Transportation Program provides necessary funding of $25 million to accomplish the future plans noted above.

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

Description of Action

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

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

Environmental Agenda Objectives Supported:

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

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

Comprehensive Plan

Lead Agency:

DPZ

Status/Plans/Outcomes

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

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

Resources

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

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

Description of Action

After 6 years of work the Cross County Trail was completed in December 2005. The trail is more than 41 miles long, stretching from the Potomac River at Great Falls Park to the Occoquan River and passing through all nine magisterial districts. The trail forms a north-south trail spine for county trail users. An amount of $450,000 for upgrades for the Cross County Trail was requested for the FY 09 budget, but not allocated, to continue improvements for this countywide trail.

Cross County Trail improvements include a reroute 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. The project consisted of more than 2 miles of trail and 3 bridges. 80% of the funding came from Federal Highway Administration Transportation Enhancement Grants or other federal grants and 20% was from the 2006 Park Bond. Another project is in design for a reroute of a trail section in Pohick Stream Valley that will avoid a very steep, non-sustainable section of trail, make a connection to the South Run Stream Valley Trail, and renovate three fair-weather crossings.

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 including the at-grade crossing at Route 7, additional signs to identify trail connections, rest stop locations, drinking water sources, etc., and additional upgrades to trail surfacing. Funding sources for this additional

amount have not yet been identified, but could include grant funds, Park Authority bond funding, and general funds.

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

Description of Action

The Park Authority trail system continues to be developed through the park bond program, developer proffers, and volunteer efforts. Current efforts include a Trail Development Strategy Plan to aid in locating missing links and prioritizing needed trail network connections. Trail plans are underway for Laurel Hill and Sully Woodlands where the complexity and breadth of the land and variety of uses require careful planning and coordination.

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: $5,000,000 -2006 Park Bond,
$1,482,000 – 2008 Park Bond
$1,268,000 – 2007 Transportation Bond
Funds Needed: Approximately $60 million

$5 million for trails was included in the interim park bond that was approved in November 2006. This money was used to fund upgrades to the Cross County Trail, projects in Laurel Hill and Cub Run Stream Valley, and other smaller projects throughout the County. The 2007 Transportation Bond funds will be used to build a commuter connection to a VRE station in Pohick Stream Valley, while the 2008 Park Bond funds will be used to fuund a number of smaller projects including the completion of a section of the Potomac National Heritage Scenic Trail in Riverbend Park.

An additional 60 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, $60 million will be needed to implement this trail program to its fullest extent. Park Authority trails form the main off-road countywide trail system. It is essential to continue to develop these trails at a quick pace to attempt to meet the desire for trails as expressed in the needs assessment.

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

Description of Action

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

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

Environmental Agenda Objectives Supported:

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

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

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

Lead Agency:

FCPA

Status/Plans/Outcomes

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

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

Resources

Needed: $750,000

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

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

Description of Action

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

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

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

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

Environmental Agenda Objectives Supported:

Parks Trails, and Open Space 1, 2

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

Comprehensive Plan
Park Policy Manual

Lead Agency:

FCPA

Status/Plans/Outcomes

Ongoing

Two significant acquisitions were made with funding from the 2002 and 2004 Bonds that will serve County urban areas, one in Bailey's and one in Merrifield, Merrilee Park. A proffered urban park, Merrifield Park, was dedicated to the Park Authority at the end of 2008, The Park Authority will continue to pursue acquisition in urban areas as funding is made available, through bond dollars and proffers in the land development process and through a variety of partnerships in Tysons Corner, transit-oriented development (TOD) areas, and revitalization areas. The Park Authority is actively working with the Tysons Land Use Task Force and Planning Commission to draft Comprehensive Plan guidance for Tysons Corner. In addition, Park Authority planning staff is actively working with County revitalization staff to encourage urban parks in revitalization districts. As a result of staff better understanding urban parks and how they should be integrated into Tysons and other emerging mixed use centers in the County, urban parkland service level standards were adopted by the Park Authority Board. These approved urban parkland standards equal 1.5 acre per 1,000 population plus 1 acre per 10,000 employees. The Park Authority also recommended development of a three-tiered park system within Tysons Corner that includes urban pocket parks, urban recreation nodes and a central park. These standards support County policy language concerning urban parks.

In the spring of 2008, an interagency planning team representing the Park Authority, the Department of Planning and Zoning and the Office of Community Revitalization and Reinvestment convened to gain a common understanding of the function and design of urban parks as they apply in Fairfax County, particularly in Tysons Corner and the County's revitalization areas. The team developed a draft Urban Parks Framework that will be used to plan for and develop urban parks in Fairfax County's urbanizing centers.

The draft Framework document is organized in five sections: Background, Urban Park Design Elements, Urban Park Types with photos and examples, Supporting Features, and Implementation Strategies. Four Urban Park Types are identified, including Pocket Parks, Civic Plazas, Common Greens, and Recreation-Focused Urban Parks. The draft document is currently being reviewed by stakeholders including the county's elected and appointed officials, staff from various county agencies, the Fairfax Arts Council, and members of the development community. This document will serve to clarify expectations for developers, county staff and community decision makers to ensure that new urban developments will provide for park and recreation needs in the County's growth areas.

It is challenging to acquire and develop these types of parks due to the high cost of land in urban and other mixed use areas and low land availability. It can also be more expensive to develop these types of parks as the intensity of use requires higher quality landscaping and hard surfacing and a concentration of facilities. The Park Authority is actively pursuing opportunities to

leverage public funding for new public urban parks and to work cooperatively with other County agencies and private developers.

Resources
Cost: $1,000,000 for acquisition (funded)
Future Cost: $10,000,000+ to acquire and develop 2-3 urban pocket parks in urban areas or 1 central park in Tysons.

$10,000,000 will develop 2 - 3 urban parks in locations to be determined. Two significant acquisitions were made with funding from the 2004 Bond that will serve County urban areas, one in Bailey's and one in Merrifield. The Park Authority has funding available from the 2008 Park Bond for land acquisitions across the county. 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 urban parks established as part of the land development process with public access are an effective alternative to meet a portion of this need.

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

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

Environmental Agenda Objectives Supported:
Parks Trails, and Open Space 1, 2, 4, 5

Other Plans or Documents where this action appears or that it supports:
Comprehensive Plan
FCPA Policy Manual
FCPA Strategic Plan

Lead Agency:
FCPA

Status/Plans/Outcomes
Underway

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

The Needs Assessment process should be updated every 5-7 years and should take place in FY 2010/2011 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 2011, at which time a resource cost will be assessed. It is anticipated that the cost to hire a consultant will be at least $300,000.

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

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

Description of Action

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

Environmental Agenda Objectives Supported:

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

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

Comprehensive Plan
2004 Park and Recreation Needs Assessment
FCPA Strategic Plan

Lead Agency:

FCPA

Status/Plans/Outcomes

Underway

The 2004 Park Authority Needs Assessment identified $111,838,000 needed in the near term (2004-2007) and $377,000,000 needed through 2013 for land acquisition, facility renovation, and new capital improvements. A portion of the Near Term Needs will be satisfied through the acquisition and build out of the current and upcoming Capital Improvement Plans. The approved 2004, 2006 and 2008 Park Bonds total $155 million and will meet a portion of the funding needs for additional land acquisition, stewardship and renovation projects.

Resources

The approved 2004, 2006 and 2008 Park Bonds total $155 million and will meet a portion of the funding needs for additional land acquisition, stewardship and renovation projects.

Intermediate Term (2008-2010) needs identified in the 2004 Needs Assessment (not including Land Acquisition) total $93,258,403 of the $377,000,000 needed through 2013. The next park bond is scheduled for 2012 for $37 million.

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

EIP10-PT07-12(B). Parkland Acquisition

Description of Action

The Park Authority continually looks for ways to expand and enhance park land and open space for newer and better active recreation opportunities, the stewardship of open space and our natural resources, and the preservation of cultural and archeological resources. These goals can be accomplished with the acquisition of new parkland, conservation easements to protect critical resources and open space, securing development rights for park development projects, and acquisition of trail easements to expand the county's 41-mile Cross County Trail. All of these endeavors are part of the ongoing identification and pursuit of new acquisition opportunities to provide a comprehensive and robust park system for the citizens of Fairfax County. Congressman Connolly has challenged the Park Authority to acquire 10% of the land in the county. Current land holdings account for 9.6% of the county land mass, with over 1,000 acres needed to reach the 10% target.

Environmental Agenda Objectives Supported:

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

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

Comprehensive Plan

Lead Agency:

FCPA

Status/Plans/Outcomes

Underway

The Park Authority will continue to identify and acquire land suitable for public open space through a variety of methods. This will include active pursuit of: purchases of private land, purchase of trail and conservation easements on occupied land, transfers of open space land from the County and other organizations, dedications of land through the land development process, and donations of land and funding from both private entities and public organizations.

The adopted Land Acquisition Criteria and the Needs Assessment will continue to guide the planning of the land acquisition program where open space and developable land for active recreational uses is needed most throughout the county. As critical land acquisition decisions arise from unsolicited sources (offers of bargain land sales, targeted properties appear on the market for sale), the Park Authority will evaluate proposals and consider options to alter its current program course to take advantage of such opportunities.

Resources

Funded: $10,000,000 (remaining to date from 2008 bond)
Funding Needed: $80,000,000 (identified in the Park Authority Board approved Land Acquisition work plan).

The cost of resources needed to fully accomplish this objective has not yet been identified, as the price of land varies significantly throughout the county. While some acquisitions are made at no cost to the Park Authority, such as a transfer of county land, the properties that are most important to fill deficiencies in open space countywide must be purchased. With the rapidly dwindling availability of open space in the County, and continually rising cost of land, adequate land acquisition funding is needed for the Park Authority to acquire open space. The recent downturn in the housing market has created opportunities to purchase land at a lower cost. With the support of the County Executive and the Dept. of Management and Budget, creative financing opportunities can be created which will allow the Park Authority to purchase open space before it is too late.

EIP10-PT07-13(B). Open Space Easements/NVCT Partnership

Description of Action

Through the Open Space Easements Program coordinated by the Dept. of Planning and Zoning, donation or purchase of conservation easements has been encouraged for a number of purposes, including open space, historic preservation and trails. The public is encouraged to work with any qualified non-profit land trust, or with the Fairfax County Park Authority or the Northern Virginia Regional Park Authority.

There are several non-profit land trusts that work locally, including the Northern Virginia Conservation Trust (NVCT) and the Potomac Conservancy. The County entered into a public-private partnership with NVCT in FY 2001. Through this partnership, NVCT has obtained 34 conservation easements, four land gifts and assisted projects protecting over 650 acres in Fairfax County. NVCT estimates a value of over $50 million in protection through this program. The Potomac Conservancy seeks easements to protect the Potomac River in four states and the District of Columbia, and has six easements in Northern Virginia (Arlington and Fairfax Counties).

NVCT proactively identifies properties with high natural resource or historical value and promotes donations of easements or fee simple interests in the land. Using the Fairfax County Park Authority's Green Infrastructure Model and the Inventory of Historic Sites, the Trust contacts landowners of significant properties and encourages donation of conservation easements or fee simple interest. By using federal and state tax and local incentives NVCT has been able to facilitate the donation of over $50 million worth of conservation lands in Fairfax County.

Environmental Agenda Objectives Supported:

Parks Trails, and Open Space 4, 6

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

Comprehensive Plan

Lead Agency:

DPZ/FCPA/NVCT

Status/Plans/Outcomes

Underway

Resources

Cost: $239,740 (Approved County Contribution for FY 2010)
Future Cost: $239,740 + CPI (annual cost)

EIP10-PT07-14(B). Park Authority Conservation Easement Initiatives

Description of Action

Park Authority conservation easement initiatives are utilized for preservation of open space, historic and natural resources, and to facilitate trail connections throughout the County.

The Fairfax County Park Authority (Park Authority) is a leader in conservation and preservation of open space and is dedicated to protecting natural, cultural and historic resources in Fairfax County. The Park Authority and the Board of Supervisors have acquired a 41-acre conservation easement and purchase options on the historic property known as "Salona." The Salona homestead and grounds comprise 7.8 acres within the 52.4 acre site, and is already protected in perpetuity by a 1971 easement to the Board of Supervisors. Salona derives its name from the circa 1805 homestead associated with this site. Salona has significant cultural history of local, state and national importance that spans centuries. This was the home of Henry "Light Horse Harry" Lee, a Revolutionary War hero; it was to Salona that Dolley Madison fled in 1814 when British troops were burning the White House; and during the Civil War, Salona served as a part of the headquarters for the Union Army. The Northern Virginia Conservation Trust has the role of easement enforcement, and collaborated on the acquisition of the easement. Several other key acquisitions of conservation easements include the Elklick Woodland Natural Area Preserve, which protected over 200 acres of rare oak hickory forest from development, and the preservation of Oak Hill, the last remaining residence with a connection to the Fitzhugh family (the Fitzhugh's owned the largest land grant in Fairfax County in the 1700's). In addition, the Park Authority completed the Cross County Trail, using acquisitions of open space, conservation easements and trail easements as mechanisms to complete the CCT.

The Park Authority has developed the Green Infrastructure Model for targeting land acquisition opportunities that have significant natural or cultural resources. The Green Infrastructure Model, along with the recently completed Park Authority Needs Assessment, has provided a blueprint for acquisition of parkland and preservation of open space, significant resources, and trail corridors in the County.

Environmental Agenda Objectives Supported:

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

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

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

Lead Agency:

FCPA

Status/Plans/Outcomes

Ongoing

The Park Authority will continue to utilize the Green Infrastructure Model and Needs Assessment tools to cost effectively acquire additional open space, conservation easements and trail connections. Refinement of the Green Infrastructure Model and the implementation of the Agency Natural Resource Management Plan, which lays out strategies to evaluate natural resources on properties prior to acquisition, will allow the Park Authority to make more deliberate and effective decision in regards to open space protection through acquisitions and easements. With the rapidly dwindling availability of open space in the County, and continually rising cost of land, conservation easements will become a much more heavily relied upon tool for the Park Authority to protect open space.

Resources

Funded: $10,000,000 (remaining to date from 2008 bond)
Funding Needed: $10,000,000 would help establish a more aggressive Park Authority conservation easement program.

EIP10-PT07-17(B). Park Authority Natural Resource Management Plan Implementation--Encroachment Enforcement

Description of Action

The Park Authority has developed an Agency-wide Natural Resource Management Plan (NRMP), which was approved by the Park Authority Board in January 2004. The plan outlines strategies, actions and policy changes needed to appropriately plan, develop and manage parkland. The first phase of implementation of the Natural Resource Management Plan is focused on strategies that do not require additional resources such as reviewing policies and procedures, building partnerships and expanding education. To continue to implement this plan, funding is needed. 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: $250,000 (annual cost)
While this effort requires dedicated recurring funding and staff position/s to be fully implemented, significant progress can be made with one-time funding.

EIP10-PT08-01(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 2011 will mark the 7th 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 Stewardship1, 2, 3, and 4

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

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

Lead Agency:

Park Authority

Status/Plans/Outcomes

- As the steward of many of the county's natural areas and an educator, the Park Authority must take the lead in natural resource management.
- The Park Authority's Natural Resource Management Plan has been in place and under implementation for several years. The plan, when implemented, will strongly support the Board's 20-Year Environmental Vision.
- In anticipation of the plan, in 2003, the Natural Resource Group was restructured and one position was added from within.
- Six years into implementation (as of FY 2010), we are doing everything we can –making changes to policy and practices, educating staff and residents and asking all Fairfax County Park Authority staff to help where they can.

The intent of the Natural Resource Management Plan – to manage natural resources - can not occur without additional funding and staff.

Resources

- To manage all of our natural areas, it is estimated that $3 million per year and dozens of staff are needed.
- Some of the functions and capacity we are lacking include: natural land managers, ecologists, restoration specialists, water resource specialists, wildlife specialists, planners and project managers.
- A phased approach will allow us to manage the natural resources on at least 10 percent of our parkland. We'll use this first phase to learn how best to set up the program for all park land.

Phase 1 cost: $650,000 recurring need includes six staff positions in technical and field disciplines, costs for consultant services, equipment and operating costs.

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EIP10-PT08-03(B). Park Information Systems

Description of Action

The goal of the project is to develop a framework for modeling ecologically significant resources to inform land use and development decisions in Fairfax County. The project will be an ecological modeling proof of concept to show what modeling options are available, how well they work and how much they would cost. If implemented, the model could help both the Park Authority and the County make more informed land use decisions.

While there are many robust models completed by local, regional and national agencies, many are not applicable to Fairfax County because it is urbanized and traditional conservation biology principles can not readily applied to the county. Therefore, the consultant, in coordination with the Park Authority, will need to develop principles and criteria for defining ecologically significant resources in Fairfax County. Areas with potential for restoration will also be identified.

Environmental Agenda Objectives Supported:

Parks Trails, and Open Space 4, 5, and 6

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

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

Lead Agency:

Park Authority

Status/Plans/Outcomes

The project was awarded to PlanGraphics, Inc in the fall of 2007 who has teamed up with George Mason University as a sub-consultant. The project is well underway and all but the demonstration of the model (which is unfunded) will be completed late in 2009.

A demonstration of the model to be conducted for the Sully Woodlands region and the results used to refine the model protocol is unfunded. The end product will include an assessment of other green infrastructure and natural area models, evaluation of existing data and recommendations for model options including costs of development and data. Development of the model for the entire county will be considered based upon results of this study and availability of funding.

The Park Authority is leading this project and collaborating with the Department of Information Technology, the Department of Planning and Zoning, the Department of Public Works and Environmental Services and others.

Resources

$180,000 funded by the Board of Supervisors
$200,000-$1,000,000 additional funding is needed to test and implement the model.

EIP10-PT09-01(B). Creation of District-Wide Park Plans

Description of Action

The Fairfax County Park Authority initiated the **Great Parks, Great Communities** planning project in February 2007 to develop a comprehensive park system plan to guide park planning in Fairfax County through the year 2020. This effort addresses the need for a comprehensive and integrated approach to planning for park land acquisition, resource protection and development activities over a ten year period. The comprehensive **Great Parks, Great Communities** planning process is structured in three phases over three-years: Phase I involved the creation of Existing Conditions Reports for each of the County's fourteen Planning Districts; Phase II consisted of extensive public outreach, issue identification and analysis; Phase III includes report development, public review and adoption of the plan.

The **Great Parks, Great Communities** project objectives include the following:

- Collect and analyze data relevant to park and recreation resources in Fairfax County to better understand the park system within a local context;
- Work with the community to ascertain public attitudes and preferences with regard to the existing park system; identify issues and develop strategies for sustaining the resources of the park system; and identify changes needed to meet future needs, preferences and demographic shifts.
- Tie together previously established Park Authority objectives, policies, standards, and priorities for the protection and stewardship of natural and cultural resources and the development and management of recreation resources; and
- Create a comprehensive long range park system plan that provides recommendations and priorities for balancing the park system to meet existing and future park needs and serves as an overarching plan to guide park planning efforts at the individual park master plan level.

During 2008, the **Great Parks, Great Communities** interdisciplinary project teams interacted with hundreds of citizens at ten public workshops, community festivals, park events, and via email and the project web site. Using stakeholder input, 24 key issues were identified. Each issue fits within one of the seven themes described below and relates to the Land, Resources and/or Facilities of the Park Authority.

Major Themes

- **Connectivity** – Better integrating parks with surrounding land uses (neighborhoods and employment centers) and increasing park-to-park connections within the system will allow for greater access and enjoyment. Strategy suggestions include adding trails, trail connections, bridges and other forms of improved access to and between parks.

- **Community Building –** Local parks are places where people can interact and build community. Well-designed and located parks, park facilities and programs support greater social interaction. Co-location of facilities with other community uses can also assist in strengthening communities. Strategy suggestions include ways to increase the community-building role of local parks in residential neighborhoods.

- **Service Delivery** – The Park Authority provides quality facilities that are well used, but may not be equitably distributed across all parts of the County or accessible to all groups. Countywide and specialty facilities, in particular, may not serve a true county-wide service area. Residents desire recreational facilities and opportunities at parks near where they live and for all age groups and socio-economic populations. Strategy suggestions include creating more facilities, better distributing facilities across the County, and reducing barriers to use.

- **Facility Re-Investment** – The Park Authority has a great diversity of facilities and resources in various lifecycle stages. Funding and schedules for replacement or reinvestment are inconsistent and adding new facilities has sometimes taken precedence over renewal of existing facilities. Strategy suggestions include repairing, replacing, upgrading, and improving utilization of existing facilities and equipment.

- **Land Acquisition** – Additional parkland is needed to protect and buffer currently-owned natural areas and historic sites, provide room to develop new recreational facilities, and to protect existing private "green spaces" within neighborhoods. Strategy suggestions include continuing to add appropriate land to the Park Authority's land holdings to expand the park system.

- **Resource Stewardship** – Many factors threaten the health, protection and viability of natural and cultural resources on County parkland. Strategy suggestions include focusing on managing threats, actively managing existing natural and cultural resources, and improving collections storage and preservation.

- **Resource Interpretation** – Residents may not be aware of or understand the importance of the vast number of natural and cultural resources the Park Authority holds in public trust. Strategy suggestions include adding to the existing interpretive facilities, signs, and programs.

Planning-District level plans are being developed to provide existing conditions information and recommendations specific to the local park system. These plans will be used to update the Countywide Comprehensive Plan Park and Recreation Recommendations and will guide park planning and resource decision making at individual park sites.

Environmental Agenda Objectives Supported:
Parks Trails and Open Space 2 and 3; Growth & Land Use 2, 4, & 7; Air Quality and Transportation 1

Other Plans or Documents where this action appears or that it supports:
Comprehensive Plan
Park Authority Needs Assessment
Watershed Plans
Park Authority Strategic Plan

Lead Agency:
FCPA

Status/Plans/Outcomes
Underway

The Park Authority has completed Existing Conditions Reports (XCRs) for each planning district and has posted them for public review on the project web site. Public outreach and stakeholder identification has also taken place. Issues analysis occurred throughout FY 2009 and strategy identification, plan development, and Park Authority Board review will occur throughout the first half of 2009 .

Resources
Using available FCPA and DPZ staff time

EIP10-PT09-03(B). Synthetic Turf Athletic Fields

Description of Action
In 2004, the FCPA developed its first synthetic athletic field turf conversion at Lewinsville Park #2, in partnership with a community user group. In 2005, the FCPA converted and lighted E.C. Lawrence Park #2. In 2006 Mason District Park #4 and Wakefield Park #5 underwent conversions utilizing the Synthetic Turf Field Development Program (STFDP), a matching fund type effort. In the summer of 2007, the conversion of Poplar Tree Park #3 & #4; South Run Park #5 & #6 and Carl Sandburg MS were completed.. The phase one development of Patriot Park which included the construction of a synthetic turf field and low impact stormwater management facilities was completed in the fall of 2007. Synthetic turf conversion projects completed in 2008 include Bryant MS; Franconia Park #4; Spring Hill Park #2 & #3 and a 60' diamond field at Nottoway Park #5. Upcoming projects for 2009 include the conversion of Lee District Park field #4, Greenbriar Park field #5 and Bailey's ES field #1. Synthetic turf athletic fields may be utilized by the community nearly year round, during and after most weather events, while maintaining a very high degree of playability and player safety.

The fields are environmentally friendly in a variety of ways. The carpet is perforated and installed on a 8"+ porous aggregate base providing excellent vertical drainage. This helps filter contaminants while slowly releasing storm water thorough its subsurface drainage system, minimizes peak flows typical of sheet drained fields. Relative to a natural turf field, these fields require reduced overall maintenance. Emissions are greatly reduced as mowing, aeration, top dressing, seeding, and several other natural turf management tasks performed with fuel powered equipment are eliminated. Applications of fertilizers, soil amendments, and pesticides are not needed, eliminating the potential for runoff, volatilization and ground water contamination. Supplemental irrigation is eliminated, saving this resource.

Environmental Agenda Objectives Supported:
Air Quality (general), Parks, Trails, and Open Space (general) and Environmental Stewardship (general)

Other Plans or Documents where this action appears or that it supports:
Air Quality Management Plan
Comprehensive Plan
Park Authority Strategic Plan
Park Authority Policy Manual
Park Authority Natural Resource Management Plan

Lead Agency:
FCPA

Status/Plans/Outcomes

Underway.

Resources

Patriot Park Phase One is funded by the 2004 Bond. Phase Two may include two to three additional synthetic turf fields and is currently not funded.

The 2006 Park Bond included $10M for synthetic turf field development.

The 2008 Park Bond includes $4M for synthetic turf field development.

Additionally, STFDP is supported by use fees collected by Community Recreation Services (CRS) at approximately $500K per year and community partnerships.

Funding also is made available as a result of developer proffers and direct community partnerships.

EIP10-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. In addition, in order to adequately manage and develop our parks, the Park Authority continues to stretch limited resources in the areas of acquisition, planning, development and maintenance.

The Park Authority has more than 23,000 acres of land, most of which is not marked at its boundaries. As a result, boundaries are not clear and park neighbors can have tremendous impacts on park resources through unintended encroachments. A critical component to an effective encroachment program is the ability to survey park boundaries to accurately identify whether adjoining private property owners are encroaching on parkland. Some encroachments cannot be resolved without going to court; accurate survey documents delineating the nature and extent of the encroachment are critical to any legal case. Recent budget cuts now require the Park Authority's survey team to recover more of the cost of their services, and without a dedicated funding source for them to charge to or to contract this work out, the park resources could be significantly damaged.

This program would survey and permanently mark park boundaries. This would make park property lines clear and help to prevent misunderstandings about property lines and discourage encroachments and their negative impacts.

Environmental Agenda Objectives Supported:

Parks Trails, and Open Space 5

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

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

Lead Agency:

FCPA

Status/Plans/Outcomes

The majority of parkland boundaries are not marked. The continued lack survey and boundary marking allows undesired use of park land such as dumping, encroachments and poor land use practices such a off road biking, hunting and natural/cultural resource degradation. This program includes staff to conduct boundary surveying and marking with supplemental survey work by contract.

Resources

Funding: None
Funding Needed: $250,000 (annual cost)
While this effort requires dedicated recurring funding and staff position/s to be fully implemented, significant progress can be made with one-time funding.

EIP10-PT08-05(C). Sully Woodlands Interpretive Center and Resource Management

Description of Action

The Park Authority has developed a regional master plan for all parkland located within the boundaries of the Cub Run and Bull Run watersheds. This Sully Woodlands Regional Master Plan was developed in close coordination with the watershed planning process. The goal was to produce a regional master plan that not only achieves park objectives for land use and resource management, but one that is in direct concert with, and rooted in, similar county watershed management objectives. This model approach will serve the Park Authority well in other areas of the County as well.

An interpretive center and resource management activities are recommended in the plan. Natural resource management research, plans and activities will need to occur to maintain the integrity of the natural resources and to continue to protect the Cub Run and Bull Run watersheds.

Environmental Agenda Objectives Supported:

Water Quality 1, 2, and 3
Parks, Trails and Open Space 1, 2, 3, 4, 5, and 6
Environmental Stewardship 1, 2, 3 and 4

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

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

Lead Agency:

Park Authority

Status/Plans/Outcomes

Not begun

Resources

Amount to be determined.
Funding will be needed for a nature center as well as interpretive staff and resource/land management staff.
$290,000 for a conceptual plan is included in the 2008 bond.

EIP10-PT08-06(C). Implementing Natural Landscaping Practices on County Properties

Description of Action

This action focuses on the implementation of natural landscaping techniques and practices on County properties. On June 21, 2004 the BOS directed staff to identify County properties where natural landscaping could be used to reduce maintenance practices that can cause harmful environmental impacts such as air pollution, and reduce the need and expense of mowing, pruning, edging, and using fertilizers, pesticides, and herbicides. In response, a Natural Landscaping Committee (NLC) was formed to identify practices, policies and a Countywide implementation plan. The final report and recommendations of the NCL was presented to the Board's Environmental Committee and approved by the BOS on July 11, 2005. The BOS directed the NLC to implement a five-year natural landscaping plan in an aggressive but cooperative fashion and submit natural landscaping projects to the ECC for possible inclusion into the EIP. The following projects are examples of specific natural landscaping projects that can be implemented on County properties:

- Establishing no-mow-zones and replanting these areas with tree seedlings and other alternative ground covers such as native wild flowers and grasses
- Planting riparian buffers with native trees and shrubs
- Installing Schoolyard Habitat Gardens
- Installing natural landscaping improvements using native plants around schools and governmental buildings
- Refitting stormwater management facilities using natural landscaping techniques
- Removing invasive plants that threaten native plant communities and replace with appropriate species trees and shrubs

Environmental Agenda Objectives Supported:

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

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

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

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 2011 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 fuel to maintain than conventional landscaping, and they can also be used to provide energy conservation services for adjacent buildings. Most natural landscaping projects can be used to promote the use of natural landscaping on private properties (see related ES08-09(C) Promoting the use of Natural Landscaping).

Resources

FY 2011 funding needed: $100,000

EIP10-PT10-01(C) Weather Stations for Efficient Water Use at Golf Courses

Description of Action

The Park Authority operates seven golf facilities with extensive automated irrigation systems. Providing irrigation water in an efficient manner is our goal not only to save on water costs, but also to reduce our impact to the environment by using less water. At present we do not have any weather stations in use to assist our managers in their operations. We are requesting funding to allow the installation of a weather station at both Twin Lakes and the Laurel Hill Golf Club. These stations will aid the site superintendent in administering their site specific irrigation programs using advanced technology. These systems will help to measure air temperature, relative humidity, barometric pressure, rainfall, solar radiation, wind direction and wind speed. These stations would assist our Wise Water Use initiatives at our two largest water consumer sites. Water consumption will be reduced as we have the necessary information to modify our watering programs. The data collected by the station will allow us to run shorter irrigation cycles, deliver water to areas in most need and even terminate irrigation cycles during un-staffed times.

Environmental Agenda Objectives Supported:

Environmental Stewardship (General)
Parks Trails and Open Space (General)

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

Park Authority Strategic Plan
Park Authority Natural Resource Management Plan

Lead Agency:

Park Authority

Status/Plans/Outcomes

This project is ready to be implemented if funded.

Resources

$10,000 (unfunded) for two golf courses

Contracted price quotes have been received from John Deere Landscapes for $5,000 per unit totaling $10,000 for both Twin Lakes and Laurel Hill Golf Club.

EIP11-ES09-05 (A) NACo/Energy Star Change a Light Program

Description of Action
NACo sponsored a pledge drive for the Energy Star Change a Light program. In 2006, County staff was challenged to take the initiative to replace an incandescent light at home with an energy efficient compact fluorescent lamp (CFL). The Facilities Management Department publicized the campaign using several types of media, including announcements posted in NewsLink, the Courier, on posters distributed to senior management team, and in email messages distributed by members of the Environmental Coordinating Committee. In 2007, the NACo challenge was conducted in two phases. The first phase was for county employees and the second was for citizens. In addition to the 2006 outreach efforts, additional announcements were made by issuing a press release and incorporating a weblink from the County website to the pledge site.

Environmental Agenda Objectives Supported:
Environmental Stewardship 2 and 5
Air Quality and Transportation (General)

Other Plans or Documents where this action appears or that it supports:
Cool Counties Climate Stabilization Initiative

Lead Agencies:
Facilities Management Department

Status/Plans/Outcomes
- In October 2006, Fairfax County won the award for First-Place ("Large County" Category - Population 500,000 and over) in the NACo pledge drive. 422 pledges were collected from employees. After this event, the Board of Supervisors challenged employees to continue their efforts through the end of November and collected an additional 413 pledges (pledges totaled 1,732 bulbs being changed). Collectively, the efforts of county employees will save 606,583 kWh of energy, $60,658 in energy costs, and prevent 1.1 million pounds of greenhouse gas emissions.
- In December 2007, Fairfax County won the award for First-Place ("Large County" Category - Population 500,000 and over) in the second phase for public outreach. In September 2008, the County received 1,000 CFL's for the award. These bulbs will be distributed at various public events.
- This campaign is an annual occurrence and continuing participation is planned.

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

EIP11-ES09-18 (A) Energy Manager, Park Authority

(In the 2009 EIP, this Fact Sheet was in the Parks, Trails and Open Space section as EIP09-PT09-02 (B). It was assigned a new number when it was moved to the Environmental Stewardship section in the 2010 EIP.)

Description of Action

After several years of planning and in support of the agency's Strategic Plan 2006-2010 an energy manager's position was established. The position was filled in October 2007. The position is responsible for all aspects of energy management for the agency. As part of the current Strategic Plan, one objective is to create an Energy Management Plan for the agency, the position will also be responsible for energy audits, reviewing utility bills for anomalies, and researching and recommending new energy saving technology and facilitating energy projects.

The energy management plan framework has been developed and is being expanded. Based on the plan, related activities, such as energy surveys, energy monitoring, and energy audit practices were done or are being done. Several energy projects were defined, executed, and proposed for next steps.

Environmental Agenda Objectives Supported:

Air Quality (general)
Parks, Trails, and Open Space (general)
Environmental Stewardship (general)

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

Air Quality Management Plan
Comprehensive Plan
Park Authority Strategic Plan
Park Authority Policy Manual
Park Authority Natural Resource Management Plan
Cool Counties Climate Stabilization Initiative

Lead Agency:

FCPA

Status/Plans/Outcomes

The projects that have been identified so far are:

- Providence RECenter lighting system upgrade – Completed
- Frying pan farm park lighting system upgrade – Underway

- Energy surveys – 2 energy surveys completed
- RECenter mechanical system automation – Underway
- EIP energy projects for 2010 – Proposed
- Energy usage/cost monitoring and review – being done
- Energy management certification – was achieved

The hiring of an energy manager in the Park Authority has been completed.

Resources

$107,120 was funded in FY 2007 carryover.
$287,100 was funded in FY 2009.

EIP11-ES10-03 (A) Implement Environmental Management System for Wastewater Management Program

Description of Action

The Wastewater Management Program (WWM) has an initiative to develop and implement an Environmental Management System that meets the requirements for certification within the Department of Environmental Quality's Virginia Environmental Excellence Program. The WWM aspires to acquiring the highest level of recognition within the VEEP Program, which is the Extraordinary Environmental Enterprise level.

Environmental Agenda Objectives Supported

Water Quality (general)
Environmental Stewardship 5

Other Plans or Documents where this actions appears or that it supports

The Cool Counties Climate Stabilization Initiative
MS-4 Permit
Public Works and Environmental Services Strategic Plan

Lead Agency

DPWES

Status/Plans/Outcomes

In March 2004 the Wastewater Management Program received the Environmental Enterprise (E2) certification. In July 2007, The WWM received Exemplary Environmental Enterprise (E3). As the EMS program has been developed and implemented the following objectives have been attained:

- The Wastewater Management Division (WWM) received the Businesses for the Bay Award Environmental Excellence twice (2005 and 2006) for Outstanding Achievement for Nutrient (Phosphorus and Ammonia/nitrogen).

- Carbon Footprint of the Noman M. Cole, Jr. Pollution Control Plant (NMCPCP) was calculated and validated by an independent third party).

- The NMCPCP installed a solar powered mixer in one of the ponds in the summer of 2006

- The Industrial Waste Section of the Wastewater Planning and Monitoring Section requested the replacement of zinc corrosion inhibitors with a zinc free formulation from Fairfax Water. This action will result in a reduction of zinc in the Noman Cole Plant's influent. The agreement was a culmination of 2 years work involving staff from VADEQ, Health Department, WPM & Fairfax Water.

- The Lab reduced deionized water usage by 8,040 gallons per year. Water conservation was accomplished as a result of an EMS initiative by the Lab.

- The Lab eliminated approximately 90% of Lab mercury waste (~90 g/yr). Mercury reduction was achieved by using alternate methods and reagents where possible.

- The Lab implemented electronic submittal of the DMR known as eDMR. Wastewater was one of the initial users of the new DEQ program. Electronic reporting of the monthly DMR can be accomplished from remote locations and eliminates mail or delivery time.

- Wastewater Management staff participate annually in the Potomac Watershed Cleanup.

- The Wastewater Collections Division is on the EPA website as a Case Study Agency Nationally Recognized Collection System.

- Wastewater Management is a sponsor for the Water Environment Federation Sewer Science Program providing mentors to go into 25 Fairfax County High Schools for a week to help with a lab that teaches about wastewater treatment and protection of the waster environment.

- The Wastewater Treatment Division provides tours for the public, including schools, scouts, foreign delegation and colleges. In 2007 the treatment plant led 34 tours for over 700 people.

- Staff from Wastewater Management participated in many different outreach events including Celebrate Fairfax, town hall meetings and Earth Day festivals.

- A lawn irrigation system was installed at the NMCPCP that incorporates water reuse by using finished plant effluent.

- The NMCPCP incorporates reuse of plant’s final effluent into many daily plant operations instead of using county potable water.

- The NMCPCP incinerator is fueled by methane gas captured at the I-95 landfill and piped to the plant.

- NMCPCP staff promptly repaired a large 36-inch pipe that had reduced the plant’s capacity by 60-percent. WCD provided materials for the effort.

- Gunston Cove was nationally and internationally recognized for eutrophication recovery. The Environmental Monitoring Branch has monitored the water quality of Gunston Cove in conjunction with George Mason University to evaluate ecological changes and impacts for the past 24 years. In order to conduct the monitoring, the Branch maintains and operates a 17 foot Boston Whaler for sample collection expeditions

- At the request of Chairman Connolly's office, Wastewater Collection Division's (WCD) Pipe Repair Section removed seven (7) sections of 42" diameter concrete drainage pipes from Little Rocky Run, restored the stream's banks with rip-rap, and seeded the adjacent work zone. These drainage pipes were installed by a developer over 15 years ago, and the community had wanted them removed for nearly one year, before WCD was contacted and the work was completed immediately.

- NMCPCP staff found and fixed leaking gates that were returning 2 mgd back to the head of the plant. The wastage was equivalent over 1 percent of the plant's capacity.

The WWM will be applying for the Virginia DEQ Environmental Excellence Program's Extraordinary Environmental enterprise level of certification in the summer of 2009.

Resources

Resources required for this initiative include staff hours from the EMS coordinator for WWM and other support staff, funding through Basic Ordering Agreement for EMS consultant services and funding for various upgrades and equipment specified in EMS objectives, funded through the operational and maintenance budget and Basic Ordering Agreement funding.

EIP11-ES10-04 (A)Water Use Reduction in the Wastewater Management Program Laboratory Processes

Description of Action

The Environmental Monitoring Branch of the Wastewater Management Program revised laboratory procedures to reduce the amount of water used to perform laboratory tasks.

Environmental Agenda Objectives Supported

Environmental Stewardship 5

Other Plans or Documents where this actions appears or that it supports

Public Works and Environmental Services Strategic Plan

Lead Agency

DPWES

Status/Plans/Outcomes

In 2006 the Environmental Monitoring Branch of the Wastewater Management Program found ways to conserve water, while conducting their laboratory analysis for the wastewater treatment facility. During this time, the lab realized a reduction in deionized water usage by 8,040 gallons per year. Water conservation was accomplished as a result of an EMS initiative by the Lab

Resources

This initiative was accomplished through the staff being more aware of water usage during laboratory work and revision in some laboratory procedures in an effort to conserve water during lab tasks. The only resources expended were lab staff incorporating a new set of work practices into their daily routine.

EIP11-ES10-05 (A) Use Reclaimed Water in the Irrigation System for Noman Cole Pollution Control Plant Landscaping

Description of Action

This initiative focuses on the design and installation of a landscaping irrigation system that would utilized the treated wastewater effluent from the Noman M. Cole, Jr. Pollution Control Plant to provide landscaping and lawn irrigation at the plant.

Environmental Agenda Objectives Supported

Environmental Stewardship 5

Other Plans or Documents where this actions appears or that it supports

Public Works and Environmental Services Strategic Plan

Lead Agency

DPWES

Status/Plans/Outcomes

In January 2008, the contractor Hydro-Tech Irrigation was contracted by Fairfax County to design and install a lawn irrigation system at the Noman M. Cole, Jr. Pollution Control Plant. This irrigation system was designed and installed to utilize reclaimed plant advanced plant water (final plant effluent prior to being dechlorinated) to irrigate approximately 20 acres of the plant's lawn and landscaping. The work was completed by Hydro-Tech in March 2008. The plant began use of the irrigation system in May 2008. The system was designed to allow for expansion of the system to greater acreage as completion of construction projects at the plant allow.

Resources

The $137,800 cost of the project was funded through the Wastewater Treatment Division CIP funds.

EIP11-ES11-01 (A) Installation of a Solar Powered Water Mixer by Wastewater Treatment Division at Noman M. Cole, Jr. Pollution Control Plant

Description of Action

The Wastewater Treatment Division (WTD) installed a solar powered water mixer in one of its equalization ponds at the Noman M. Cole, Jr. Pollution Control Plant instead of refurbishing the existing electrically powered mixers already in the pond.

Environmental Agenda Objectives Supported

Air Quality and Transportation - general
Environmental Stewardship - 5

Other Plans or Documents where this actions appears or that it supports

Air Quality Management Plan
Cool Counties Climate Stabilization Initiative

Lead Agency

DPWES

Status/Plans/Outcomes

In 2005 the WTD installed a solar powered mixer in one of its equalization ponds in lieu of refurbishing the existing electrically powered mixers. The WTD saw a payback of less than a year from the installation in electrical cost savings.

Resources

This effort used funds from the Plant budget in lieu of refurbishing the existing electrically powered mixers.

EIP11-ES11-02 (A) Installation of Solar Water Heater at the Wastewater Treatment Division's Noman M. Cole, Jr. Pollution Control Plant

Description of Action

The Wastewater Management Program's Wastewater Treatment Division has installed one primary solar hot water heater for heating water for showers in the men's and women's locker room, bathrooms and lunch room in the Old Administration Building as an energy saving effort.

Environmental Agenda Objectives Supported

Air Quality and Transportation - general
Environmental Stewardship - 5

Other Plans or Documents where this actions appears or that it supports

Air Quality Management Plan
The Cool Counties Climate Stabilization Initiative

Lead Agency

DPWES

Status/Plans/Outcomes

In November 2008, the Noman M. Cole Jr. Pollution Control Plant installed a primary solar hot water heater to provide hot water for the showers, bathroom and lunch room in the old Administration Building.

Resources

The effort required for performing this installation included procuring services for the installation from Harvey Hottle plumbing contractor. This effort was funded through WMP's annual budget at a cost of approximately $17,000.

EIP11-ES11-03 (A) Installation of Solar Powered Meters by the Wastewater Collections Division

Description of Action

The Wastewater Collection Division's Meter Section installed solar batteries to power meters in 10 locations in Fairfax County.

Environmental Agenda Objectives Supported

Air Quality and Transportation - general
Environmental Stewardship - 5

Other Plans or Documents where this actions appears or that it supports

Air Quality Management Plan
The Cool Counties Climate Stabilization Initiative

Lead Agency

DPWES

Status/Plans/Outcomes

In 2008, the Meter Section installed solar batteries in 10 locations instead of installing electric power, saving several thousands of dollars

Resources

Existing staff resources and funding provided in FY 2008

EIP11-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 make observations about the stream physical conditions and surrounding habitat. Approximately 75 certified monitors collect data four times a year at approximately 15 sites throughout the county. Additional data is collected at other sites in warm seasons. The volunteer data complements the data that is collected for the DPWES Stream Monitoring Program and provides on-going water quality trend data. It also identifies emerging problems. Most importantly, it engages local residents in water resources issues, teaching them about how to lessen their impacts on water quality and reach out to their local community.

Park Authority staff and National Park Service interns also monitor streams in several parks. Staff and an intern conduct the annual Rapid Bio-Assessment II at Huntley Meadows Park.

Environmental Agenda Objectives Supported:

Environmental Stewardship 1, 2, 3 and 4
Water Quality 1, 3, 9 and 10

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

MS-4 Permit
Watershed Management Plans
New Millennium Occoquan Watershed Task Force Report
Park Authority Strategic Plan
Park Authority Natural Resource Management Plan

Lead Agency:
Northern Virginia Soil and Water Conservation District

Other Agencies
Fairfax County Park Authority
Department of Public Works and Environmental Services

Status/Plans/Outcomes
These programs are part of an on-going effort of the Northern Virginia Soil and Water Conservation District, and are supported by FCPA and DPWES.

The volunteer data collected serves as important information for determining water quality trends in the county's streams. Volunteer data is included in the Annual Report on Fairfax County Streams.

As part of the stream monitoring program, NVSWCD conducts programs in elementary, middle and high schools, which include stream monitoring training and educational programs about watershed issues. Certified stream monitors from Woodson High School's Science Honor Society collect data from Accotink Creek.

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 1,200 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.

In 2007, the Audubon Naturalist Society ended its stream monitoring program in Fairfax County. Its monitors and sites were integrated into the stream monitoring program coordinated by NVSWCD.

Fairfax County will continue to support the efforts of volunteers in support of the program and for the protection of water quality within the county.

Resources

Staff support for the volunteer stream monitoring program is funded as part of the NVSWCD annual budget.

Monitoring equipment and supplies are funded through grants, which average $2,000 annually. The annual contribution of volunteers who participate in this program is valued at more than $42,131 (75 x 35 hrs x $16.05/hr).

EIP11-ES07-10 (B) Storm DrainMarking-Pollution Prevention Program

Description of Action

NVSWCD coordinates a storm drain marking program. The neighborhood-based, volunteer-led initiative focuses 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. NVSWCD trains volunteers, who then create and distribute brochures and door hangers within their project area 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 label are applied according to the standards and guidelines in the NVSWCD *Storm Drain Marking Project Guidelines*. (http://www.fairfaxcounty.gov/nvswcd/sdeprojectguide.htm). 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. On average, during FY 2006-2008, approximately 25,000 households were educated and 3,000 storm drains were labeled annually by volunteers. Approximately 500 volunteers participated each year in the program, carryout out an average of 35 projects. Additionally, during FY2008, the Park Authority marked the storm drains at all of their staffed parks and developed educational materials for their staff and the public as part of this effort. The Park Authority project alone educated another 155,000 Fairfax County residents during FY 2008.

During FY 2009, 371 volunteers educated 16,412 households during 25 projects and 2078 storm drains were labeled. In total, this brings the impact of the program over the last four fiscal years to: 1987 volunteers, 116 projects, 91,412 households educated, and 11,244 storm drains labeled throughout Fairfax County.

Since 2005, DPWES has joined with other local jurisdictions and the Northern Virginia Regional Commission to sponsor public service messages on local radio. These messages provide practical tips on how to prevent common pollutants – fertilizer, used motor oil, and pet waste – from entering the storm drains.

Resources

NVSWCD staff time, valued at $35,000 is budgeted as part of its Annual Plan of Work

DPWES provides funding of $12,000 - $15,000 annually for supplies, including the storm drain markers, glue, cleaning supplies, safety equipment, and promotional fliers, as a public outreach project under its watershed plan implementation initiative. Funding is forecast to continue at this level in FY 2010.

EIP11-ES08-01 (B) Education and Outreach Programs and Activities

Description of Action

The County sponsors a variety of programs and activities that help to inform the public about watershed and environmental stewardship issues in Fairfax County. They provide the knowledge, and often the tools, needed to help protect streams, promote environmentally responsible behaviors, and conserve natural resources. The programs may be unique to an agency, or they may be carried out in cooperation with a few, or many, partners. They include brochures, newsletters, exhibits, videos, seminars and workshops, on-site and specialty programs, websites, and technical and educational advice. They provide ways that residents can learn about and participate in environmental stewardship.

Environmental Agenda Objectives Supported:

Environmental Stewardship 1, 2, 3, 4 and 6
Water Quality 1, 3, 9, and 10
Solid Waste (General)
Air Quality 7

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

Watershed Management Plans
MS-4 Permit
New Millennium Occoquan Watershed Task Force Report
Park Authority Natural Resource Management Plan
Fairfax County Tree Action Plan
Cool Counties Climate Stabilization Initiative
Thirty-Year Tree Canopy Goal

Lead Agencies

Northern Virginia Soil and Water Conservation District
Fairfax County Park Authority
Department of Public Works and Environmental Services

Other Agencies

Health Department

Status/Plans/Outcomes

- FCPA Stewardship brochures and highway cards are being distributed county-wide. Stewardship issues are highlighted in the Park Authority's quarterly magazine, *Parktakes*, which has 165,000 subscribers; an additional 35,000 copies are distributed in parks and libraries**.**
- 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 A *Watershed Stewardship Guide*, available both in print and on the web, shows citizens ways they "can make a difference" in their local watersheds.
- *ResOURces*, the FCPA Resource Management Division's newsletter, reaches more than 16,000 readers quarterly, with a focus on natural and cultural resource stewardship within Fairfax County.
- *Conservation Currents* is the NVSWCD quarterly newsletter with articles homeowner associations are encouraged to reprint in their own newsletters. The variety of articles includes information about ponds, streams, stormwater management, hazardous waste, disposing of pet waste, proper lawn and garden fertilization, low impact development techniques, erosion and sediment controls on construction sites, native plants and managing invasives, and citizen stewardship activities.
- The FCPA has installed wayside signs along trails and exhibits at parks that educate about watersheds and watershed issues, including streams, buffers and habitat. A new brochure, *Water*, describes the effect of stormwater on streams and provides tips for homeowners.
- FCPA staffers continue to produce videos that educate the public on significant environmental resources. These videos are shown at nature centers.
- The *Enviroscape* watershed model is used to demonstrate to both adult and youth groups how a watershed functions and the sources and solutions for nonpoint source water pollution. In 2008, NVSWCD demonstrated the watershed model 16 times to 352 people.
- The County's website contains a broad array of environmental information. DPWES's stormwater webpage includes information about codes and ordinances, reports and studies, and volunteer opportunities. The watersheds webpage (www.fairfaxcounty.gov/dpwes/watersheds) includes "Get involved in your watershed," 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*.. The FCPA's *Nature Pages* provide resources and links to stewardship resources throughout the county (www.fairfaxcounty.gov/parks/resources/stewardship.htm) The NVSWCD web page contains educational and technical information and articles on many environmental topics—from lawn care, erosion and drainage, to recycling and litter, stream restoration ponds, and rain gardens (www.fairfaxcounty.gov/nvswcd). Solid Waste Management has information about refuse and recycling (www.fairfaxcounty.gov/living/recycling/)

- Solid Waste Management has a staff person dedicated to helping businesses learn about refuse and recycling requirements. During 2008 and the first half of 2009, 161 site visits were made.
- Solid Waste Management 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. Solid Waste Management hosts recycling events around the County to assist residents in recycling electronic waste, rechargeable batteries and compact fluorescent lamps (CFL). Also, household hazardous waste and document shredding events are held periodically. A new brochure about the energy-saving benefits and proper disposal of CFLs, along with exhibits at Celebrate Fairfax and Earth Day/Arbor Day, have helped to educate residents about recycling and refuse.
- The Employee Recycling Committee promotes recycling and other environmentally-conscious practices to County employees. It sponsors an annual Earth Day Expo to raise awareness about County environmental programs, and an annual awards program for recycling excellence among County employees.
- Fairfax County supports litter prevention activities through its partnership with Clean Fairfax Council.
- The Health Department sent notices to 14,460 households in 2008 to remind them to turn their flow diversion value on their septic systems once a year, and to pump out their septic tank every three to five years.
- Reston Association provides watershed education opportunities at its Walker nature Education Center, with programs for all ages that promote watershed appreciation and conservation, including stream and lake explorations, interpretive kayak programs, rain barrel workshops and fishing programs, as well as publications such as *Helping Our Watersheds: Living in the Potomac and Chesapeake Bay Watershed*. Wayside exhibits at lakes educate about flora and fauna supported by the lake, and exhibits along streams describe restoration efforts.
- In the spring and summer of 2008, 261 adults participated in the Neighborhood Ecological Stewardship Training (NEST) program, sponsored by NVSWCD. A wide range of classes and experiential activities on land and water linked participants to their natural environment and fostered long-term stewardship. More than 73 partners and 115 activities were linked to the NEST program.
- 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 exhibits at the Fairfax Fair. Stormwater Management, Solid Waste, and NVSWCD provide exhibits at county and community events throughout the year.
- DPWES-Stormwater Management created a series of education brochures to encourage public involvement in the watershed management planning effort. 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.

- Stormwater Management published a brochure describing the floatable monitoring program, and another brochure to educate residents on how to maintain their private stormwater management facilities.
- The Virginia Department of Forestry regularly works with Fairfax County to conduct watershed and water quality presentations to students, homeowners, professionals and organizations and to provide exhibits and distribute materials at community events. In 2008, VDOF made 35 presentations.
- 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, infiltration techniques such as rain gardens, and preventing pollution from horse-keeping operations. In 2008, 22 presentations were made to more than 700 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.
- County agencies, businesses, environmental and non-profit groups, and Northern Virginia Community College partner to sponsor 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.
- Several Parks, DPWES-Urban Forest Management, 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 events (public programs, classes, special events, school programs, scout programs and camps) 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 encouraging direct contact with natural resources. Additional self-guided and naturalist-led activities for children and families at the Park Authority's interpretive sites support the nation-wide "No Child Left Inside" movement. Each year Park Authority staff also conduct hundreds of outreach programs or prepare outreach exhibits highlighting stewardship-related themes for schools, libraries and other community organizations.
- The annual *Wetlands Awareness Day* at Huntley Meadows Park attracts more than 500 visitors. 2009 marked 17 years of this stewardship education event.
- In 2008, NVSWCD's annual tree and shrub seedling program provided residents a variety of 6,000 inexpensive native plants. This program raises awareness about the benefits of trees and native vegetation, and promotes urban reforestation, habitat enhancement and water quality protection.
- Through the Master Gardener program, the Park Authority and Virginia Cooperative Extension have increased outreach to community groups and individuals through public programs, speaking engagements, information displays, via the help line, and at plant clinics, which typically are conducted at libraries and farmers markets. Audiences at the

Master Gardener annual EcoSavy Symposiums at Green Springs Park learn about gardening strategies that conserve natural resources and how to solve problems without harming the environment.

- The Fairfax County Cooperative Extension office distributed 4,000 Virginia Tech publications on topics such as lawn fertilization and plant material selection for this area. It also provided lawn care advice to more than 25,000 residents through monthly articles in resident association newsletters.
- The Fairfax County Water Authority includes suggestions for wise water use with its water bills and has two handouts which it distributes: *Wise Water Use Landscaping and Watering Guide* and *Wise Water Use Tips*.
- NVSWCD and NVRC developed a *Residential Low Impact Landscaping Handbook* as part of a neighborhood demonstration project, where many of these practices that control and infiltrate stormwater were installed.
- FCPA and NVSWCD collaborated to publish *Rain Garden Design and Construction: A Northern Virginia Homeowner's Guide*, with step-by-step instructions on how to plan, design, build and maintain a rain garden (www.fairfaxcounty.gov/nvswcd/raingardenbk.pdf)
- NVSWCD staff provide education and technical assistance to homeowners and homeowner associations to help them solve drainage, erosion, and pond management problems, as well as ways to protect and enhance natural resources. In 2008, 435 homeowners received advice, which included 115 on-site visits. Staff also responded to 1,954 information inquiries and distributed more than 2,333 brochures, publications and other information.
- NVSWCD coordinates a regional rain barrel program. Partners include FCPA, FCPS, Arlington County, Falls Church and Alexandria. In 2008, 806 rain barrels were distributed in 13 'build-your-own' workshops and 4 distributions of pre-made barrels.
- NVSWCD sponsors bi-monthly Green Breakfasts, featuring presentations on timely environmental topics and programs, including many County initiatives, and offers an opportunity for information sharing. Notices about the breakfasts, as well as announcements about other programs and events are emailed to 450 recipients. Also, a monthly *Watershed Calendar* is emailed to 1,200 volunteer stream monitors and others interested in watershed issues.
- Fairfax County participates in the Northern Virginia Clean Water Partners' regional stormwater education campaign. 2008 marked the fourth year of "The Call," which aired 1,064 times on 8 radio stations, featuring a talking storm drain telling a homeowner not to dump fertilizer and other pollutants into storm drains.
- DPWES initiated podcasts in 2007, which were continued in 2008. Subjects include general lawn care, water efficiency, watering cycles, fertilization, soil amendment, pesticides, herbicides, erosion control, discharging swimming pool water, picking up pet waste, and disposal of household hazardous waste. DPWES staff also provided interviews to media on topics such as watershed management plans, dam safety, and the green roof demonstration on the Herrity Building garage.

Resources

These programs are on going and will continue. They are budgeted and carried out as part of the DPWES, FCPA, VCE, Health and NVSWCD annual work plans.

EIP11-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.
- Ecosystems is a new Fairfax County Public School curriculum designed to help 4th grade students learn more about the natural world. From the curriculum's inception, Park Authority naturalists have been involved because of the Resource Management Division's solid partnership with Stephanie Roche, Elementary Science Curriculum Coordinator. During summer 2007, naturalists trained and answered questions posed by the curriculum writers (mostly FCPS teachers). When it came time to field test the curriculum in spring 2008, Park Authority naturalists trained the 4th grade teachers selected to try out and evaluate Ecosystems. Throughout 2008, paid and volunteer

naturalists reviewed curriculum concepts, graphics and text, sometimes raising concerns about accuracy. With spring 2009 as the official countywide launching of Ecosystems, 4th grade teachers were trained at FCPS-sponsored in-services in January. Once again Park Authority naturalists were instrumental in developing and presenting training to more than 500 4th grade teachers at the in-service. To further support this new curriculum, six Park Authority sites developed specific environmental education programs to be offered in parks or at schools.

- In collaboration with the Middle School Science Curriculum Coordinator, park staffers have developed "Meaningful Watershed Experience in Parks" for 7th graders. These advanced environmental experiences were offered on a trial basis in the spring of 2006, and were formally launched at the Middle School In-Service in August, when teachers were able to register their classes for programs at five parks in the spring of 2007. It is anticipated that these watershed experiences will reach more than 1,000 students. DPWES-Stormwater and NVSWCD also are partnering with FCPS to implement the *Meaningful Watershed Experience* Program, by training teachers in water quality monitoring techniques, watershed protection policies, and stewardship opportunities. In 2006, the county participated in three teacher training workshops to build the capacity of 7th grade teachers in approximately 15 schools.
- In summer 2009, the Park Authority hosted over 60 nature day camps, which included 1,000 children. The goal of the camps is to increase appreciation and sensitivity in campers from pre-schoolers to teens. These camps highlight the 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.
- *Envirothon* is a local, state and national competition among teams of high school students, sponsored locally by NVSWCD. Hands-on events give them an opportunity to demonstrate their knowledge about aquatics, forestry, soils, wildlife. Each year there is a special topic, such as watershed planning, urban runoff, agricultural pollution, or a leaking landfill.
- Education resource materials, watershed awareness programs (watershed basics), programs about soils, and an interactive watershed model—*Enviroscape*—are part of NVSWCD's outreach program targeted to teachers and youth groups. NVSWCD's programs at high schools and high school environmental clubs highlight stream ecology, watershed basics, biological monitoring, and soils. 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; they receive a large number of hits.
- Middle and High School students participate in the Volunteer Stream Monitoring Program, assessing water quality in streams in their neighborhoods and in parks.
- Annually, NVSWCD sponsors a scholarship program for college students interested in studies related to natural resources.
- The Reston Association includes watershed education and stream and lake exploration in its summer camp programs for children from ages 3 to 16.

- DPWES has prepared an environmental curriculum for high school students, which includes presentations by staff from Stormwater Management, Wastewater, and Solid Waste. About 100 presentations are made annually. In 2008, 50 *Sewer Science* program presentations were made at county high schools.
- DPWES Solid Waste Management, in partnership with Channel 16, developed a video about recycling and refuse management entitled *Pop-Up Trash*. The video was sent to each school in Fairfax County. Also, DPWES-Solid Waste Management takes recycling programs and activities to the schools. A resource booklet is produced annually for science teachers, called SCRAP (Schools/County Recycling Action Partnership)
- DPWES Solid Waste Management, in partnership with Clean Fairfax Council, offers grants (Johnnie Forte Junior Memorial grants) to FCPS each year to implement litter prevention, litter control, and recycling projects in schools. In 2009, fifteen $500 grants were awarded.

Plans are for these programs and partnership activities to continue.

Resources

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

EIP11-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, 5
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, FCPA, DPWES Stormwater Planning and Solid Waste, in partnership with numerous other local agencies and groups, support ongoing and semi-annual watershed cleanup efforts. Annually, they assist with county-wide planning for the Alice Ferguson Foundation Potomac Watershed Cleanup in April, and the International Coastal Cleanup in September. DPWES Solid Waste supports citizen clean up efforts by waiving tipping fees. DPWES created a floatables page on its website and encourages residents to participate in watershed cleanups and report on results, which are included in a floatables monitoring report. Since 2004, 80 to 100 citizen-based cleanup projects in Fairfax County are registered each year with the Alice Ferguson Foundation. In 2008, Solid Waste Management paid for a full-page ad in the *Washington Post.* There were 105 sites established throughout the county. 2,400 volunteers removed more than 123,165 pounds (60 tons) of trash. During the International Coastal Cleanup in the fall of 2008, 864 volunteers removed 19,360 pounds trash (9.7 tons) from 33 sites, cleaning 37 miles of stream.

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, DPWPES, NVSWCD, and other groups in the county participated in the 2006, 2007 and 2008 Trash Summits at the World Bank in Washington, DC and continue to participate in the working groups associated with this initiative, which is being coordinated by the Alice Ferguson Foundation. These groups focus on education and outreach programs, economic issues, technical measures, and regulatory issues.

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.

EIP11-ES08-04 (B) Support of Citizen-Based Environmental Stewardship Programs and Activities

Description of Action

The county recognizes that neither government nor residents can solve watershed problems alone, but must work together. It also recognizes the important contributions made by citizen-based initiatives to conserve, protect and enhance the county's natural resources. The county supports these efforts by being a resource for information and technical advice, and identifying and making available county services and programs to support activities.

Environmental Agenda Objectives Supported
Environmental Stewardship 1, 2, 3, 4 and 6
Water Quality 1, 3, 9, 10
Air Quality and Transportation 7

Other Plans or Documents where this action appears or that it supports
Watershed Management Plans
New Millennium Occoquan Watershed Task Force Report
Park Authority Natural Resource Management Plan
Fairfax County Tree Action Plan

Lead Agencies
Northern Virginia Soil and Water Conservation District
Department of Public Works and Environmental Services
Fairfax County Park Authority

Status/Plans/Outcomes

Watershed stewardship groups receive administrative, educational and technical support from NVSWCD and county agencies. Groups include 'Friends of streams' groups for Accotink Creek, Cub Run, Rocky Run, Little Rocky Run, Burke Spring Branch, Sugarland Run, the Occoquan and others, and 'Friends of parks' groups from Hidden Oaks, Huntley Meadows Colvin Run Mill and others. Besides stream monitoring and cleanups, many community, scout, school, homeowner associations, civic groups and environmental organizations organize tree plantings, watershed cleanups, pollution prevention and education activities, riparian and habitat enhancement projects and other environmental stewardship activities on both public and private lands. Also, the Virginia Department of Forestry, Fairfax Trails and Streams, the Mason Neck Lions Club, Northern Virginia Conservation Trust, Potomac Conservancy, Fairfax Audubon, Audubon Naturalist Society, Earth Sangha, and Fairfax ReLeaf have coordinated environmental stewardship activities with county and NVSWCD staff. In 2006, DPWES purchased trees for the *2006 Trees in 2006* campaign, which was coordinated by Fairfax ReLeaf. For stewardship activities on parkland, FCPA staff provides technical and logistical assistance, advertising and marketing, education and outreach, and navigation through county regulations. Staff from

NVSWCD, FCPA and DPWES often participate in and make presentations at environmental group meetings.

The Fairfax Watershed Network is a 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.

The Friends of Hidden Oaks Nature Center, the National Wildlife Federation and Supervisor Gross are working to achieve the designation of community Backyard Habitat for the Greater Mason District area from the National Wildlife Federation. 270 homes are certified out of the 300 needed.

In 2006, Great Falls applied to the National Wildlife Federation to become the 23rd Community Wildlife Habitat in the United States. Official certification was received on April 6, 2007. This means that four schools, three churches, two parks, one commercial cut flower business and 180 homes are officially providing food, water, shelter and safe places to raise young, which are the four essentials for all life.

In 2007, a group of county residents formed the Fairfax County Chapter of the Virginia Master Naturalist Program, a program sponsored by the Virginia Department of Forestry. This effort is supported by county and NVSWCD staff. An initial class of 40 completed training in 2007 and another 38 were trained in 2008. Fairfax Naturalists reported 1,201 hours of service to the community, which included 25 education and outreach projects, leading programs at nature centers and schools, writing articles for newspapers, collecting and submitting data as citizen scientists on 15 projects monitoring stream health, counting wildlife and inventorying plants. The Naturalists also restored habitat, cleaned up streams and managed invasive species on 18 projects.

In 2008, NVSWCD and FCPA partnered with Earth Sangha to design and install a rain garden at Marie Butler Leven Preserve, where Earth Sangha is developing a native plant arboretum.

Resources

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

EIP11-ES08-05 (B) Park Authority Stewardship Education

Description of Action
The Park Authority's Stewardship Education project is an outreach and education effort on county stewardship, which includes the development and communication of stewardship messages for staff, partners, and citizens across the county. This project allows the Park Authority to educate both staff and citizens countywide in important stewardship issues and the County's commitment to stewardship and to engage them in practicing good stewardship.

Environmental Agenda Objectives Supported:
Environmental Stewardship (General)
Parks, Trails, and Open Space (General)
Water Quality 1

Other Plans or Documents where this action appears or that it supports:
Comprehensive Plan
Park Authority Strategic Plan
Park Authority Policy Manual
Park Authority Natural Resource Management Plan

Lead Agency
Fairfax County Park Authority

Status/Plans/Outcomes
The Park Authority is implementing the stewardship education initiative through a series of brochures and products related to natural resource stewardship. The brochures include a county-wide stewardship message with a consistent style. Twelve brochures have been published to date, including "Treasures," "Wildlife," "Invasive Backyard Plants," "Invasive Forest Plants," "Trees," "Spiders, Snakes and Slime Molds," "Wildlife Conflict," "Pets in Parks," and "Native Backyard Plants," "Underground World," "Water," and "Night." Six Highway Cards about "Trees," "White-tailed Deer," "Canada Geese," "Beaver," Foxes," and "Coyote" have been published. Highway Cards are designed to respond to more seasonal interests, provide contact information, or cover non-evergreen issues. The Park Authority worked with Urban Forestry and the Park Authority Forester to create the "Trees" Highway Card and provide contact information for several sources related to trees. Other partners and volunteers have provided input on several of the cards. Several more topical brochures are in production. The Park Authority also has published the "Stewardship Primer." Designed to explain the stewardship vision, the primer gives basic information to encourage Park Authority staff to be good stewards of public land. In 2007, the Park Authority's Stewardship Education Team developed media for a storm drain marking initiative in staff parks including a poster, a bottle shaped highway card, buttons for staff to wear and window clings to hang in park entryways. In Spring 2008, the Fairfax County Park Authority released a set of Non-native Invasive Identification and Control cards for 29 of the most commonly found non-native invasive plants in Fairfax County.

These cards were recognized as a Platinum recipient in the MarComm, a national organization that makes Marketing and Communications awards. In Spring 2009, the Northern Virginia Soil and Water Conservation District and FCPA collaborated to publish a handbook for homeowners in northern Virginia on how to plan, design, construct and maintain rain gardens in their yards.

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.

Existing resources were used in FY 2009.

EIP11-ES08-06 (B) Invasive Management Projects

Description of Action

The Board of Supervisors has provided funding for invasive plant removals on park land over the past few years. The Park Authority used this funding to develop the Invasive Management Area (IMA) pilot program, as well as several other initiatives.

Project Goals

- Capitalize on support and momentum from the public to do something about non-native, invasive plant and animal species; garner community involvement and support.
- Educate the public about the effects of non-native, invasive plant and animal species.
- Participate in outreach opportunities regarding non-native, invasive plant and animal species.
- Develop healthy woodlots with uneven-aged stands of mixed trees, shrubs and ground cover with a floor of leaf litter and debris that are free of invasive plant species.

Partnerships and Consulted Organizations

Northern Virginia Soil and Water Conservation District
Earth Sangha
Fairfax ReLeaf
Fairfax County, Department of Public Works and Environmental Services
Virginia Native Plant Society, Potowmack Chapter
Friends of Riverbend Park
Reston Association
Weed Warriors, The Nature Conservancy
Weed Warriors, Montgomery County Parks
InvasivePlants.org
Audubon at Home
Northern Virginia Conservation Trust
Potomac Conservancy

The IMA program is a volunteer-led pilot project designed to reduce invasive plants on parklands and to draw attention to the threat invasive plants pose to natural areas. The program is unique in that volunteer leaders must take on coordination responsibility and commit to adopting a site for a year. The program contains a monitoring component for both the ecological impacts as well as the success of this volunteer model. Up to 40 leaders are being recruited who will commit to four work-days including invasive plant removals and re-planting. The Park Authority is carrying out the pilot program in partnership with a number of organizations, including the Virginia Department of Forestry and Earth Sangha and training assistance from the Northern Virginia Soil and Water Conservation District.

In addition to the IMA volunteer program, four other priority areas for non-native invasive species were addressed in 2007:

1. Invasive Conservation Corps (ICC) – The goals of this summer intern program supported 21 IMA, riparian buffer plantings, low impact development demonstration sites, and staffed sites with invasive plant removals. The large crew of summer interns conducted invasive plant removals throughout the county, and demonstrated the effectiveness of staff habitat managers, completing nearly as much work as the year-long volunteer program. The first year of internship included a crew leader and eight field technicians. The ICC team for 2008 had 5 members and continued to provide necessary staff support to invasive removal projects.

2. Countywide Survey and Prioritization Report – This consultant project will develop an independent assessment of the occurrence and threat of invasive non-native plants in park land. A control plan will be developed to include prioritization (species and locations) and a control program. Finally, the consultant will make recommendations on a control program, including best practices given: a) existing resources, and b) an ideal set up with additional resources. The contract was awarded in the spring of 2008 and should be completed in 2009.

3. Internal Support – Equipment and Contractor Services – Many of the Resource Management Division's sites are now equipped with tools, chemicals and equipment for invasive removal. An internal funding mechanism has been established for these needs. In addition, in certain cases, contractor support is used to assist in removals at sites with an ongoing commitment for invasive removal, e.g., IMA sites and staffed sites that have committed to maintenance.

4. Education and Interpretation – This area covers signage, publications, and exhibits related to non-native invasive removal projects.

5. Contractor Support – In addition, in certain cases, contractor support is used to assist in removals at sites with an ongoing commitment for invasive removal, e.g., IMA sites and staffed sites that have committed to maintenance and high priority areas.

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 2009. The Invasive Conservation Corps was offered in 2007 and 2008. The consultant report scope has been developed and a contract was awarded in the spring of 2008, with a project

deliverable expected spring 2009. The IMA program completed the third year in 2008 and now has 40 sites with 45 trained volunteer leaders. Over 10,000 volunteer hours have been contributed to the project since its inception in 2005. From June 2008 to July 2009, nearly 1,220 volunteers have donated 4,300 hours of work for habitat restoration. Significant reductions of non-native invasive species within the IMA sites have been documented (averaging a 24% reduction in cover).

Resources

Funding History:
$100,000 from FY 2005 Carryover, as well as volunteer labor. $50,000 matching grant funding provided by National Fish and Wildlife Foundations' Small Watersheds Grant Program. $500 grant from the Corporate Community Relations Council.

$300,000 additional funding from FY 2006 Carryover, in support of the Environmental Agenda.

$150,000 funded in FY 2008 budget for environmental projects.

$150,000 funded in the FY 2009 budget for environmental projects.

Funding Need
FY 2011: $200,000. This program can not continue without funding in the FY 2011 budget.

These existing projects require a minimum of $200,000 per year to maintain.
Full cost for an aggressive program Park Authority-wide is in the tens of millions for the first few years, with a few million per year needed indefinitely.

EIP11-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 EIP11-ES09-08 (B).

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.
- In 2008, the non-profit and canopy goal partners are estimated to have planted more than 9,000 trees.

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.

If funded, this project would provide a modest level of financial support to non-profit tree planting groups over a five-year period. In return, the County would gain substantial ecologic and socio-economic benefits associated with the planting of thousands of trees on an annual basis, and with that tree planting program, community involvement in its environmental stewardship efforts. The funding for this project would be administered through the County's Tree Preservation and Planting Fund (TPPF). The TPPF was set up in response to a June 20, 2005 Board Matter directing County staff to establish a funding mechanism for a County-wide tree planting program. Staff was also directed to establish criteria to govern disbursement, tracking and annual reporting for any funds used from the TPPF. This existing mechanism and process would provide for fiscal accountability, and a methodology for the County to evaluate the effectiveness and progress of tree planting programs.

Environmental Agenda Objectives Supported:
Environmental Stewardship 1, 2, 3, 4 and 6
Parks Trails and Open Space (General)
Air Quality & Transportation 7
Water Quality 1, 7, 9, 10, 12

Other Plans or Documents where this action appears or that it supports:
The Fairfax County Tree Action Plan
30-Year Tree Canopy Goal
New Millennium Occoquan Watershed Task Force Report
Cool Counties Climate Stabilization Initiative
Air Quality Management Plan

Lead Agency:
DPWES—Urban Forest Management Division (UFMD)

Status/Plans/Outcomes
Instead of establishing a Tree Preservation and Planting Fund (TPPF), funding for this project has been provided through the Contributory Agency Fund. Three non-profits received $109,000 – Fairfax ReLeaf, Earth Sangha, and Center for Chesapeake Communities – to build organizational capacity in support of a county-wide tree planting program.

It is conservatively estimated that providing $100,000 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 be used as a credited air quality improvement practice in future Washington Metropolitan Air Quality Plans. Expenditures from this project would also be used to help qualify Fairfax County for the annual Tree City USA Award. $100,000 was requested for FY 2009 due to the new tree canopy goal schedule and the need to build non-profit organizational capacity.

Resources
$50,000 was funded in FY 2008.
$109,000 was funded in FY 2009.
$93,350 was funded in FY 2010

Additional funding of $110,000 needed for FY 2011.

EIP11-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, 5
Air Quality and Transportation - general

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

Cool Counties Climate Stabilization Initiative

Lead Agencies:

Facilities Management Department

Status/Plans/Outcomes

Fairfax County has signed up for the challenge. Energy usage is measured and tracked and there is a plan for energy improvements. Also, energy efficiency improvements are being made during capital renewal projects. Facilities Management is beginning to spread the word to others, through programs like the Change a Light Campaign.

Resources

Existing staffing may be utilized to continue with this effort.
Current staff efforts have been focused on completing capital renewal projects and further progress on this item is awaiting additional staffing availability.

EIP11-ES09-08 (B) 30-Year Tree Canopy Goal

Description of Action

This action supports a June, 2007 Board Matter in which the Board officially adopted a 30-year tree canopy goal for Fairfax County. In addition this action also supports: Chesapeake Bay Program's Expanded Riparian Buffer Goals to encourage communities to adopt local goals to increase urban tree canopy cover and encourage measures to attain the established goals: and, recommendations of the Tree Action Plan to "identify maximum attainable and sustainable tree canopy goals"

According to Urban Forest Management Division (UFMD) long-range tree canopy modeling, even if our community continues to preserve and plant trees at present levels of effort, our tree canopy will still decrease in size from 41% to around 37% over the next 30 years. This loss (10,200 acres) equates in area to seven Huntley Meadows Parks (the largest Fairfax County Park) and will go hand in hand with the loss of significant levels of environmental and social services associated with tree canopy such as air pollution removal, carbon storage; energy conservation; and, stormwater management.

In 2007, in order to reverse the loss and to actually increase canopy levels, the Board adopted a 30-year tree canopy goal of 45%. Reaching this goal requires that we increase our present canopy levels by approximately 20,400 acres by the year 2037. Although canopy gains are expected from natural processes, this goal requires a large-scale tree planting program spread over a 30-year period. At present, our community is estimated to plant 21,000 trees annually. The adopted goal requires that we increase current planting levels to an average of 84,000 trees annually. The total numbers of trees that are needed to reach 45% is estimated at 2.6 million. It is estimated that it will cost our community between 250 to 500 million dollars to install this number of trees depending on the size and species of trees planted that are eventually planted. However, the benefits provided by the added tree canopy should more than off-set costs associated with planting and maintaining the new canopy (see Status/Plans/Outcomes below for more details).

Environmental Agenda Objectives Supported:

Environmental Stewardship 2, 3, 4, 5 and 6
Air Quality and Transportation (General)
Water Quality 7, 10, 12
Parks Trails and Open Space (General)

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

Fairfax County Tree Action Plan
Fairfax County's 30-year Tree Canopy Goal
Air Quality Management Plan
Cool Counties Climate Stabilization Initiative
Tree Conservation Measure of the DC/MD/VA Metropolitan Area SIP (air quality plan)
New Millennium Occoquan Watershed Task Force Report

Lead Agency:

DPWES—Urban Forest Management Division

Status/Plans/Outcomes

Status and Plans: This action is underway. In 2007, UFMD convened a series of stakeholder meetings that identified short, medium and long-term actions, and the resources that are needed to support the community tree planting program. An initial analysis of the tree planting potential of 31,357 acres of County-owned property and 15,500 acres of commonly-owned open space found that only 4,200 acres have potential for additional tree planting. The same analysis found that 33,170 of 107,000 (31%) acres of low-density residential land showed potential to accommodate additional trees. Therefore, the lion's share of tree planting will need to occur on privately-owned residential lots. UFMD will also conduct a Strategic Urban Forests Assessment for each of the 30 major watersheds. This assessment should identify specific areas and properties that have potential for tree planting (see WQ08-09(B). 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.

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 [1]	20,400	$5,324,400
Carbon Sequestration	$5-$57 [2]	20,400	$102,000 – $1,162,800
Energy Conservation	$231 [3]	20,400	$4,712,400
Stormwater Management	$25,031 [4] (one-time savings)	20,400	$510,632,400 (one-time savings)

Sources:
[1.] American Forests 2002
[2.] Birdsey 2005 / Chicago Climate Exchange 2006 / European Climate Exchange 2006
[3.] USDA Forest Service / UFORE 2004
[4.] 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 EIP11-ES08-10 (B) Partnering with Non-Profit Tree Planting Groups to Establish a Countywide Tree Planting Program, and EIP11-ES08-11 (C) Promoting Stewardship of Urban Forest Resources. Long term funding would require $2.6 million over 30 years.

EIP11-ES09-09 (B) Development of an Energy Management Program Through the Establishment of a Countywide Energy Coordinator Position

Description of Action

Federal and state governments, including the Commonwealth of Virginia, are showing increasing attention to global climate change issues, driven by the warnings from recent global science committees of dire consequences. This increasing governmental attention, along with community interest, are applying increasing pressure on federal, state and local governments to conserve energy and reduce greenhouse gas emissions.

Fairfax County has made progress towards improving the energy efficiency of its facilities. However, with the proper application of resources through a program to coordinate efforts, set reduction goals, and implement renewable energy technologies, the County can make significantly more progress, resulting in saving energy, reducing emissions, and even dollar savings. Fairfax County's commitment to Environmental Stewardship can be supported by extending this program to include outreach and education to citizens and businesses.

The Metropolitan Washington Council of Governments (MWCOG) has recently established a Climate Energy and Environment Policy Committee to develop regional greenhouse gas reduction strategies and goals. Further, the Fairfax County Board of Supervisors has taken the lead in developing a National Cool Counties Initiative aimed at encouraging and providing guidance to local governments to develop short and long-term goals to reduce corporate greenhouse gas emissions 80% by 2050.

Energy use for Fairfax County Government is distributed amongst several agencies, including the School Board, Facilities Management Department (FMD), Park Authority, Department of Housing, and Department of Public Works. Each agency is generally active in some form of energy conservation, but currently there is no coordination within the various agencies. Consequently, the degree to which each agency pursues energy conservation varies widely. For example, Schools and FMD, being the largest users, have dedicated energy managers that track energy use with database programs in

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® Challenge, through which the County will promote energy efficiency in buildings. However, the County lacks a comprehensive energy program that can proactively and energetically promote the application of energy conservation practices. Promoting energy conservation through this challenge applies not only to County buildings, but also to providing technical support to homeowners and businesses who are interested in energy conservation.

The Countywide Energy Coordinator would not constitute the County's Energy Management program, in that it is anticipated that energy management will need to be developed within a number of agencies, and that one staff position will prove insufficient to meet what is likely to be a high demand for service. Rather, it is expected that the Countywide Energy Coordinator would coordinate efforts among a number of County agencies to build coordinated, cross-agency efforts to enhance energy conservation. The position would also provide an initial point of focus to support implementation of energy conservation practices in the County. A Countywide Energy Coordinator would serve as a central conduit of information to and from agencies and the community to better understand and leverage energy conservation practices employed and lessons learned. This position would take the lead role in the Energy Subcommittee of the Environmental Coordinating Committee. The committee will consist of members of various agencies that have a significant role with energy consumption in their respective agency. The Countywide Energy Coordinator will make daily decisions as required to expedite processes; however, decisions that involve inter-agency or governmental commitments will be brought to this committee for discussion.

The establishment of this position is an interim step in development of a County Energy Management program, and would not constitute the program itself. The need for additional staffing and resources would be identified for a more comprehensive County

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:

Environmental Stewardship - 5

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

Comprehensive Plan
Cool Counties Climate Stabilization Initiative

Lead Agency:

County Executive's Office

Status/Plans/Outcomes

At the direction of the Board of Supervisors' Environmental Committee in October 2007, the County Executive included within the fiscal year 2009 advertised budget an Energy Coordinator position. In April of 2008, the Board of Supervisors adopted the FY 2009 budget with the Energy Coordinator position authorized in the budget. The position was to be established through the abolishment of a vacant assistant to the County Executive position. Although the County Executive had every intention of filling the position, due to the worsening fiscal crisis in the County, which included a FY 2010 projected deficit of more than $500 million, and the FY 2009 revenues that were projected down $58.2 million (which equates to a 1.75% decrease in the FY 2009 Adopted Budget), the County Executive concluded that filling the vacant Energy Coordinator position would not be fiscally prudent at this time.

While the current fiscal crisis has created a significant impediment to filling the Energy Coordinator position, after consulting with appropriate staff, the County Executive established an Energy Efficiency and Conservation Coordinating Committee (EECCC), which serves as an interagency forum for cross-organizational collaboration and coordination of energy efficiency and conservation efforts and which functions to fulfill the major roles of the energy Coordinator position as outlined in this action fact sheet.

On January 16, 2009, the EECCC, which is chaired by Deputy County Executive Dave Molchany, held its first meeting to discuss the Board Matter as well as the structure, mission, and key responsibilities and functions of the committee. At this initial meeting,

the EECCC agreed to form two subcommittees, one which will focus on creating the committee's charter, and the other will begin work on a high level energy policy for the County government.

Deputy County Executive Dave Molchany will act as the central point of coordination from the County Executive's office. Steve Sinclair from the Utilities Branch of the Department of Cable Communications and Consumer Protection will provide staff support for the committee. Kambiz Agazi will provide coordination between the committee and the County environmental efforts.

The EECCC functions in a similar capacity as the County's Environmental Coordinating Committee (ECC), which is interwoven into the County's strategic plan as it related to the environment. The ECC, among its many other accomplishments, produces the award-winning Environmental Improvement Program (EIP) that supports implementation of actions to support the Board's Environmental Agenda.

While the EECCC 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, this committee ensures an appropriate level of coordination and review of the County's energy efficiency policies and initiatives and establishes priorities and manages capacity to create opportunities for implementation of cost and emissions-avoidance actions.

The EECCC will consist of members of various agencies that have a significant role with energy consumption in their respective agencies. Agencies that participate in the EECCC include: Department of Cable Communications and Consumer Protection, Department of Public Works and Environmental Services, Park Authority, Department of Housing and Community Development, Facilities Management Department, Department of Vehicle Services, Public Schools, Department of Information Technology, Department of Purchasing and Supply Management, Department of Management of Budget, Department of Planning and Zoning, and the Environmental Coordinator.

The EECCC has already begun to enhance the County's existing energy efficiency efforts by providing a more focused process for the integration and implementation of energy management efforts countywide to include the development and administration of projects to be funded through the County's federal Energy Efficiency and Conservation Block Grant process.

Resources

While the Board of Supervisors approved funding for this position in the adopted FY2009 budget, the position was never filled and as a consequence of the fiscal crisis, the position was later eliminated as part of the FY 2010 budget.

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.

- 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.

- 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.

EIP11-ES09-12 (B) Government Center HVAC Component Replacement

Description of Action

1) The Government Center currently houses three 900-ton chillers, with associated cooling towers and pumps. This equipment is original to the facility and is approaching the end of its useful life. The chillers are becoming more difficult to repair as replacement parts are limited. At the same time, the refrigerant used by the chillers is no longer in production as it is not "environmentally friendly". New chillers would be more efficient and would use a more environmentally appropriate refrigerant. Associated pumps and cooling towers should be replaced at the same time.
2) The kitchen heat recovery equipment is approaching the end of its useful life and needs replacement.
3) The VAV boxes throughout the facility are pneumatic and should be replaced with the DDC version to take full advantage of the building automation system. Pneumatic systems historically consume more energy due to the system being prone to air leaks.

Environmental Agenda Objectives Supported:

Environmental Stewardship 5
Air Quality and Transportation (General)

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

Cool Counties Climate Stabilization Initiative

Lead Agencies:

Facilities Management Department

Status/Plans/Outcomes

These are necessary for planned capital renewal efforts to prevent emergency replacements; however, all three equipment replacements would result in energy savings.

Resources

The $4,400,000 need to pay for this capital renewal work was requested under Facilities Management CIP FY2009. The Board of Supervisors approved the FY2009 budget to include the chiller replacement for $2,200,000. Other items remain unfunded at this time.

EIP11-ES09-14 (B) Increase Energy Conservation Code Compliance

Description of Action

Building Plan Review division (BPR) of Land Development Services (LDS) has increased compliance to the current International Energy Conservation Code (IECC) through focused training and improved resources. As the state adopts each successively more energy efficient code, the DPWES/LDS Building Plan Review Division is working to move designers and inspectors to more energy efficient, code compliant buildings. County efforts include:

(1) Building design details being required on architectural plans to show code compliant insulation R-values for plan review and field verification.
(2) Use of the DOE ComCheck Envelope Compliance to meet the IECC/ASHRAE 90.1 requirements for thermal envelope certified by the design professional for plan review.
(3) Heating, ventilating and air conditioning (HVAC) load calculations for sizing mechanical systems to show compliance with IECC and match the construction plans submitted for plan review.
(4) Continuing electrical compliance with the IECC through an Electrical Energy Compliance Certification Form completed by the design professional, electing compliance with IECC or ASHRAE 90.1.
(5) County staff training, improved resources and training of design professionals in the County PEER review program.

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 Climate Stabilization Initiative

Lead Agencies:

DPWES/LDS/BPR

Status/Plans/Outcomes

County plan reviewers, PEER reviewers and designers attended training on the use and requirements of a newly created Energy Code Compliance Certification/checklist form developed by Building Plan Review. Additional staff training is being developed targeting specific energy code issues for plan review and inspection. As new codes are adopted, update training will be provided.

BPR and inspection emphasis on insulation R-values has resulted in improved construction compliance by designers and contractors. A plan review emphasis for code compliant equipment sizing for commercial buildings has highlighted a previous lack of compliance by designers.

Approved building alteration plans are increasing more energy efficient and have a lower initial equipment cost due to the smaller, correctly sized HVAC units.

Resources

DPWES/LDS/BPR spent $648 on IECC illustrated pocket guides for field inspectors and plan reviewers.
Staff time is planned for development of training and for training classes**.**
No additional resources are required.

EIP11-ES10-06 (B) Maintain Potable Water Savings and Additional Opportunities for Reduction in Potable Water Use at Noman M. Cole Jr. Pollution Control Plant

Description of Action

This initiative focuses on maintaining potable water savings at the Noman M Cole, Jr. Pollution Control Plant above 1.5 billion gallons per year as the capacity of the plant increases over time. This includes finding more ways to reduce potable water usage at the plant.

Environmental Agenda Objectives Supported

Environmental Stewardship 5

Other Plans or Documents where this actions appears or that it supports

Public Works and Environmental Services Strategic Plan

Lead Agency

DPWES

Status/Plans/Outcomes

The Operations staff in the Wastewater Treatment Division work hard to incorporate water reclamation into their daily processes the Noman M Cole, Jr. Pollution Control Plant. Both secondary plant effluent, as well as, advanced plant effluent water have been incorporated where appropriate in the plant processes. To date reclaimed water is used for backwashing filters, seal water, wash down, foam control sprays, generator cooling, air scrubber, polymer makeup, chemical carrier water, and onsite irrigation. Staff at the plant continues to look for other areas at the plant where the plant water can be incorporated into plant processes. The staff in WTD continues to look for ways to conserve potable water at the plant by reusing plant final effluent.

Resources

Resources required for this initiative include Wastewater Treatment Division staff time and plant upgrades to allow for the waster reclamation upgrades. These usually are incorporated into overall plant upgrades as they occur.

EIP11-ES10-07 (B) Establish a Rain Garden at the Noman M. Cole Jr. Pollution Control Plant.

Description of Action

In order to reduce storm water runoff, the Noman M. Cole, Jr. Pollution Control Plant is considering the design and installation of a rain garden on site at the plant.

Environmental Agenda Objectives Supported

Water Quality 7
Environmental Stewardship 5

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

Comprehensive Plan
Watershed Management Plans
MS-4 Permit
Public Works and Environmental Services Strategic Plan

Lead Agency

DPWES

Status/Plans/Outcomes

Currently, the Wastewater Management Program is in the initial phase of considering the feasibility of the design and installation of a rain garden at the Noman M. Cole, Jr. Pollution Control Plant. Staff in the Pretreatment section of the Wastewater Planning and Monitoring Division (WPMD) are designing the structure and preparing a cost estimate for its installation. The WWM has begun to work with the Northern Virginia Soil and Water Conservation District for help in the design and installation of the rain garden.

Resources

This initiative will require employee time from the Pretreatment section of WPMD and NVSWCD for design of the structure. In addition, employee time and effort from the Building and Grounds Section of the Wastewater Treatment Division will be used for the installation of the structure. Additional funding, as determined by the cost estimate, will be required for purchase of plants and the related supplies. Funding for this project will be provided from existing resources.

EIP11-ES10-12 (B) "Earth Hour" Event Participation

Description of Action

"Earth Hour" is an annual outreach event the World Wildlife Fund initiated in Sydney, Australia in 2007. WWF coordinated an international event in 2008 and plans to continue the event annually.

For one hour at 8 p.m. local time on the night of the new moon nearest to April 1, participants switch off all non-essential lights, appliances and other electrical equipment. The event has two objectives: first, to get large numbers of individuals and businesses to turn off their non-essential lights and equipment for one hour; and second, to pursue a campaign throughout the following year to reduce electrical energy consumption (and therefore, greenhouse gas and other emissions) by 5 percent. The aim of the campaign is "to express that individual action on a mass scale can help change our planet for the better."

The purpose is not to save any significant amount of energy or emissions in one hour, but to raise awareness that small individual actions taken on a grand scale can amount to significant savings. Organizers gather data as reliably as practical to show what volume of electrical energy and mass of greenhouse gas emissions were avoided during the one-hour event by locale. Reported reductions ran about 5-10 percent for many participating cities during Earth Hour 2008 (March 29).

County staff would propose an appropriate level of county participation in Earth Hour 2009 (Sunday, March 29, 2009). A minimal participation level might be to identify a small number of county-owned buildings with automated lighting controls (to minimize cost of staff time – and overtime – dedicated to turning systems off and on again) to be dimmed or darkened during the one hour. At the other extreme, a full-fledged campaign could include many buildings as well as promotion of participation by businesses and residents through schools, recreation activities and public affairs media. The board might also choose to invite other regional jurisdictions to commit to the event with suggested actions. A highly publicized event might lead into a year-around campaign to promote energy efficiency actions that are individually small but would be significant if widely adopted.

Environmental Agenda Objectives Supported:
Environmental Stewardship 2, 3, 5

Other Plans or Documents where this action appears or that it supports:
Air Quality Management Plan
Cool Counties Climate Stabilization Initiative

Lead Agency:
Environmental Coordinator / Energy Coordinator

Status/Plans/Outcomes
The Board of Supervisors proclaimed 8:30 p.m. on March 28, 2009 as Earth Hour 2009 in the County and reaffirmed the County’s commitment to responsible, progressive environmental stewardship by turning off all non-essential lights visible from outside County buildings for one hour. The Office of Public Affairs was directed to publicize this event and encourage residents to participate as well.

Resources
Initial exploration of resources required for various levels of participation could be absorbed by existing staff. Resources required for implementation will depend on the extent of commitment to the event and its aftermath.

EIP11-ES11-04 (B) Wastewater Treatment Division's Participation in Energyconnect's Demand Response Program for the Summer 2009 Season

Description of Action

The Wastewater Treatment Division (WTD) has volunteered to participate in the Energyconnects Demand Response Program for the summer 2009 season with an option to renew for subsequent years. The WTD will participate in the program in two ways to offer load reductions to the grid. The first is Economic Demand Response, where the WTD will reduce electricity use when demand and prices are high in lieu of additional energy generation. The second is Emergency Demand Response, where WTD will reduce electricity at the request of PJM, a regional transmission organization that coordinates the movement of wholesale electricity in all of or part of 13 states and Washington DC, when the grid is unstable. The WTD will earn money from Energyconnect for meeting the required curtailment.

Environmental Agenda Objectives Supported

Air Quality and Transportation - general
Environmental Stewardship - 5

Other Plans or Documents where this actions appears or that it supports

Air Quality Management Plan
Cool Counties Climate Stabilization Initiative

Lead Agency

DPWES

Status/Plans/Outcomes

The WTD staff has begun active participation in the program for the summer 2009 season. The Operation's and Electrical staff worked together to develop an appropriate curtailment strategy to meet the requirements of the Energyconnect program. On June 11 the WTD joined with other local Energyconnect participants for a curtailment test exercise that was very successful.

Resources

The WTD Operation and Electrical staff worked together to develop a plan for energy curtailment to meet the requirement of the Energyconnect program while not compromising the treatment of wastewater.

EIP11-ES11-05 (B) Cast-iron and Asphalt Recycling by the Wastewater Collections Division of the Wastewater Management Program

Description of Action

Wastewater Collection Division's Manhole Raising Section is recycling cast-iron and asphalt as a part of its operations.

Environmental Agenda Objectives Supported

Air Quality and Transportation (general)
Environmental Stewardship 5

Other Plans or Documents where this actions appears or that it supports

Air Quality Management Plan
The Cool Counties Climate Stabilization Initiative

Lead Agency

DPWES

Status/Plans/Outcomes

Wastewater Collection Division is recycling 30 tons of asphalt a year which saves approximately $1,600.

Resources

The asphalt is taken to National Asphalt or Branscome Paving for recycling. The cast-iron is stored in 40-ton dumpster which Davis Industries picks up.

EIP-ES11-06 (B) Window Replacement at Noman M. Cole Jr. Pollution Control Plant

Description of Action

The project creates work for a window replacement company. The project entails replacement of 160 single pane aluminum frame windows with low E double insulated glass with Fiberglass Reinforce Polyester (FRP) or Aluminum Clad window frame. Ten facilities, nine industrial and one administrative, will be retrofitted with energy efficient windows that will result in a significant cost savings. The current BTU (loss) of the ten existing facilities is 468 mmBTU per year. The project loss of the low E double insulated glass with Fiberglass Reinforce Polyester (FRP) or Aluminum Clad window frame is estimated at 8.0 million BTU per year, a factor of almost 400% energy savings as compared to the current loss from 45-year old aluminum windows.

The project was identified in the Master Plan for the Noman M Cole, Jr. Pollution Control Plant and can proceed right away. The project can be considered part of Fairfax County's Environmental Improvement Initiatives to reduce carbon footprint (ES10-01(A)) and similar to other weatherization initiatives (ES10-10(C)).

Energy Efficiency and Conservation Block Grant funding is expected to yield $4,680 per year in savings - a simple payback period of 13 years.

Environmental Agenda Objectives Supported

Air Quality and Transportation - general
Environmental Stewardship - 5

Other Plans or Documents where this actions appears or that it supports

Air Quality Management plan
Cool Counties Climate Stabilization Initiative

Lead Agency

DPWES

Status/Plans/Outcomes

This project has been proposed for the Noman M. Cole, Jr. Pollution Control Plant and is planned to be implemented in FY10. It was proposed for Energy Efficiency and Conservation Block Grant stimulus funding.

Resources

This project is estimated to require funding of approximately $208,000. The project is being funded through the Capital Improvement Project (CIP) funds. The services to complete the project will be procured through a competitive bid process.

EIP11-ES11-07 (B) Calculate and Validate the Wastewater Collections Division Carbon Footprint

Description of Action

This initiative was designed to determine the carbon footprint of the operations by the Wastewater Collections Division (WCD) to define its baseline greenhouse gas emission. To ensure accuracy, the calculations may be validated by an independent third party. The footprint will be calculated based on the World Resources Initiative and the World Business Council for Sustainable Development (WRI/WBCSD) protocol. Results from this analysis will be used to establish a baseline for reduction credits, identify areas to target reductions, and comply with the Board of Supervisors Cool Counties Climate Stabilization Initiative.

Environmental Agenda Objectives Supported

Air Quality and Transportation - general
Environmental Stewardship - 5

Other Plans or Documents where this actions appears or that it supports

Air Quality Management plan
Cool Counties Climate Stabilization Initiative

Lead Agency

DPWES

Status/Plans/Outcomes

The WCD staff is planning to work with Wastewater Treatment Division (WTD) Plant Operations Branch Manager to learn the method for calculating the Carbon Footprint for the WCD per the WRI/WBCSD protocol. These calculations will be sent to a consultant for third party validation. These calculations can then be used to generate new WCD initiatives to target areas of greenhouse gas reduction.

Resources

The effort required for performing the calculations will be provided by WCD staff. The third party validation may be funded through Basic Ordering Agreement task order funding of approximately $9,000.

EIP11-ES11-08 (B) Establish a Rain Garden Onsite at Wastewater Collections Robert P. McMath Facility

Description of Action

In order to reduce storm water runoff, the Robert P. McMath Wastewater Collections Division (WCD) Facility is considering the design and installation of a rain garden onsite.

Environmental Agenda Objectives Supported

Water Quality 7
Environmental Stewardship 5

Other Plans or Documents where this actions appears or that it supports

Cool Counties Climate Stabilization Initiative
MS-4 Permit
Public Works and Environmental Services Strategic Plan

Lead Agency

DPWES

Status/Plans/Outcomes

Currently the Wastewater Management Program is in the initial phase of considering the feasibility of the design and installation of a rain garden at the Wastewater Collections Robert P. McMath facility. Staff in the Wastewater Collections Division plans to work with the Northern Virginia Soil and Water Conservation District on the design of the structure and preparation of a cost estimate for its installation.

Resources

This initiative will require employee time from the WCD and NVSWCD for design and installation of the structure. Additional funding, as determined by the cost estimate, will be required for purchase of plants and the related supplies.

EIP11-ES08-07 (C) Neighborhood Ecological Stewardship Training (NEST) Program

Description of Action

The Neighborhood Ecological Stewardship Training (NEST) program was initiated in the spring of 2006 by the Northern Virginia Soil and Water Conservation District, as a pilot project and as part of a doctoral studies project for a student at George Mason University. It was held again in 2008. NEST teaches citizens about their local environment through a series of experiential workshops and hands-on outings that explore local stream ecology, plants, soil, resource efficient behaviors and personal connections to the region. In 2006, more than forty agencies, organizations and companies partnered with the NEST program, and more than 145 adults participated in the program. The program was well-received and extensive documentation illustrates the effectiveness of this approach to stewardship education.

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

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
In 2008, 261 participated in the program. 73 organizations, writers, artists and scientists partnered with the NEST program to provide a wide range of classes and activities from watershed explorations by land and water, to soils art, bat habitat and stream ecology. More than 115 activities were linked to the NEST program.

NEST demonstrated that there is extensive interest in adult natural resources programs. The program filled to capacity and many participants claimed it "changed their outlook on natural resources in the area." Pre and post-program surveys document the success of this hands-on approach to raising awareness, increasing knowledge and promoting stewardship.

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 ES10-15 (C), Environmental Stewardship Matching Grants for Watershed Protection and Energy Conservation.

EIP11-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

Environmental Agenda Objectives Supported:
Environmental Stewardship 1, 2, 3, 4, 5, 6
Parks Trails and Open Space (General)
Air Quality & Transportation 7
Water Quality 1, 7, 9, 10

Other Plans or Documents where this action appears or that it supports:
The Fairfax County Tree Action Plan
Benefits and Application of Natural Landscaping and Five-year Implementation Plan (The report prepared for the BOS by the NLC)
New Millennium Occoquan Watershed Task Force Report
Cool Counties Climate Stabilization Initiative

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: Implementing Natural Landscaping Practices on County Properties (PT08-06(C)); and Planting Trees for Energy Conservation at County Facilities (formerly PT08-07(C) and now part of AQ08-05(B), Tree Planting at Governmental Buildings and Parking 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: $50,000

EIP11-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 encourage 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 EIP11-ES09-08 (B)).

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 EIP11-ES09-08 (B), a 30-year Tree Canopy Goal, educating and engaging private property owners will be absolutely critical in all efforts to obtain that goal.

Environmental Agenda Objectives Supported

Environmental Stewardship 2, 3, 4 and 6
Air Quality and Transportation 7
Water Quality 1, 7 and 10

Other Plans or Document where this action appears or that it supports

Fairfax County Tree Action Plan
Watershed Management Plans
Agricultural and Forestal District Ordinance
New Millennium Occoquan Watershed Task Force Report
Cool Counties Climate Stabilization Initiative
Air Quality Management Plan
Thirty-Year Tree Canopy Goal

Lead Agency

DPWES-Urban Forest Management Division

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 out reach 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: $100,000
Funds will used to develop an education and outreach plan and to develop and print educational materials

EIP11-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 County's newly formed Energy Efficiency and Conservation Coordinating Committee. Suggestions for some 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 Climate Stabilization Initiative

Lead Agencies:

County Executive's Office
Energy Efficiency and Conservation Coordinating Committee

Status/Plans/Outcomes

This program is dependent on the resource capacity of the Energy Efficiency and Conservation Coordinating Committee.

Resources

This program (approximately $9 million) has been proposed for the federal Energy Efficiency and Conservation Block Grant program.

EIP11-ES09-13 (C) Install Energy Management Control Systems 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 uses to manage energy consumption in county facilities. Currently, there are only 58 of 170 facilities that have EMCS installed. The Board requested a cost to install systems in the remainder of County 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 Climate Stabilization Initiative

Lead Agencies:

Facilities Management Department

Status/Plans/Outcomes

Installation of EMCS in facilities could be started in FY2009, but would take several years to complete.

Resources

The estimated cost to install EMCS in approximately 100 facilities is $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. (This amount has been included in the estimate for all the facilities).

Funding to install EMCS at Gum Springs Community Center and Bailey's Community Center was proposed for EECBG funding.

EIP11-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. These would offer energy savings from the green roof, and provide energy production on-site from the solar panels. 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 providing 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), as well as real-time touch displays of what the solar panels are doing, for reidents 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 Climate Stabilization 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

EIP11-ES09-16 (C) Feasibility Study for Renewable Energy Technologies

Description of Action

Virginia Executive Order 48 calls for periodic assessment of the cost effectiveness of incorporating a photovoltaic power system or a green roof in any roof renovation for state buildings over 5,000 gross square feet in size. If the projected energy savings over a 15-year period can pay for the additional cost of installing photovoltaic or green roof system, then plans for state buildings are required to address that design option. The County is interested in emulating this idea because of its Cool Counties leadership, as well as consideration of life cycle cost savings.

Environmental Agenda Objectives Supported:

Environmental Stewardship 5
Air Quality and Transportation (General)

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

Cool Counties Climate Stabilization Initiative

Lead Agencies:

Facilities Management Department
County Executive's Office

Status/Plans/Outcomes

Independent consultants that specialize in renewable energy technologies would be needed to evaluate county facilities and conduct the necessary analysis to determine the cost effectiveness. FMD needs a leading role in accepting new installations of technologies into the facilities it maintains, since there already is a large burden to keep up with necessary capital renewal needs. It is recommended that FMD and the consultant work in conjunction with the Countywide Energy Manager, or Energy Efficiency and Conservation Coordinating Committee, to determine which facilities would be suitable for installation.

Resources

TBD

EIP11-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 Climate Stabilization 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 needs to be determined.

Resources

The estimated cost to conduct energy audits in approximately 100 facilities is $500,000.

Some of the audits were proposed for EECBG funding.

EIP11-ES10-08 (C) Park Authority RECenters Lighting Improvement for Swimming Pools and Racquetball Courts

Description of Action
A more efficient lighting system for the RECenters would consume less energy to produce the appropriate light levels on the field and would significantly reduce electricity usage while improving the viewing needs. Using appropriate energy efficient fluorescent and LED fixtures along with appropriate control systems and energy efficient ballasts for outdoor lights at swimming pools, racquetball courts, gymnasiums, ice rinks and other activities could provide considerable savings, better safety, and better quality of light. Efficient scheduling by using control systems and switching lights on and off only when needed also helps to provide the appropriate light levels for different purposes.

The Park Authority has nine RECenters with indoor swimming pools, racquetball courts, and other activity rooms. Upgrading these systems will provide the opportunity to significantly reduce energy consumption and reduce energy bills. One benefit of less energy consumption would be reduced CO2 emissions to the atmosphere.

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 Climate Stabilization Initiative
FCPA policy Manual

Lead Agency:
FCPA

Status/Plans/Outcomes
This action has not yet begun. The FCPA established an energy management position to develop an energy management program, to review energy efficiency in FCPA facilities, and to help in defining energy projects. This project relates to the results of an energy survey that was done in the FCPA facilities.

Resources
Retrofit Cost: Estimate $900,000 (unfunded)

EIP11-ES10-09 (C) Park Authority Athletic Fields Lighting Improvement

Description of Action

A more efficient lighting system for the athletic fields requires fewer fixtures to produce the appropriate light levels on the field and consumes less energy so it could significantly reduce electricity usage while meeting the viewing needs. Additionally, using appropriate energy efficient technology for athletic field lighting and switching lights on only when needed, could provide better quality of light, constant light levels, reduced maintenance costs, and better scheduling and control systems. Flexible programming also helps in providing the appropriate light levels for different activities.

FCPA has several athletic fields that are using old and inefficient lighting systems. Upgrading these systems will provide an opportunity to reduce energy consumption and reduce energy bills. Also it would provide an opportunity to control operating hours more efficiently. One result of less energy consumption would be reduced CO2 emissions to the atmosphere.

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 Climate Stabilization Initiative
FCPA policy Manual

Lead Agency:

FCPA

Status/Plans/Outcomes

This action has not yet begun. FCPA established an energy management position to develop an energy management program and review energy efficiency in FCPA facilities and helps in defining energy projects. This project relates to results of an energy survey was done in the FCPA facilities.

Resources

$700,000

EIP11-ES10-10 (C) Building Envelope Assessment and Improvement for Park Authority Facilities

Description of Action

The building envelope is a critical component of any facility since it plays a major role in regulating the indoor environment. Consisting of the building's roof, walls, windows, and doors, the envelope controls the flow of energy between the interior and exterior of the building. The building envelope can be considered the selective pathway for a building to work with the climate, responding to heating, cooling, ventilating, and natural lighting needs. A better building envelope can help make a building energy efficient and environmentally friendly.

The Park Authority has different types of facilities. Some of these facilities have old buildings that need to be evaluated in terms of building envelop and the control of air flow between indoors and out doors, which significantly affects the building energy efficiency and energy use by HVAC systems.

This action will save energy uses in HVAC systems, reduce CO2 generation, and reduce energy bills.

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 Climate Stabilization Initiative
FCPA Policy Manual

Lead Agency:

FCPA

Status/Plans/Outcomes
This action has not yet begun

Resources
Assessment Cost: $300,000

EIP11-ES10-11 (C) Park Authority Facilities Small HVAC Systems

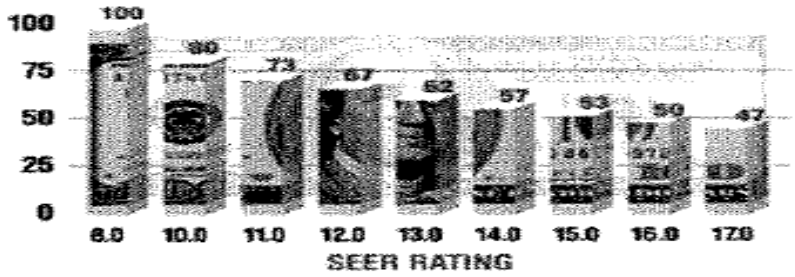
Description of Action

The critical systems of any facility are its HVAC systems, since they play a major function in regulating the indoor environment. They consist of heating, ventilating, and air condition systems. Using appropriate energy efficient equipment leads to less energy consumption, thereby reducing the environmental impact and reducing operational cost.

Currently the existing indoor weather system is an endangered species, as a result of the 1990 Clean Air Act and the internationally binding Montreal Protocol. These documents call for an international phase-out on future manufacturing of the refrigerant R-22 (the principal HCFC refrigerant), which currently is used in most air conditioning and heat pump systems. The basic phase-out schedule for HCFCs (Hydrochlorofluorocarbon R-22) in developed countries is a 35% reduction in 2004, a 65% reduction in 2010, a 90% reduction in 2015, a 99.5% reduction in 2020, and a 100% phase-out in 2030.

This phase-out of the HCFCs, mandated by the 1990 Montreal Protocol, gives the FCPA a new perspective on the replacement and acquisition of HVAC systems. Historically, when a refrigerant has been phased out, the cost of that refrigerant has risen dramatically. And the costs for servicing products using a phased out refrigerant have risen as well. That's what happened with R-12, the refrigerant that, until recently, had been used in automobile air conditioners. By replacing the older air conditioner or heat pump we could be protecting the FCPA from the potentially rising costs of servicing R-22 products and environmentally we could contribute to the prevention of Ozone layer depletion, which is a critical environmental issue.

The Park Authority currently has 58 units (including 22 units in golf courses and 11 units in tenant rental houses) that need to be upgraded to be more energy efficient and to comply with the federal mandates for the use of HCFC's. Most of these units are more than 10 years old. Currently the Park Authority plans to replace 8 units a year to high efficient units from 8/10 to 14 SEER rating. The chart below indicates the operational/electricity costs based on SEER (Seasonal Energy Efficiency Ratio) rating.



Environmental Agenda Objectives Supported:

Environmental Stewardship 5
Air Quality and Transportation (general)

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

Cool Counties Climate Stabilization Initiative
FCPA policy Manual

Lead Agency:
FCPA

Status/Plans/Outcomes

This action has not yet begun.

Resources

Retrofit Cost: Estimate $130,000 /year (for every 8 units). The cost over seven years (for a total 58 units) is $950,000.

EIP11-ES10-13 (C) Master Watershed Stewards Certification Program

Description of Action

The Master Watershed Stewards Certification Program is intended to provide training to Fairfax County citizens interested in participating in implementing watershed management plans and other initiatives, watershed improvements, and activities to protect the streams and natural resources in their watersheds. It provides an intensive introduction to watershed issues and watershed management during eight 2 ½ hour workshops on technical and organizational topics including: the consequences of poor watershed management; measuring watershed health; stormwater management; best management strategies and practices, including the low impact development concept and practices; and organizing to take action (forming or strengthening community watershed organizations). Participants also conduct a visual assessment of stream corridors in their own watersheds. Participants must carryout at least 24 hours of watershed-related community service, which may include a project or activity, organizing a community watershed organization, or participating in a community group involved in implementing a watershed plan or other watershed activities. Upon completion of the workshops and the community service, participants are certified as Master Watershed Stewards.

This program builds on the successful Master Watershed Stewards Program conducted in 2004 (ES07-02 (A)), when 66 Fairfax County residents were certified as Master Watershed Stewards by the Potomac River Greenways Coalition (compared to the program's target of 30). In addition, 52 other citizens attended one or more of the Master Watershed Stewards Program workshops.

Environmental agenda objectives Supported

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

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

Watershed Management Plans
MS-4 Permit
New Millennium Occoquan Watershed Task Force Report

Lead Agency

Northern Virginia Soil and Water Conservation District

Other Agencies

Department of Public Works and Environmental Services, Stormwater Planning Division

Status/Plans/Outcomes

The program is being developed collaboratively by NVSWCD, DPWES and the Potomac River Greenways Coalition. An evaluation instrument is under preparation to measure the long-term impact of the initial Master Watershed Stewards Program. During 2009, the Potomac Greenways Coalition will conduct a survey to assess the overall utility of the 2004 Master Watershed Stewards Program on post-program participant involvement in watershed management-related activities. The survey will be used to make adjustments to the curriculum, based on feedback from participants. In addition, the curriculum will be adjusted to incorporate new research and developments, as well as the results and findings of the on-going Fairfax County watershed management planning effort, and measures to facilitate program implementation. The revised Master Watershed Stewards Certification Program could be ready for implementation in FY 2010. The program would be facilitated by a coordinator provided by the Potomac River Greenways Coalition who would plan, promote, organize, lead and administer the program. In addition, an environmental educator would be hired to help carryout the program. Major expected outcomes of this program would be: (1) to prepare a significant number of committed and well-trained residents who can exercise leadership in the implementation of watershed plans and watershed improvements; and (2) to institutionalize the program as a tool to provide knowledge, influence attitudes, and encourage practices to empower Fairfax County residents to make a positive difference as stewards of their watersheds.

Resources

The Potomac River Greenways Coalition, the principal citizen counterpart organization for this program, will provide program coordination and management as an in-kind contribution. The Coalition also will seek grant funding from the Chesapeake Bay Small Watersheds Grants Program or other funding sources to facilitate program organization and curriculum revision.

An additional $40,000 in grant and/or county funding is needed to fund the environmental educator position, honoraria and travel for topic matter specialists, and for program supplies.

Other staff resources to support this effort are budgeted as part of the NVSWCD and DPWES programs. County facilities will serve as the venue for the workshops.

EIP11-ES10-14 (C) Water Conservation Education and Device Distribution Program

Description of Action

Fairfax County, Virginia, is a growing community whose primary source of drinking water is the Potomac River and the Occoquan Reservoir.

Much of the Washington Metropolitan Area experienced a drought in 1999, 2002 and 2007. The Metropolitan Washington Council of Governments, of which Fairfax County is a member jurisdiction, in cooperation with local water utilities, adopted the national "Water, Use it Wisely" program to demonstrate simple wise water use practices. There are 100 water saving tips that are easy to incorporate into daily practices, from turning the water off while brushing teeth, to properly adjusting landscape planning throughout the year. With awareness and a little effort everyone can all find ways to use water wisely.

In 2008, average household consumption in Fairfax Water's retail service area was 223 gallons per day (gpd) for single-family residences and 157 gpd for townhouse residences. Please note that this is per residence and not per capita. Multi-family residence data is more difficult to calculate as many are not individually metered, skewing the number of true accounts served. On a per unit basis, it is likely to be close to the townhouse numbers on a per account basis.

In addition to protecting and preserving our regional water resources, the "Water, Use it Wisely" information brochures will help county residents to reduce their carbon footprint by reducing greenhouse gas emissions associated with the electricity required to collect and treat the water. For example, based on a review of Fairfax Water's average energy use, about 2,500 kilowatt hours (kWh) is used to pump, treat, transmit and distribute water per million gallons delivered. For wastewater collection and treatment, Fairfax County uses about 3,000 kWh per million gallons.

Based on our electricity grid, approximately 1.2 lbs of carbon dioxide (CO_2), a greenhouse gas, is produced per kWh. This says nothing about the traditional pollutants associated with electricity generation. The Environmental Protection Agency estimates that letting a faucet run for five minutes uses almost as much energy as letting a 60-watt bulb run for 14 hours.

This action is a plan to promote pro-active water conservation practices in Fairfax county by influencing area business and county resident water usage. "Water, Use It Wisely" color brochures along with a faucet aerator would be mailed to select homes within the county where survey or research findings show there would be the most beneficial outcomes.

Environmental Agenda Objectives Supported
Environmental Stewardship (general)
Air Quality and Transportation (general)

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

Lead Agencies
Environmental Coordinator
Fairfax Water

Status/Plans/Outcomes

In 2008, Fairfax Water produced, on average, 145 million gallons of potable water daily to meet the demand of nearly 1.5 million residents and businesses in the region, including over 800,000 within the county. Both Fairfax Water and the county currently participate in the regional ***Water: Use it Wisely*** campaign.

With consistent water conservation measures in place, drought conditions can be more effectively handled and the severity of a water shortage can be reduced. The education and distribution plan seeks to both educate county residents and area businesses on simple measures that can be taken at home or in the office, and provide one small device that can be easily installed to further facilitate water conservation and cost savings.

For example, using a single faucet aerator in the kitchen sink can save, on average, a typical household nearly 280 gallons of water per month. By this saving alone, the faucet aerator will pay for itself in a matter of a few months.

Brochures and faucet aerators should be distributed along with a public education and outreach campaign and targeted to those county residences/organizations or communities where market research has shown to be most receptive. Aerators can be handed out by science teachers for distribution to students along with the brochure and/or distributed by county agencies or board member offices at select events. The details of the campaign and distribution will need to be further developed in a future year EIP.

Water: Use it Wisely color brochures in pdf format are available through the Metropolitan Washington Council of Governments. Printing and distribution can be accomplished through a county vendor in a similar manner that was done for the Tick and Mosquito Brochure that was recently distributed to all county residents by the Health Department.

Resources
Bulk rate for faucet aerator: $1 each

Water, Use it Wisely **brochure specifications:** Print ready PDF's will be provided by Fairfax County; 8.5" x 11" flat size, folding to #10; Print full color on both sides (4/4); 80# coated text stock. PRINTING - 50,000 copies: $3,943. DISTRIBUTION - cost is approximately 15 cents per mailing.

EIP11-ES10-15 (C) Environmental Stewardship Matching Grant Program for Watershed Protection and Energy Conservation

Description of Action

A fundamental barrier to the implementation of watershed protection and energy conservation actions by Fairfax County residents is funding. Homeowners, HOAs or schools desiring to manage their properties and landscapes for environmental sustainability are often deterred by a lack of funding. Other jurisdictions, including Montgomery and Arlington counties are taking steps to overcome this barrier. Montgomery County has implemented its Rainscapes Rewards Rebate Program (http://www.montgomerycounmd.gov/Content/DEP/Rainscapes/home.html) and Arlington County has offered free home energy audits to its residents.

NVSWCD proposes offering an environmental stewardship grant program for watershed protection and energy conservation actions by Fairfax County residents, HOAs and schools. Green living workshops focusing on how to save energy, create sustainable landscapes, protect local water quality and conserve water would be used to introduce the grant program to residents. Residents attending the workshops would become eligible for matching grants for specific projects such as installation of permeable pavers, rain gardens, cisterns, green roofs and tree canopy, riparian buffer or shoreline enhancement, energy efficiency or water conservation updates, and conservation. NVSWCD would provide technical assistance, and would assemble resources from other agencies to offer technical assistance where possible, in the design and implementation of the projects.

The matching grant program would fulfill multiple county goals including: minimizing impacts to local water quality and the Chesapeake Bay by reducing pollutants, increasing biodiversity and habitat including urban forest resources, minimizing runoff, counteracting global warming, conserving water, and stimulate local environmental stewardship and enhance community by empowering citizens to enact positive change locally.

Program Goals:

- Provide technical information on alternatives to highly resource consumptive residential living and landscape practices.
- Provide financial incentives to enable on-the-ground projects that demonstrate environmental stewardship and provide for ongoing environmental education.
- Improve water quality, conserve water and reduce greenhouse gas emissions and conserve energy within Fairfax County.

Environmental Agenda Objectives Supported:

Growth and Land Use 5
Air Quality 7
Water Quality 1, 7, 9, 10
Parks, Trails and Open Space 2
Environmental Stewardship 1, 2, 3, 4 and 6

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

Watershed Management Plans
New Millennium Occoquan Watershed Task Force Report
MS-4 Permit
Fairfax County Tree Action Plan
Fairfax County 30-Year Tree Canopy Goal
Benefits and Application of Natural Landscaping and 5-Year Implementation Plan
(A Report prepared for the Board of Supervisors by the Natural Landscaping Committee)
Cool Counties Climate Stabilization Initiative

Lead Agency:

Northern Virginia Soil and Water Conservation District

Status/Plans/Outcome

Related programs include rain garden, rain barrel and the Livable Neighborhoods Water Stewardship program. NVSWCD participates in all three of these programs in cooperation with partners including DPWES stormwater planning, the Northern Virginia Regional Commission, the Fairfax County Park Authority, and other local jurisdictions including Arlington County, City of Alexandria, City of Falls Church and non-profits such as Arlingtonians for a Clean Environment.

In FY 2009, NVSWCD, working with partners from DPWES, NVRC and the Providence Supervisor's office, used a $12,000 grant from the Chesapeake Bay Restoration Fund to support implementation of an LID demonstration project to improve stormwater management at one home in the Falls Hill neighborhood, and to conduct a community education program that included technical assistance and small grants (up to $500) to several homeowners to implement stormwater improvements on their properties. The Falls Hill project addressed only one component (stormwater) in the proposed Stewardship Matching Grant Program, but is noteworthy because the well-attended workshops and active interest shown by the neighborhood suggests the broader Matching Grant Program would be well-received by county residents.

Resources

$75,000 would be needed to fund a program that would include a full-time person to conduct the outreach and education, provide technical assistance, and manage Stewardship Grants for $300 to $2,500 for private homeowners and $2,500 or more for schools, community groups and HOAs. Additional staff would be provided by NVSWCD, with assistance from county agencies if possible.
$25,000 would be needed to fund a pilot project with fewer grants and hiring a temporary, part-time coordinator.

EIP11-ES11-09 (C) Wastewater Management Program IT Computer Server Virtualization

Description of Action

Beginning FY2009, the Wastewater Management IT branch started server virtualization to lower the number of physical servers in the server room, reduce power consumption of the physical servers and improve the efficiency of the Data Center, as well as lower the cost of ownership, and create high availability for critical systems.

Per pilot testing, when x86 servers ran at about 15% CPU usage, they consumed about 35% of their total power capability, and at 40% CPU usage, they used about 75% of their potential power draw. This means that the last 60% of a computer's CPU capability requires just an additional 25% of its maximum operating power, so two computers running at 40% utilization each will require more energy than one computer running at 80%. Hence, if there are two servers that average 40% CPU utilization each, it can save money by virtualizing them onto a similar machine, which then would run at about 80% utilization.

Wastewater Management's goal is to reduce the 30 SCADA servers to around 15 servers, which can save 50% of the physical server costs ($300,000) and also save about 47% of the power energy consumption of all 30 physical servers running at the same time. The electrical savings would be approximately 149,000 kw-hr/yr and $11,000 per year.

The proposed Energy Efficiency and Conservation Block Grant budget would use $500,000 for a virtual network line and $37,500 for server licensing and support. The Wastewater IT branch would use $300,000 in WWM capital funds for server purchase.

The savings in server costs and energy would equal the EECBG budget funds within 20 years.

This project is consistent with Fairfax County's Environmental Improvement Initiatives to reduce carbon footprint (ES10-01 (A)), and implement actions identified in the Wastewater Treatment Division's Environment Management System (ES10-03(A)).

Environmental Agenda Objectives Supported

Air Quality and Transportation - general
Environmental Stewardship - 5

Other Plans or Documents where this actions appears or that it supports

Air Quality Management Plan
Cool Counties Climate Stabilization Initiative

Lead Agency

DPWES

Status/Plans/Outcomes

This project has been proposed for the Noman M. Cole, Jr. Pollution Control Plant and is waiting for funding. It was proposed for Energy Efficiency and Conservation Block Grant stimulus funding.

Resources

This project is estimated to require funding of approximately $837,500. If the project receives funding, the equipment would be procured and the work would be performed by WWM IT staff.

EIP11-ES11-10 (C) Site Lighting Upgrades for Monomedia Filters at Noman M. Cole Jr. Pollution Control Plant

Description of Action

As part of the environmental and energy conservation initiatives set forth by the Fairfax County Board of Supervisor's, the Wastewater Treatment Division is proposing an area-wide lighting replacement program to minimize off-site lighting impacts (reduce light pollution), conserve energy by decreasing the amount of energy used, and ensure that lighting is more appropriately directed to assist plant operators in completing their necessary tasks safely. Existing plant site lighting provides a "blanket" overall coverage at the plant. This type of lighting, while adequate for performing outdoor tasks, has created unnecessary light pollution to nearby communities. Due to outdated and energy wasteful units, the existing lighting illuminates both the plant and many of the surrounding homes, thus using energy to light areas not used by plant personnel. This upgrade includes eliminating light trespass from the buildings and the site, improves night sky access and reduces development impact on nocturnal environments. This change will provide 64% reduction in lighting power densities. Electric energy savings will be 19,804 kw-hr per year. Greenhouse gases would be reduced by 10.6 metric tons of CO2 equivalents per year using an emission factor of 1,176.91 lbs per mWh. (19,804/1000*1176.91/2.2/1000=10.6)

Environmental Agenda Objectives Supported
Air Quality and Transportation (general)
Environmental Stewardship 5

Other Plans or Documents where this actions appears or that it supports
Air Quality Management plan
The Cool Counties Climate Stabilization Initiative

Lead Agency
DPWES

Status/Plans/Outcomes
This project has been proposed for the Noman M. Cole, Jr. Pollution Control Plant and is waiting for funding. It has been proposed for Energy Efficiency and Conservation Block Grant stimulus funding.

Resources

This project is estimated to require funding of $42,791. The EEC Block Grant would provide funding of approximately $25,000. The equipment for the project would be procured and the plant maintenance staff would perform the required labor.

EIP11-ES11-11 (C) Mercury Vapor Lighting Replacement at Noman M. Cole Jr. Pollution Control Plant

Description of Action

As part of Fairfax County's Environmental Improvement Initiatives to reduce carbon footprint (ES10-01 (A)), improve energy efficiency in lighting (ES09-06(B)) and implement actions identified in the Wastewater Treatment Division's Environment Management System (ES10-03(A)), the Wastewater Management Program has developed a project to replace 43 mercury vapor fixtures with T5 fluorescent lighting fixtures. This project was developed as part of the Master Plan for the Noman M. Cole Jr. Pollution Control Plant. The project was not funded because of its size. The simple payback is 2 years.

Environmental Agenda Objectives Supported

Air Quality and Transportation - general
Environmental Stewardship - 5

Other Plans or Documents where this actions appears or that it supports

Air Quality Management plan
Cool Counties Climate Stabilization Initiative

Lead Agency

DPWES

Status/Plans/Outcomes

This project has been proposed for the Noman M. Cole, Jr. Pollution Control Plant and is waiting for funding. It was proposed for Energy Efficiency and Conservation Block Grant stimulus funding.

Resources

This project is estimated to require funding of approximately $15,000. If the project receives funding the equipment would be procured and the work would be performed by plant electrical staff.

EIP11-ES11-12 (C) Establish a Green Roof Onsite at Wastewater Treatment Divisions Noman M. Cole, Jr. Pollution Control Plant

Description of Action

The Wastewater Treatment Division (WTD) is researching the potential of installing a Green Roof on a building at the Noman M. Cole, Jr. Pollution Control Plant.

Environmental Agenda Objectives Supported

Water Quality 5, 7
Environmental Stewardship 5

Other Plans or Documents where this actions appears or that it supports

Cool Counties Climate Stabilization Initiative
MS-4 Permit
Public Works and Environmental Services Strategic Plan

Lead Agency

DPWES

Status/Plans/Outcomes

Currently the Wastewater Management Program's WTD is in the very initial phase of researching the feasibility of the design and installation of a green roof at the Noman M, Cole, Jr. pollution Control Plant.

Resources

In this initial phase, staff is calculating the cost of the design and implementation of this project. A Basic Ordering Agreement may be used to procure professional consulting services for the research. When the cost of this project is determined, the WTD will look into potential funding options to implement the design and installation of a green roof.

EIP11-ES11-13 (C) Installation of Lighting Control Systems at Athletic Fields

Description of Action

The Fairfax County Park Authority (FCPA) has installed programmable lighting control systems on numerous athletic fields to control lights remotely with a high degree of accuracy. Control systems energize athletic field lighting only when needed, and turn the lights off when not needed. Convenience and control are maximized by features that may include key switches, push-button switches, automatic timers, desktop scheduling, and/or remotely controllable devices that turn the lights on and off. Curtailing unnecessary field lighting minimizes light trespass, which reduces complaints from neighbors. It also reduces FCPA's electricity usage, thereby freeing funds for field maintenance, and reduces fossil fuel emissions, which furthers the FCPA's environmental stewardship objectives.

Additional background information is available in the "Athletic Field Lighting Technical Report" prepared in 2005 for FCPA by Shaffer, Wilson, Sarver & Gray (SWSG) in Reston. (http://www.fairfaxcounty.gov/parks/gmp/athletic_lighting_rpt.pdf).

Project Scope:
FCPA plans to upgrade lighting control systems at the following facilities, listed in priority order:

- Mason District Park, 6621 Columbia Pike, Annandale - Fields 1, 2, and 3
- Wakefield Park, 8101 Braddock Road, Annandale - Fields 1, 2, 3, 4, 5, and 6
- Alabama Drive Park, 1100 Alabama Drive, Herndon - Fields 1 and 2
- Ossian Hall Park - 7900 Heritage Drive, Annandale - Fields 1 and 2
- Westgate Park, 7550 Magarity Road, McLean - Fields 1 and 2
- Byron Avenue Park, 6500 Byron Ave, Springfield - Fields 1 and 3
- Fred Crabtree Park, 2801 Fox Mill Road, Herndon - Fields 1 and 2
- Trailside Park, 6000 Trailside Drive, Springfield - Fields 1 and 2
- Howery Park, 5100 Glen Park Road, Annandale - Fields 1, 3, and 4
- Sandburg Middle School, 8428 Fort Hunt Road, Alexandria - Field 1
- Lake Fairfax Park, 1400 Lake Fairfax Drive, Reston - Fields 1 and 4

Objectives include reducing energy usage and fossil fuel emissions and creating or retaining jobs. Approximate cost for this project, based on prior FCPA experience and considering additional features compared to existing systems, is $330,000.

Anticipated Results:
Based on historical savings for similar projects, the County estimates that the project will result in annual energy savings of 1,707 MMBtus and annual reductions in greenhouse gas (GHG) emissions of 275 metric tons CO2e.

Environmental Agenda Objectives Supported:
Environmental Stewardship 5
Air Quality of Transportation (general)

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

Cool Counties Climate Stabilization Initiative
FCPA Policy Manual
Air Quality Management Plan

Lead Agency:

FCPA

Status/Plans/Outcomes
This action has been submitted for DOE as one of the EECBG Fairfax County projects.

Resources
Assessment Cost: $330,000

EIP11-ES11-14 (C) Outdoor Lighting and Control System Retrofits

Description of Action

In 2008, the FCPA conducted a study to analyze over 300 existing FCPA outdoor lighting systems for the purpose of identifying those systems that would most benefit from energy efficiency improvements. Several of the existing lighting systems are old and inefficient and especially the light fixtures could be replaced with more efficient fixtures. The sites selected for inclusion in the a priority list in this project were among the high-priority sites identified in that study.

Project Scope:

FCPA plans to upgrade outdoor light fixtures (including poles, if necessary, but not the bases) and, if appropriate, install control systems at the facilities in following priority list. ("Courts" may refer to tennis and/or multi-purpose courts.)
- Mason District Park, 6621 Columbia Pike, Annandale - Parking Lot
- Lee District Park, 6601 Telegraph Road, Franconia - Courts
- South Run Park, 7550 Reservation Drive, Springfield - Parking Lot
- George Washington Park, 8426 Old Mount Vernon Road, Alexandria - Parking Lot
- Nottoway Park, 9537 Courthouse, Vienna - Courts
- Burke Lake Park, 7325 Ox Road, Fairfax Station - Courts and Maintenance Shop
- Backlick Park, 4516 Backlick Road, Annandale - Courts
- Wakefield Park, 8101 Braddock Road, Annandale - Courts and Maintenance Shop

The all facilities in the priority list currently have a total of 283 lighting fixtures. There are 85 fixtures with 1500 watt bulbs, 74 fixtures with 1000 watt bulbs, 102 fixtures with 400 watt bulbs, and 22 fixtures with 175 watt bulbs and facilities are chosen from the priority list depend on actual scope of work and cost for each facility based on an evaluation in first step of the project). The project objectives include reducing energy usage and fossil fuel emissions and creating or retaining jobs.

Anticipated Results:
Based on historical savings for similar projects, the County estimates that the project will result in annual energy savings of 1,109 MMBtus and annual reductions in greenhouse gas (GHG) emissions of 178 metric tons CO2e.

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 Climate Stabilization Initiative
Air Quality Management Plan
FCPA Policy Manual

Lead Agency:

FCPA

Status/Plans/Outcomes
This action has been submitted for DOE as one of the EECBG Fairfax County projects.

Resources
Assessment Cost: $220,000

FAIRFAX COUNTY, VIRGINIA

Environmental Improvement Program (EIP)
Appendix 1

Fiscal Year 2011

Prepared September 2009

Fairfax County Environmental Improvement Program (EIP)
Summary of Acronyms and Abbreviations

ANS	**Audubon Naturalist Society**
AFV	**Alternative Fuel Vehicle**
APF	**Adequate Public Facilities**
APR	**Area Plans Review –** a process managed by the Planning and Zoning Department for development of the Comprehensive Plan.
BMP	**Best Management Practices –** structural and nonstructural strategies and practices that address stormwater management and other environmental programs and regulations.
BOS	**Board of Supervisors –** The elected leadership of Fairfax County.
CAC	**Citizen Advisory Committee**
CACM	**Clean Air Café Menu**
CCT	**Cross County Trail**
CDF	**Citizen Disposal Facility**
CESQG	**Conditionally Exempt Small Quality Generator**
CIP	**Capital Improvement Program**
CLRP	**(Fiscally) Constrained Long-Range Plan**
CMAQ	**Congestion Mitigation and Air Quality –** federal program through which the county receives grant funds for transportation programs.
CO_2	**Carbon Dioxide –** A greenhouse gas
COEXEC	**Office of the County Executive**
CY	**Calendar Year**
DCR	**Department of Conservation and Recreation –** a department of the Commonwealth of Virginia responsible for oversight and regulation of various environmental programs that impact Fairfax County.
DEF	**Diesel Emissions Fluid**
DHR	**Department of Human Resources** – an organizational unit of the county responsible for employment and recruitment, work and development, payroll services, employee relations, and benefits.
DIT	Department of Information Technology – an organizational unit of the county responsible for information technology.
DOE	**US Department of Energy**
DPSM	**Department of Purchasing and Supply Management**
DPWES	**Department of Public Works and Environmental Services** – organizational unit of the county responsible for various operational initiatives that impact the environment, including stormwater management, wastewater management and land development services.
DOC	**Diesel Oxidation Catalyst –** A device added to the exhaust system of a diesel engine to reduce emissions of particulate matter, hydrocarbons, and carbon monoxide. It is less effective and less costly than a DPF.
DOT	**Fairfax County Department of Transportation –** An organizational unit of the county responsible for transportation issues, planning and programs.

DPF	**Diesel Particulate Filter –** A device added to the exhaust system of a diesel engine to reduce emissions of particulate matter, hydrocarbons, and carbon monoxide.
DPZ	**Fairfax County Department of Planning and Zoning**
DSWCR	**Fairfax County Department of Public Works and Environmental Services, Division of Solid Waste Collection and Recycling**
DSWDRR	**Fairfax County Department of Public Works and Environmental Services, Division of Solid Waste Disposal and Resource Recovery**
DVS	**Department of Vehicle Services –** An organizational unit of the county responsible for procurement, maintenance, and disposal of most county and FCPS vehicles, except transit and paratransit buses.
E/RRF	**Energy/Resource Recovery Facility**
ECC	**Environmental Coordinating Committee –** A county staff committee formed in 1999 to establish cross-organizational coordination and collaboration on environmental issues.
EFID	**Environmental and Facilities Inspections Division** – A Division of DPWES in the Land Development Services business area responsible for inspecting construction site for compliance with codes such the Erosion and Sedimentation Control Ordinance, the Zoning Ordinance, and the Public Facilities Manual.
EIP	**Environmental Improvement Program**
EIR	**Environmental Impact Report (state)**
EIS	**Environmental Impact Statement (federal)**
EPA	**Environmental Protection Agency (same as USEPA) –** a unit of the Federal government under the Executive Branch that oversees the management, implementation and regulatory programs established by Congress through various environmental laws.
EPP	**Environmentally Preferable Purchasing**
ERC	**Employee Recycling Committee**
ESRD	**Environmental and Site Review Division** (East and West) – Two Divisions of DPWES in the Land Development Services business area responsible for reviewing site and subdivision plans for conformance with the Chesapeake Bay Ordinance, the Erosion and Sedimentation Control Ordinance, the Zoning Ordinance, and the Public Facilities Manual, and other County codes.
ESI	**Engineering and Surveyors Institute –** local non-profit organization setup to increase the level of knowledge regarding development regulations of civil engineers and other technical professionals.
FAR	**Floor Area Ratio**
FCPA	**Fairfax County Park Authority**
FCPS	**Fairfax County Public Schools**
FEIS	**Final Environmental Impact Statement**
FFGA	**Full Funding Grant Agreement**
FHWA	**Federal Highway Administration**
FMD	**Fairfax County Department of Facilities Management**
FTA	**Federal Transit Administration**

FY	**Fiscal Year**
GIS	**Geographic Information System**
G.O.	**General Obligation** – a type of bond
HB	**House Bill**
HHW	**Household Hazardous Waste**
HOV	**High Occupancy Vehicle**
IPEG	**Piezo Electric Generating System**
Infoweb	**Fairfax County's internal web site for employees**
JARC	**Job Access/Reverse Commute**
LDS	**Land Development Services** – A business area of DPWES responsible for ensuring that land developed in Fairfax County meets environmental, zoning, safety, and health codes and standards such as those required by the Chesapeake Bay Ordinance, the Erosion and Sedimentation Control Ordinance, the Zoning Ordinance, and the Public Facilities Manual.
LFG	**Landfill Gas**
LID	**Low Impact Development –** policies and Best Management Practices designed to minimize the impacts of development on land and water through localized strategies.
MWAA	**Metropolitan Washington Airports Authority**
MWAQC	**Metropolitan Washington Air Quality Committee –** a committee established in 1992 and certified by the Mayor of the District of Columbia and the governors of Maryland and Virginia to prepare air quality plans for the Washington metropolitan region. The members include elected officials from 21 local governments in the region as well as representatives from the state air quality management and transportation agencies, Maryland and Virginia legislatures, and the Chair of the National Capital Region Transportation Planning Board.
MWCOG	**Metropolitan Washington Council of Governments –** an independent, nonprofit, regional association of Washington area local governments that provides a focus for action for coordinated regional responses to a variety of issues.
MSW	**Municipal Solid Waste**
NACo	**National Association of Counties**
NEPA	**National Environmental Policy Act**
NLC	**Natural Landscape Committee** – Multi-agency committee charged by BOS to identify natural landscaping practices that could be used to reduce harmful environmental impacts caused by maintenance practices, and to reduce the need and expense of mowing and fertilizer use.
NO_x	**Oxides of Nitrogen –** a precursor of ground-level ozone.
NPDES	**National Pollutant Discharge Elimination System –** a regulatory program of the EPA, authorized by the Clean Water Act, impacting stormwater and wastewater programs of Fairfax County.
NRI	**Natural Resource Inventory**
NRMP	**Natural Resource Management Plan**
NTEA	**National Truck Equipment Association**
NVCT	**Northern Virginia Conservation Trust**

NVSWCD	**Northern Virginia Soil and Water Conservation District –** a self-governing subdivision of the Commonwealth of Virginia, with the same boundaries as Fairfax County, whose mission is to lessen the impacts of urban/suburban activities on our land and water resources.
NVTC	**Northern Virginia Transportation Commission**
OPA	**Fairfax County Office of Public Affairs**
OTPA	**Out-of-Turn Plan Amendment -** a process used by the Planning and Zoning Department for amendment to the Comprehensive Plan.
PC	**Personal Computer**
PHEV	**Plug-In Hybrid Electric Vehicle**
PM	**Procedural Memorandum**
PFM	**Public Facilities Manual –** a county document that describes standards of practice for various engineering and technical requirements to be met during land development within the county.
PRM	**Planned Residential Mixed Use District of the Zoning Ordinance**
RBRC	**Rechargeable Battery Recycling Coalition**
REX	**Richmond Highway Express**
RPA	**Resource Protection Area –** established by the Chesapeake Bay Program, these are areas delineated along a stream where there is perennial flow; the designated area is established to limit disturbances within boundary of the RPA.
RSTP	**Regional Surface Transportation Program**
SCR	**Selective Catalytic Reduction** – an exhaust aftertreatment for diesel engines that reduces the amount of NOx emissions.
SE	**Special Exception**
SIP	**State Implementation Plans** – An air quality management plan reviewed and approved by the U.S. Environmental Protection Agency containing the actions and compilations of emissions, modeling analyses and other information needed to demonstrate that state-level regulations will assure that air meets federal air quality standards.
SO_2	**Sulfur Dioxide –** a criteria air pollutant.
SOV	**Single Occupancy Vehicle**
START	**Statewide Transportation Analysis and Recommendation Task Force**
SW	**Solid Waste**
SWANA	**Solid Waste Association of North America**
SWMP	**Solid Waste Management Plan**
SWPD	**Department of Public Works & Environmental Services, Storm Water Planning Division**
TAC	**Technical Advisory Committee –** a committee formed to advise and assist MWAQC (see MWAQC) in preparing air quality plans.
TBD	**To Be Determined**
TDM	**Transportation Demand Management**
TMA	**Transportation Management Association**
TMC	**Technology and Maintenance Council of the American Trucking Associations**

UFMD	**Urban Forest Management Division –** A Division of DPWES in the Land Development Services business area responsible for developing policy and enforcing codes related to the conservation of the County's tree, landscape, and forest resources.
VDOT	**Virginia Department of Transportation**
VDRPT	**Virginia Department of Rail and Public Transportation**
VEPGA	**Virginia Energy Purchasing Governmental Association –** an association composed of over 225 local governments formed to buy electricity competitively.
VMT	**Vehicle Miles Traveled –** the number of miles traveled by a vehicle.
VOC	**Volatile Organic Compounds** – an air pollutant precursor of ground-level ozone
VRE	**Virginia Railway Express**
WMATA	**Washington Metropolitan Area Transit Authority**
WWF	**World Wildlife Fund**
ZO	**Zoning Ordinance**

FAIRFAX COUNTY, VIRGINIA

Environmental Improvement Program (EIP)
Appendix 2

Fiscal Year 2010

Prepared October 2008

Board of Supervisors' Environmental Agenda

Adopted by the

Fairfax County Board of Supervisors

June 21, 2004

Revised March 26, 2007

BOARD OF SUPERVISORS

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Board of Supervisors' Environmental Agenda

Fairfax County's environment is resilient, but not indestructible. No matter what income, age, gender, ethnicity, or address, everyone has a need and right to breathe clean air, to drink clean water, and to live and work in clean surroundings. A healthy environment enhances our quality of life and preserves the vitality that makes Fairfax a special place to live and work. As the natural places in Fairfax become surrounded and our county continues to grow, we need strong leadership to ensure that future generations can enjoy a healthy and beautiful environment. The county's population growth rate of 18 percent during the last decade resulted in a population of more than one million people. The associated development has put the natural environment at a crossroads. This growth has brought more impervious surfaces, fewer mature tree stands, more cars, and more waste generation, which in turn have degraded streams; created chronic unsafe air days; and left less open space for habitat, rainwater absorption, air filtering and, yes, visual relief.
The environmental impact of every decision the county makes must be carefully and purposefully evaluated. Environmental concerns should not be trade-offs or compromises; rather they should be one of the essential decision making criteria. The Board of Supervisors is elected to represent the citizens of the county and should be a source of creative decision-making and leadership.

Section 1
Fairfax County: A Record of Commitment

Fairfax County's environmental policies and actions have played a significant role in protecting our environment. Some important decisions:

- The Occoquan Watershed downzoning has helped keep our drinking water clean for the past 20 years.
- The Stream Protection Strategies are developed that can now be implemented to restore stream health and prevent further deterioration.
- The October 2000 Policy Plan amendment supports the application of low impact site design techniques to reduce stormwater runoff volumes and peak flows to increase groundwater recharge and preserve undisturbed areas.
- The Watershed Management Plans underway for all 30 watersheds will provide concrete steps toward better storm water management and cleaner streams
- The March 2003 staff report on "The Role of Regional Ponds in Fairfax County's Watershed Management" has recommended a number of better ways to manage storm water runoff.
- The adaptive reuse of the former Lorton prison site (Laurel Hill) will balance land conservation with housing, schools and recreation.
- A cleaner Potomac River is now swimmable and fishable.
- The County has built more than 350 parks, recreation centers, and other open space areas and has acquired 6,011 acres for new open space during the past few years, a 30 percent expansion in our parklands.
- The Board hired the first Environmental coordinator in the history of the County to insure interconnectedness of our environmental programs.

- The county's tree canopy of 41 percent compares favorably with the canopy in other urbanized areas of Virginia where it averages 35.3 percent. It also compares favorably with the canopy in urbanized areas of Maryland where it averages 40.1 percent.
- Our present level of tree canopy meets the recommendations of American Forests of 40 percent for communities east of the Mississippi River. A 40 percent canopy is needed to sustain environmental and socio-economic benefits so there is an acceptable quality of life.

Section 2
A Commitment for the Future

The Board of Supervisors supports these two environmental principles:
1. The conservation of our limited natural resources must be interwoven into all government decisions. There is a direct link between the vitality of ecological resources and the quality of life for our citizens.
2. We must be committed to provide the necessary resources to protect our environment.
Recent actions by the Board of Supervisors and other regional government bodies have affirmed Fairfax County's commitment to the environment and environmental stewardship.

- The Metropolitan Washington Council of Governments established a region-wide drought emergency plan. The plan balanced the region's need for a reliable water supply with water conservation.
- The Board strengthened the Chesapeake Bay Preservation Ordinance in 2003 to require protection and creation of vegetated buffers along perennial streams.
- The Board authorized mapping all county streams to better implement the Chesapeake Bay Preservation Act.
- The Board of Supervisors, working with the Fairfax County Park Authority, preserved large tracts of the former Lorton prison site as open space and for recreational use.
- The Board supported the establishment of the cross-county trail from Lorton to
- Great Falls. This trail will make it possible for people to enjoy their natural environment and provide an alternative to driving.
- The Board of Supervisors supported efforts to comply with the Clean Air Act by developing and initiating a plan to have 20 percent of workers telework by the year 2005.
- The Board approved regulations to limit light pollution through the County's dark skies initiative.
- The Board supported a County study to examine the spread and effects of infill development within established neighborhoods; and county staff is implementing the study recommendations to make new homes more compatible with established neighborhoods and to reduce negative environmental impacts.
- The Board authorized a County study to examine the spread and effects of infill development within established neighborhoods; and county staff is implementing the study recommendations to make new homes more compatible with established neighborhoods and to reduce negative environmental impacts.

- The Board has worked in concert with the Northern Virginia Land Conservation Trust to support a public-private partnership to preserve open space and sensitive areas.
- The Board endorsed the Tree Action Plan that provides strategies and actions to conserve and manage the County's tree and forest resources for the next 20 years.

Section 3
Protecting and Enhancing our Environment

I. Growth and Land Use

Fairfax County has more than one million people, a population larger than that of seven states. Between 1990 and 2000, Fairfax grew by 18 percent. It will grow another 12 to 15 percent between 2000 and 2010, and yet another 5-7 percent between 2010 and 2020. This growth will present challenges to meet the needs of schools, transportation, air quality, water quality, recreation, and public facilities and services. Having 200,000 new neighbors living in 80,000 new households means accommodating more impervious surfaces, more vehicles, more congestion, more pollution, and more impacts on our natural resources. How we continue to accommodate growth will be one of the biggest challenges we face as a community.

There is no simple solution to this problem. We need to consider a wide range of options. Clustering of residential development allows several homes to be built close together with the remaining acreage left as open space in perpetuity. The challenge to clustering is building public trust that the open space will remain open.

Mixed-use development promotes a vibrant, town-like community by combining housing, employment, shopping, and entertainment into a master plan. A complete mixed-use development encourages non-motorized transportation and fewer trips to obtain goods and services.

Various strategies for the placement and design of buildings can save energy, prevent storm water runoff. Low impact development (LID) concepts encourage ways to keep stormwater as close to the source as possible. LID techniques include placing homes closer to the street to reduce impervious surfaces, grassed swales to collect rain water, infiltration measures such as rain gardens, filter strips, porous pavers in less-used parking areas and infiltration of parking lot runoff.

A challenge faces us as older communities are transformed by teardown construction, both for new housing and to expand existing homes. In these cases and in general, new developments may not blend well with their neighbors—in size, appearance, or architecture.

Another important effect of growth is the challenge it presents to low-income workers trying to find affordable housing opportunities in the County. We need to provide opportunities for all members of the community to live and work in the County.

The Comprehensive Plan outlines the following policy for managing new growth:

"Growth should take place in accordance with criteria and standards designed to preserve, enhance, and protect an orderly and aesthetic mix of residential, commercial/industrial facilities, and open space without compromising existing residential development."

The Infill and Residential Development Study report of late 2000 recommended a number of strategies to address site design and neighborhood compatibility, traffic and transportation, tree preservation, and storm water management and sediment control. The Board of Supervisors has approved some of these recommendations as amendments to ordinances and the Public Facilities Manual.

The County's Development Criteria for both residential and non-residential development were revised in 2002. They provide guidelines for county staff as they review applications for development and address a number of issues related to density, location, and amenities, etc.

The Board's Environmental Plan:

- Use clustering and mixed-use development when appropriate to utilize space efficiently and provide perpetual open space.
- Promote walkable communities using mixed-use development and village-style neighborhoods.
- Maximize mixed-use development near transit stops and expand public transportation to employment centers. Provide convenient transportation choices such as subway, light rail, commuter bus, connector bus, and monorail.
- Make employment centers, such as Tyson's Corner, self-contained vibrant places to live and work by ensuring mixed-use, pedestrian friendly, transit-oriented development.
- Encourage the use of low impact development concepts and techniques, especially in new residential and commercial areas, and seek opportunities for retrofitting established areas.
- Pursue state enabling legislation to ensure adequate infrastructure is in place for new developments and to provide more flexibility to ensure harmonious and compatible development. Work toward ensuring that new and renovated homes are compatible with established neighborhoods.
- Use our land and other resources wisely by
    - concentrating employment and multi-family housing near transit services (and by expanding those transit services);
    - integrating pedestrian-oriented neighborhood commerce (markets, restaurants, services) into new residential neighborhoods;
    - providing pedestrian amenities whenever possible, such as sidewalks and trails; traffic calming; street furniture in shopping areas; transit shelters; and urban building design;
    - providing parking incentives for carpoolers; encourage transit use by reducing the use of parking subsidies where appropriate.

- Increase tree conservation in land development by:
    - ensuring that all tree preservation commitments for development projects are honored;
    - optimizing tree preservation and planting efforts associated with by-right development;
    - pursuing state enabling legislation for more stringent tree conservation measures;
    - optimizing tree preservation and planting efforts in the design and construction of public facilities.

II. Air Quality and Transportation

Over the past 25 years commuting patterns have changed, as more people move about and through the county instead of commuting into the city for work. By 2020 the Dulles Airport -Tyson's Corner corridor will be the second biggest employment center in the entire metro region. Although the County's tree cover has fluctuated greatly since European settlement began (as low as 30 percent during the Civil War era), the County has lost 48 percent of its tree canopy since 1973. Along with the physical loss of trees the County lost significant levels of air quality services. The canopy lost since 1973 is estimated to have had the capacity to remove 2.4 million combined pounds of sulfur dioxide, carbon monoxide, ozone and particulate matter annually, at a value of $6.8 million per year.

Fairfax County, like the entire Washington Metropolitan area, does not meet federal air quality standards for ozone or smog. According to the American Lung Association's "State of the Air: 2003" report, the region received an "F" because of its dirty air from 1999 to 2001. In 2002, the Environmental Protection Agency (EPA) downgraded the Washington area's air quality from "serious" to "severe," which will jeopardize receipt of federal transportation funding unless the situation is improved.

Repeated exposure to ozone pollution may cause permanent damage to the lungs. Inhaling ozone triggers problems like chest pains, coughing, nausea, throat irritation, and congestion. It can also reduce lung capacity and worsen bronchitis, and heart disease, emphysema, and asthma.

Ozone damages plant life and reduces crop production each year by $500 million. It interferes with the ability of plants to produce and store food, making them more susceptible to disease, insects, other pollutants, and harsh weather. Ozone damages the foliage of trees and other plants.

The summer of 2002 was the worst ozone season for the metropolitan area, including Fairfax County, in more than a decade. When measured against EPA's new, more protective 8-hour ozone standard, Fairfax County exceeded that standard on 36 days in 2002, including two code purple days, when the air was deemed to be very unhealthy.

Motor vehicle exhausts and industrial emissions, gasoline vapors, and chemical solvents are some of the major sources of Nitrogen Oxides (NOx) and Volatile Organic Compounds (VOCs), ozone precursors. Strong sunlight and hot weather cause groundlevel ozone to form in harmful air concentrations. Many urban areas tend to have high levels of "bad" ozone, but other areas are also subject to high ozone levels as winds carry NOx emissions hundreds of miles away from their original sources.

The major causes of ozone or smog in Fairfax County are:

- People driving increasingly more miles, in part because of sprawling development patterns.
- More vehicles on the road, due to the population increases, interstate transit, increased affluence and families owning more vehicles, and limited transit options available.
- People driving more highly polluting sport utility vehicles, including pickups and minivans, instead of lower-emitting vehicles.
- Industrial emissions produced elsewhere and blown into the area.

The Board's Environmental Plan:

- Improve pedestrian mobility, encourage shorter trips, increase public transit use, and enhance the economic viability of public transit and reduced vehicle use.
- Provide station access by foot, bicycle and public transit, with adequate public parking.
- Coordinate public transit service to facilitate intermodal transfers, including convenient and safe bicycle access to public transit and secure bicycle storage in public places and stations. Where practicable, give parking preference to multiple-occupancy vehicles over single-occupancy vehicles.
- Encourage buses and trucks to avoid idling for extended periods.
- Continue to promote telecommuting in order to reach the regional goal of 20 percent of eligible commuters by 2005, transit use, and car-pooling to reduce congestion and improve air quality with high visibility public campaigns and cooperation by businesses.
- Complete the rail extension to Tyson's Corner and Dulles International Airport; pursue light rail and transit options on U. S. 1.
- Work with the Metropolitan Council of Governments to develop actions to combat pollution coming from other areas such as the Ohio Valley and the East Coast.
- Continue to encourage federal officials to increase fuel economy and emissions standards for cars and light trucks.
- Explore alternatives to diesel fuel in the County Fleet.
- Improve air quality through tree conservation policies and practices that:
    - preserve and plant trees to support air quality improvement and minimize climate change;
    - incorporate tree preservation and planting into air quality planning efforts.

III. Water Quality

Fairfax County has over 900 miles of perennial streams and many intermittent streams, ponds and lakes. The County also has many underground aquifers (groundwater). These provide drinking water, recreation and enjoyment for humans and habitat and food for a myriad of animals and organisms.

Everyone in Fairfax County lives in the Potomac watershed, which in turn is part of the larger Chesapeake Bay watershed. All of the 30 major streams and their tributaries drain into the Potomac River, which empties into the Chesapeake Bay. Both the Occoquan Reservoir and the mainstem Potomac River are the drinking water supply for most Fairfax County residents. A small percentage of the county's residents get their drinking water from wells that tap into groundwater.

Many stream banks are lined with trees and vegetation. Wetlands, beaver dams and ponds contain an abundance of wildlife and provide access to natural habitats and recreational opportunities for many Fairfax citizens. One-third of the land in the Fairfax County Park system is in stream valley parks.

Water quality depends on many factors, but none has more impact than impervious surface cover. Over 36 percent of the County was "vacant" in 1975 whereas only 11.5 percent was vacant in 2000. This means that 62 square miles of asphalt, rooftops, driveways, parking lots, and other impervious surfaces now cover the county. This is roughly the area of Washington DC. Fluids from leaking cars, fertilizers, herbicides, pesticides, sediments, trash and litter are washed off these hard surfaces and into our waterways. Also with less infiltration, our streams are being asked to carry an increased quantity of water that exacerbates stream bank erosion.

What is the status of our waters?

- Only a few streams, such as those in E. C. Lawrence Park, remain undisturbed and are excellent examples of healthy streams.
- Seventeen (17) streams in Fairfax County are "impaired" because of excess pollutants. The Chesapeake Bay itself has "impaired waters," according to the U.S. Environmental Protection Agency. It is estimated that Virginians must spend approximately $6.1 billion by 2010 to restore the health of the Bay. In addition, the Virginia Department of Environmental Quality has ordered clean-up through the Total Maximum Daily Load (TMDL) requirement of the Clean Water Act.
- Poor land use planning in previous decades, inadequate enforcement erosion and sediment control laws, and inadequate storm water management in past years have significantly exacerbated pollution and erosion.
- Most of Fairfax County's streams are polluted and degraded, largely from poorly managed storm water runoff. Storm water runoff transports excess nutrients, fertilizers, herbicides, pesticides, sedimentation, pollution, chemicals, and bacteria into streams from poorly managed construction sites, disturbed lands, roads,

parking lots, animal and human waste, leaking sewer pipes, and failing septic systems.

- The number one threat to the County's streams is the increase in impervious surfaces and accompanying tree loss. Impervious surfaces replace land and vegetative cover that absorbed water during precipitation events. With the increase in impervious surface and loss of vegetation, there is a concurrent increase in the amount and speed of water running off the land during storm events and carrying pollutants to nearby streams.
- Sediment, nutrients (fertilizers), pathogens (animal waste), toxics (oil, chemicals), and litter are the major water pollutants in Fairfax County.
- Most streams have increased storm water runoff flows that exceed the capacity of their channels. This has created an ongoing erosion cycle that includes eroding stream banks, heavy sediment loads, and sedimented stream bottoms. This erosion cycle persists for years, if not decades, until the stream channel widens to accommodate the flow. Silted stream bottoms and collapsing stream banks are all too common throughout our county.
- Streambank erosion from increased storm water runoff has put enormous sediment deposition into ponds and lakes, which can require frequent maintenance and dredging to maintain depth.
- During summer storms, heated impervious surfaces raise the temperature of storm water runoff entering streams and other waters, which can damage or destroy aquatic life and habitat.
- Excess nutrients in stormwater runoff encourage excessive algal growth. When the algae decomposes it uses oxygen, causing a lack of oxygen in the water, needed to support aquatic life. These problems reduce plant and animal life in and near the streams.

The Board Environmental Plan:

- Protect those streams whose waters are still of relatively high quality from becoming impaired with pollutants. Protection and prevention are less expensive and easier than restoration.
- Consider watershed protection when reviewing and deciding all land use actions. Implement the new Watershed Management Plans and Stream Protection
- Strategies as they are created. Pursue a dedicated source of funding for this effort. Without some ongoing budget commitment, this effort will languish.
- Grant no BMP waivers without storm water mitigation being in place or constructed.
- Allow and encourage better site design practices that protect our streams and other natural resources.
- Ensure strict enforcement of erosion and sediment control laws during construction.
- Slow down and filter pollutants from runoff by encouraging the establishment and maintenance of vegetative filters and buffers.
- Stabilize and restore streams using sound scientific principles (applied fluvial geomorphology) that work in concert with natural tendencies, mimic natural systems, and use environmentally friendly techniques such as soil bioengineering.

- Implement the recommendations in the March 2003 report on “The Role of Regional Ponds in Fairfax County’s Watershed Management.”
- Implement the recommendations of the New Millenium Occoquan Watershed Task Force (December 2002) to protect the County’s drinking water supply in the Occoquan Reservoir. Monitor the 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.
- Improve water quality and stormwater management through tree conservation by:
    - identifying maximum attainable and sustainable tree canopy goals on both a countywide and individual watershed basis.
    - linking stormwater management and land use policy and regulations with conservation of trees, forests and riparian buffers.

IV. Solid Waste

In 2006, Virginia placed 17 million tons of solid waste in landfills. The state is second in the nation in importing waste from out-of-state. Current federal laws and court interpretations discourage recycling. This puts Fairfax County at a competitive disadvantage with cheaper, less environmentally responsible forms of disposal.

The County's Energy/Resource Recovery Facility (E/RRF) operates under contract with Covanta Fairfax Inc. Dominion Virginia Power buys the electrical power generated by the facility. The County continues to process more tons of solid waste than is guaranteed to the operator (930,750 tons/year), processing 119,000 tons above guarantee in 2006.

The County has installed equipment to detect radioactive material that might enter the solid waste stream.

Since 1988, over 6.0 million tons of materials have been recycled in the County, with the County maintaining a recycling rate of over 30 percent, consistently exceeding the state mandated goal of 25 percent. The County continues its Keep It Green Partnership to provide recycling of electronic equipment.

The Board's Environmental Plan:

- Ensure that the E/RRF facility has up-to-date technology to remove as many harmful emissions as possible.
- Continue emphasis on recycling for residents and businesses; continue the County's current residential recycling program of curbside pickup of glass and metal food and beverage containers, cardboard, plastic bottles and jugs, and mixed paper.
- Encourage use of recycled products to expand the market.
- Increase the county's use of recycled paper and other products.
- Provide recycling bins in convenient locations for the public's use.
- Work with our Federal delegation to overturn the Supreme Court "Carbone" decision that limits our ability to control the flow of solid waste within our own boundaries.

V. Parks, Trails, Open Space

Open space, like parks and trails, provides habitat and promotes the physical and mental well being of citizens. Trails promote a healthy lifestyle. The Cross-County Trail provides a central artery for a comprehensive inter-county trails system.

The Board Environmental Plan:

- Create more pocket parks in urban areas for relaxation and respite.
- Create more community parks for active and passive recreation--open spaces with native vegetation to sustain local wildlife and to create areas for walking, meditating, or bird watching.
- Plan and develop a comprehensive interconnected trails system throughout the County.
- Continue to acquire open space before it is too late through direct purchase or conservation easements to create more trails, connect trails and provide passive and active recreation areas.
- Provide adequate resources to maintain and appropriately develop our parks for passive and active recreation.
- Encourage conservation easements for open space and trails either to private organizations, such as the Northern Virginia Conservation Trust and The Potomac Conservancy, or to government agencies like the Fairfax County Park Authority or the Northern Virginia Regional Park Authority.

VI. Environmental Stewardship

The county has a responsibility to help citizens respect and manage our finite natural resources. Ideally, citizens, communities, governments and private entities will learn to make informed decisions that will conserve and improve our environment and minimize impacts on our ecosystems. The county also has a responsibility to be an environmental steward through its operational practices. As ecosystems are rarely defined by jurisdictional boundaries, the county recognizes that how it carries out its responsibility for environmental stewardship will have effects on a regional and even global scale.

The County has numerous opportunities to partner with organizations, such as the National Park Service, the Virginia Cooperative Extension Service, civic groups, the Northern Virginia Soil and Water Conservation District and the Northern Virginia Conservation Trust to educate people on environmental protection and to include them in projects and programs for the betterment of our environment. Businesses can and should also be a part of this effort.

Teaching environmental stewardship to youngsters at an early age pays off in years of responsible behavior and decision-making.

The Board Environmental Plan:

- Encourages organizations, for example, those that work on stream monitoring and stream valley restoration, to involve schools and citizens of all ages in their work.
- Encourages citizen-based watershed stewardship groups and help them to work with all stakeholders to protect, enhance and improve the natural resources, and hence, the quality of life in their watersheds.
- Encourages schools to provide community service by students and involve children in projects that respect, protect and enhance the environment.
- Establishes an aggressive program of community groups to adopt natural areas such as parks, trails, and stream valleys.
- Establishes that county operations will be pursued in an environmentally-sensitive manner, supporting local, regional, and global environmental protection and improvement.
- Foster an appreciation for our urban forest and inspire County residents to protect plant and manage trees and forest stands on public and private lands.

Section 4
Conclusions

Environmental stewardship is both a key responsibility and a critical legacy of any elected public body. We have made great strides in the last eight years, but we can and must do more. The Board of Supervisors will have as one of its chief goals to integrate environmental planning and smart growth into all we do and to leave our land, water and air quality, better than we found it.

FAIRFAX COUNTY, VIRGINIA
Environmental Improvement Program (EIP)
Appendix 3: Summary of Retired Actions
Fiscal Year 2011

Prepared September 2009

NOTE: EACH EIP ACTION IN THIS SUMMARY IS ASSIGNED A UNIQUE IDENTIFICATION NUMBER, BEGINNING WITH A TWO-LETTER ABBREVIATION FOR THE THEME AREA UNDER WHICH THE ACTION IS LISTED (E.G., "GL" FOR "GROWTH AND LAND USE"). THE THEME DESIGNATION "GL" IS FOLLOWED BY A UNIQUE FISCAL YEAR IDENTIFICATION NUMBER BEGINNING WITH "xx" (for example, "07") TO INDICATE THE EIP IN WHICH THE ACTION WAS FIRST INTRODUCED. THE FISCAL YEAR IDENTIFICATION NUMBER IS THEN FOLLOWED BY A UNIQUE ACTION NUMBER TO IDENTIFY THE ACTION IN THAT FISCAL YEAR. THIS NUMBER IS THEN FOLLOWED BY A LETTER DESIGNATION OF "A", "B" OR "C" TO INDICATE WHETHER THE ACTION IS "COMPLETE", "ONGOING" OR "NEW", RESPECTIVELY.

I. GROWTH AND LAND USE (GL)

Title of Action	Action Taken	Date Completed	Comments
GL07-01: Cluster Subdivision Amendments	Cluster allowed by-right in R-2, R-3 and R-4 where area >3.5 ac. subject to certain requirements. Allowed by SE in R-C, R-E and R-1 and in smaller areas (as small as 2 acres) for R-2, R-3 and R-4.	June 2004	An 18-month progress report was completed in December 2005. No further follow-up is anticipated.
GL08-04: Define "Transit Oriented Development" and Incorporate a Definition and Principles for its Application in the Comprehensive Plan	An amendment to the Comprehensive Plan was adopted to address this action. The amendment: added a glossary definition of TOD; added an objective specific to TOD; and added an appendix containing principles that should be considered in future planning efforts in rail transit areas designated for mixed use development in the Area Plan volumes of the Comprehensive Plan.	March 12, 2007	None.
GL08-07: Expanded Construction Site Monitoring for Tree Conservation	The Board of Supervisors approved funding to support two additional urban forester positions in the FY 2007 budget. Two additional urban forester positions were deployed to ensure enforcement of tree-related proffers.	September 2006	
GL08-08: Establish a Tree Fund	Staff from Land Development Services, DPWES created a fund entitled the "Tree Preservation and Planting Fund" along with criteria to disburse money from this fund to support community tree planting efforts.	December 2005	
GL08-09: Review and Improve Suggested Tree-Related Proffer Language	A set of draft model proffers was crafted and made available to developers for use in zoning cases in CY 2006. The improved model proffers will help developers communicate specific intentions regarding tree preservation, conservation and removal efforts and the county's ability to ensure compliance with these commitments during construction activities.	December, 2006	

II. AIR QUALITY AND TRANSPORTATION (AQ)

Title of Action	Action taken	Date completed	Comments
AQ-A-1: Air Quality Program Manager Position	Air Quality Program Manager position in Health Department to oversee the county's air quality initiatives, planning and programs. Established and filled.	February 2005	
AQ-A-2: South County Bus Plan (Enhancement of bus service throughout southern Fairfax County)	This new service was implemented on September 26, 2004 and further service was implemented on October 24, 2004 to address overcrowding on some routes. Additional service implementation was completed in FY 2007. Since implementation, bus ridership on Richmond Highway has increased 37 percent.	Fiscal Year 2007	
AQ-A-3: School Bus Exhaust Retrofit	Retrofitted 1,012 school buses. 436 received ECM reprogram and DOC. Another 576 received DOC only.	February 2005	
AQ07-06: Transit Shelter Program	This action is has been absorbed into AQ07-07 for a more comprehensive treatment of both items.	October 2008	
AQ07-12: Telework Initiative	Reached and exceeded goal of having 1,000 in the county workforce teleworking by the end of 2005. First jurisdiction in metro area to reach this goal.	January 2006	
AQ07-17: Reduced Vehicle Idling	Fairfax Connector completed implementation of engine idle shutdown.	2007	All Solid Waste trucks and Fairfax Connector buses now have automatic idle shutdown.
AQ07-19: Fairfax Connector Emissions Reduction Program	The Diesel Particulate Filter (DPF) installation and engine derating are complete. Also purchased 68 new buses with DPFs.	December 2007	
AQ07-21: Heavy Diesel Truck Exhaust Retrofit	Completed installation of diesel oxidation catalyst on 113 class 8 diesel trucks.	February 2006	

Title of Action	Action taken	Date completed	Comments
AQ08-02: **Station Access Management Plans: Wiehle Avenue and Reston Parkway Rail Stations: The Dulles Metrorail Extension**	An RFP was written including a scope-of-work that would result in a transportation management plan to address pedestrian, bicycle, and vehicular access and egress to the Wiehle Avenue and Reston Parkway stations. Work by Vanasse Hangen Brustlin, Inc began under the contract in November, 2006. The study was completed in December 2007.	December 2007	
AQ08-03: Commercialization of Hybrid Electric School Bus	This action has been absorbed into AQ07-15.	October 2008	

III. WATER QUALITY (WQ)

Title of Action	Action Taken	Date Completed	Comments
WQ-A. Retired Actions			
WQ07-01: Strengthened SWM Submission Requirements (Zoning Ord. amendment re SWM info. for RZ, SE, and SPs)	A Priority 1 item on the 2006 Zoning Ordinance Amendment Work Program that has been endorsed by the Board of Supervisors is to consider allowing for reductions of the minimum lot width requirements in residential districts with special exception approval. Although the density of the zoning district in which located could not be exceeded, this proposed amendment could potentially increase lot yield by allowing additional lots to be created that do not meet the minimum lot width requirements of the zoning district in which located. This item is tentatively scheduled for public hearings in the fall of 2006.	Fall, 2006	None
WQ07-02: Stream Physical Assessment (Baseline stream condition info. supports watershed protection and restoration.)	Baseline assessment was completed on schedule and within budget.	August, 2005	Completed, with on-going support and program monitoring.
WQ07-03: Perennial Stream Mapping and Resource Protection Area Expansion (Mapping tool for perennial streams)	Mapping is complete and buffers have been delineated. Working with LDS to revise the PFM to clarify the criteria for reclassifying streams from perennial to intermittent. Revised language has been approved by the Engineering Standards Review Committee.	July, 2006	Working with GIS staff to incorporate the new stream physical assessment layer into the "My Neighborhood" application.

Title of Action	Action Taken	Date Completed	Comments
WQ07-04: Stormwater Needs Assessment (Evaluation of current stormwater management services and funding needs.)	The Needs Assessment was prepared by AMEC Earth and Environmental, Inc. with the assistance of an advisory committee appointed by the Board of Supervisors. The findings of the study were presented to the Board in March, 2005. The study identified stormwater levels of service provided by Fairfax County and compared those levels against a benchmark of similar communities within the United States. Funding strategies were presented for stormwater management programs to reflect changing service levels, increased infrastructure inventories, unfunded mandates, and emergency events.	March, 2005	In April, 2005, as part of the budget deliberation process, the Board of Supervisors adopted a one-cent dedication of real estate tax revenues to fund the stormwater program.
WQ07-05: Occoquan Watershed Planning and Zoning	The Occoquan Watershed and Reservoir models have been calibrated to 1995 land uses and are undergoing a verification step to the 2000 land uses. This verification step should be completed by winter of 2006. Northern Virginia Regional Commission will incorporate 2005 land use upon availability of aerial photography.	Winter, 2006	Because of continued high population growth, the Occoquan Program will begin to turn its attention to broader watershed management and planning issues in addition to its current emphasis on best management practices and modeling.
WQ08-01: Incorporate Stream Assessment Tool Software into GIS Stream Layer	The initial action is complete, with ongoing support to user agencies.	Spring 2006	None
WQ07-07: Erosion and Sediment Control Inspections—Compliance with New Mandates	The initial action is complete, with ongoing implementation of compliance measures.	Spring 2008	None. The cost of the program will be recovered through the site development permit fee.

IV. SOLID WASTE (SW)

Title of Action	Action Taken	Date Completed	Comments
SW-A. Completed Actions			
SW07-01 Provide Convenient Access to Recycling Bins.	Provide recycling drop-off centers in the County. Providing convenient access to recycling bins is understood to require two separate sub-tasks as follows: 1) placing additional recycling containers in county buildings; and 2) Reviewing the placement of recycling containers around the county for use by residents.	**2005**	**The base action has been completed. Plans to add to the program are ongoing.**
SW07-02 Reduce Idling Time for Trucks Waiting to Dispose of Waste at the I-66 transfer Station.	Added an additional incoming scale at the I-66 Transfer Station to reduce the idling times for trucks waiting to dispose of waste.	**2005**	**Action completed. The capacity for processing incoming vehicles was doubled by adding an additional above ground scale adjacent to the exiting scale.**
SW07-03 Pollution Prevention (P2) Program E/RRF Emission Controls	Pollution Prevention control at E/RRF is genuinely state of the art. Emphasis is now focused on preventing constituents of concern from entering the E/RRF all together.	**2006**	**Action completed. E/RRF Pollution Preventions controls will continually be updated to meet Federal, State, Local Regulations.**
SW07-05	Little if any opportunities for Legislative support anticipated. Tracking Supreme Court activity on a flow control case.	**2006**	**Action completed. Recent flow control decision thought to support County's goals.**

V. PARKS, TRAILS, AND OPEN SPACE (PT)

Title of Action	Action Taken	Date Completed	Comments
SW-A. Completed Actions			
PT07-20: Analysis of Developed/Undeveloped Land Within the Park Authority Park System	Completed	**2007**	**Action completed and data is available on GIS system.**
PT08-02(A): Park Trail Mapping	Completed	**2008**	
PT08-04(A): Developing Natural Landscaping Guidelines and Policies for County Properties	Completed	**2008**	
PT08-07(A): Planting Trees for Energy Conservation at County Facilities	Completed	**2008**	This action is ongoing, but is absorbed into AQ08-05(B)

VI. ENVIRONMENTAL STEWARDSHIP (ES)

Title of Action	Action Taken	Date Completed	Comments
ES-A. Completed Actions			
ES07-01: Master Watershed Stewards Certification Program A watershed education program covering a wide range of topics, including stream ecology, LID and urban stormwater management.	66 Master Watershed Stewards graduated, having fulfilled the requirements of attending 8 classroom sessions and undertaking a watershed project and/or volunteer activities. One example was the Providence District parking lot LID retrofit. Participants represented 18 watersheds and completed 1,812 hours. The Potomac River Greenways Coalition secured a grant to fund and staff the program, with the support of several partners including DPWES, NVSWCD, ANS, and Fairfax Trails and Streams)	Graduation July 2004	Feedback from participants overwhelmingly indicated program was well-received and should be offered again; program partners agreed. The original program was grant funded; instruction was done by partners and volunteers. Funding would be needed for staff to coordinate future programs.
ES07-09 (B) FCPA "Adoption" Program for Natural Areas Such as Parks, Trails and Stream Valleys HOAs, churches, and schools adopt nearby parks, trails, playgrounds and natural areas.	Groups and FCPA determine scope of activity and sign an agreement. FCPA to explore how to develop a more comprehensive program for adoption of natural areas. Potential to involve children through adoption of natural resource management areas near schools.	Program Eliminated as of FY 2011	The FCPA Invasive Management Area volunteer program takes the place of this program. (See ES08-06 (B) - IMA Program)

Title of Action	Action Taken	Date Completed	Comments
ES09-07 (A) Development of a Green Building Policy for County Capital Projects	In February 2008, the Board of Supervisors adopted a Sustainable Development Policy for all major building projects that are owned and operated by the County. DPWES will continue to follow the LEED approach on all new projects and pursue formal certification. Also, DPWES will use the LEED program as the framework for evaluating the best balance of cost effective and impact sustainable development alternatives for each project.	February 2008	FMD staff will implement the policy in conjunction with Value Engineering and Life Cycle Cost Analyses
ES09-01: Government Center Lighting and Variable Frequency Drive Retrofit	The constant volume air handling units in the three building in the Government Center complex were retrofitted with variable frequency drives and energy efficient motors. All existing lighting fixtures were relamped with T8 28W lamps and the lighting control software was upgraded.	December 2005	Project resulted in annual cost savings of over $86,000. The project cost was $895,220, and factoring in rising energy costs, payback is expected in approximately 7 years.

Title of Action	Action Taken	Date Completed	Comments
ES09-02: T-8 Lighting Retrofit of Remaining County Facilities	Miscellaneous buildings still required upgrading of lighting from T-12 to T-8 to reduce electrical consumption. Retrofit was finished spring of 2007.	Spring 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..
ES09-03: Installed Energy Management Control Systems (EMCS) in Burkholder and John Marshall Library	EMCS can reduce energy consumption 25-50% based on facility type and operating hours. FMD has 58 systems installed in over 170 facilities. Capital Facilities will install them in all new facilities.	End of CY 2006	The cost was $50,000 for Burkholder and $60,000 for John Marshall. Burkholder was newley turned over to FMD; John Marshall results will be quantified over time.
ES09-04: Reduced Energy Consumption by 13.2% kBtu/SF between FY 2001 and FY 2006	The cumulative efforts of all energy projects implemented by FMD were estimated by evaluating utility data between FY2001 and FY2007.	End of FY2007	The energy projects installed in this time period resulted in total energy cost avoidance of over $4 million.
ES09-11: Energy Star for Vending Machines	All vendors were required to install Energy Star compliant machines for new or replacement locations. Existing machines were retrofitted with an external control to reduce consumption.	End of CY2007	All vending machines in County facilities are now Energy Star compliant. Energy use by these machines could be reduced by 30-46% and provide an annual savings of up to $100-$150 per machine.

Title of Action	Action Taken	Date Completed	Comments
ES10-01 (A) Calculate and Validate the Noman M. Cole, Jr. Pollution Control Plant's Carbon Footprint.	The carbon footprint for the Noman M. Cole, Jr. Pollution Control Plant has been calculated and validated by a third party.	FY 2008	
ES10-02 (A) Tree Planting at the Norman M. Cole, Jr. Pollution Control Plant	In November 2007 the Wastewater Treatment Division hosted Earth Sangha volunteers at the Noman M. Cole, Jr. Pollution Control Plant. The volunteers planted approximately 1,000 trees on the site of the RR Building at the plant.	November 2007	

FAIRFAX COUNTY, VIRGINIA
Environmental Improvement Program (EIP)
Appendix 4: Summary of Tree Actions
Fiscal Year 2011

Prepared September, 2009

NOTE: EACH EIP ACTION IN THIS SUMMARY IS ASSIGNED A UNIQUE IDENTIFICATION NUMBER, BEGINNING WITH A TWO-LETTER ABBREVIATION FOR THE THEME AREA UNDER WHICH THE ACTION IS LISTED (E.G., "GL" FOR "GROWTH AND LAND USE"). THE THEME DESIGNATION "GL" IS FOLLOWED BY A UNIQUE FISCAL YEAR IDENTIFICATION NUMBER BEGINNING WITH "xx" (for example, "07") TO INDICATE THE EIP IN WHICH THE ACTION WAS FIRST INTRODUCED. THE FISCAL YEAR IDENTIFICATION NUMBER IS THEN FOLLOWED BY A UNIQUE ACTION NUMBER TO IDENTIFY THE ACTION IN THAT FISCAL YEAR. THIS NUMBER IS THEN FOLLOWED BY A LETTER DESIGNATION OF "A", "B" OR "C" TO INDICATE WHETHER THE ACTION IS "COMPLETE", "ONGOING" OR "NEW", RESPECTIVELY.

EIP Action ID	EIP Action Title
GL08-06(B)	Mapping of Fairfax County's Vegetation Ecosystems
GL08-07(A)	Expanded Construction Site Monitoring for Tree Conservation
GL08-08(A)	Establish a Tree Fund
GL08-09(A)	Review and Improve Suggested Tree-Related Proffer Language
GL08-10(B)	Tree Preservation Legislation
GL08-11(B)	Urban Forestry Roundtable
GL08-12(C)	Consider Amending Article 13 of the Zoning Ordinance (Landscaping & Screening)
GL09-02(C)	Review effectiveness of Agricultural and Forestal District Program in Preserving Sensitive Lands
GL09-03(C)	Strengthened Zoning Case Submission Requirements: Preliminary Utility Plan
GL09-04(C)	Consideration of No-Net Tree Canopy Loss Policy during the Development of County Facilities
AQ08-01(B)	Regional Urban Forestry SIP Working Group
AQ08-05(B)	Tree Planting at Governmental Building and Parking Facilities
WQ07-4(B)	Riparian Buffer Restoration
WQ08-4(C)	Establishing Tree Cover Goals for Watersheds
WQ08-15(B)	Benchmarking Watershed Tree Cover Levels
WQ10-01(C)	Riparian Buffer Maintenance
SW08-4(C)	Recycling Natural Wood Waste
PT07-08(B)	Interpretive Signs Along FCPA Trail System
PT07-12(B)	Parkland Acquisition
PT07-13(B)	Open Space Easements/NVCT Partnership
PT07-14(B)	Park Authority Conservation Easement Initiative
PT07-17(B)	Park Authority Natural Resource Management Plan Implementation – Encroachment Enforcement
PT08-01(B)	Park Natural Resource Management
PT08-03(B)	Park Information Systems
PT08-04(B)	Developing Natural Landscaping Guidelines and Policies for County Properties
PT08-06(C)	Implementing Natural Landscaping Practices on County Properties
ES08-01(B)	Education and Outreach Programs
ES08-04(B)	Support of Citizen-Based Environmental Stewardship Programs and Activities
ES08-05(B)	FCPA Stewardship Education
ES08-06(B)	Invasive Management Projects

EIP Action ID	EIP Action Title
ES08-08(C)	**This action has been incorporated into ES10-15(C)**
ES08-09(C)	Promoting the Use of Natural Landscaping Practices by the Private Sector
ES08-10(B)	Partnering with Non Profit Tree Planting Groups in Establishing a Countywide Tree Planting Program
ES08-11(C)	Promoting Stewardship Of Urban Forest Resources
ES09-08(B)	30-Year Tree Canopy Goal
ES10-15(C)	Environmental Stewardship Matching Grants for Watershed Protection & Energy Conservation

FAIRFAX COUNTY, VIRGINIA
Environmental Improvement Program (EIP)
Appendix 5: Summary of Global Climate Change Actions
Fiscal Year 2011

Prepared October 2009

NOTE: EACH EIP ACTION IN THIS SUMMARY IS ASSIGNED A UNIQUE IDENTIFICATION NUMBER, BEGINNING WITH A TWO-LETTER ABBREVIATION FOR THE THEME AREA UNDER WHICH THE ACTION IS LISTED (E.G., "GL" FOR "GROWTH AND LAND USE"). THE THEME DESIGNATION "GL" IS FOLLOWED BY A UNIQUE FISCAL YEAR IDENTIFICATION NUMBER BEGINNING WITH "xx" (for example, "07") TO INDICATE THE EIP IN WHICH THE ACTION WAS FIRST INTRODUCED. THE FISCAL YEAR IDENTIFICATION NUMBER IS THEN FOLLOWED BY A UNIQUE ACTION NUMBER TO IDENTIFY THE ACTION IN THAT FISCAL YEAR. THIS NUMBER IS THEN FOLLOWED BY A LETTER DESIGNATION OF "A", "B" OR "C" TO INDICATE WHETHER THE ACTION IS "COMPLETE", "ONGOING" OR "NEW", RESPECTIVELY.

EIP Action ID	EIP Action Title
GL07-02(A)	PRM Zoning District
GL07-03(B)	Area Plan Amendments and Subsequent Rezonings Supporting Transit-Oriented Development and Provision of Housing in Employment Centers
GL07-04(B)	Planned Development District Zoning Ordinance Amendment
GL07-05(B)	Tysons Corner Transportation and Urban Design Study
GL07-06(B)	Pedestrian-Oriented Neighborhood Commerce: Plan Implementation
GL07-09(C)	Future Planned Development District Zoning Ordinance Amendment
GL08-01(B)	Review Zoning Ordinance Parking Requirements in Transit-Oriented Developments
GL08-03(B)	Plan Amendment to Strengthen Air Quality Guidance and to Incorporate Support for Green Building Concepts
GL08-04(A)	Define “Transit-Oriented Development” and Incorporate a Definition and Principles for its Application in the Comprehensive Plan
GL08-07(A)	Expanded Construction Site Monitoring for Tree Conservation
GL08-08(A)	Establish a Tree Fund
GL08-09(A)	Review and Improve Suggested Tree-Related Proffer Language
GL08-10(B)	Tree Preservation Legislation
GL08-11(B)	Urban Forestry Roundtable
GL08-12(C)	Consider Amending Article 13 of the Zoning Ordinance (Landscaping and Screening)
GL09-01(B)	Consideration of Green Building Incentives for Private Sector Development
GL09-04(C)	Consideration of No-Net Tree Canopy Loss Policy during the Development of County Facilities
AQ07-01(A)	EZ Bus Program
AQ07-02(B)	Employer Services Program
AQ07-03(B)	Ridesources Program
AQ07-04(B)	Transportation Benefits
AQ07-07(B)	Priority Bus Stop Improvement Program
AQ07-08(B)	Richmond Highway Public Transportation Initiative
AQ07-09(B)	Air Quality Outreach
AQ07-10(B)	Dulles Corridor Metrorail
AQ07-13(A)	Purchase of Wind Power

EIP Action ID	EIP Action Title
AQ07-14(B)	Participation on the Metropolitan Washington Air Quality Committee (MWAQC)
AQ07-15(B)	Evaluation and Purchase of Hybrid Drive Vehicles
AQ07-18(B)	Four Year Transportation Plan
AQ07-20(B)	Fairfax County Transit Program
AQ07-22(C)	Fuel Economy and Emissions Standards
AQ07-23(B)	Periodic Assessment of Alternative Fuel Vehicle Technology
AQ08-01(B)	Regional Urban Forestry SIP Working Group
AQ08-05(B)	Tree Planting at Governmental Buildings and Parking Facilities
AQ08-06(B)	Telework Initiatives
AQ09-01(B)	Transportation Funding Bill
AQ09-02(B)	Comprehensive Bicycle Initiative
AQ09-03(A)	Waiver of GVW Limit for Idle Reduction Equipment
AQ10-01(B)	Columbia Pike Rail Initiative
AQ10-02(B)	Reduce Fuel Consumption in Heavy Duty Vehicles
AQ10-03(C)	Continuing Purchase of Wind Power
AQ11-01(B)	Piezo Electric Generator Pilot Program
WQ07-04(B)	Riparian Buffer Restoration (To restore buffers initially at seven sites, with 40 sites targeted)
WQ08-05(B)	Benchmarking Watershed Tree Cover Levels
WQ08-08(B)	Outreach and Education Program
WQ08-09(B)	Establishing Tree Cover Goals for Watersheds
WQ10-01(C)	Riparian Buffer Maintenance
SW07-02(B)	Expand Recycling Programs
SW07-03(B)	Encourage Use of Recycled Products through Environmentally Preferable Purchasing (EPP)
SW07-04(B)	Increase County Use of Recycled Products
SW07-05(B)	Remote HHW Collection Events
SW08-01(B)	Maximize Energy Recovery from LFG Resources
SW08-02(B)	WWTP Effluent Reuse at Covanta E/RRF from Noman Cole WWTP
SW09-02(C)	Renewable Energy Demonstration Park
PT07-07(B)	Park Authority Trail System
PT08-01(B)	Park Natural Resource Management
PT08-04(B)	Developing Natural Landscaping Guidelines and Policies for County Properties
PT08-06(C)	Implementing Natural Landscaping Practices on County Properties

EIP Action ID	EIP Action Title
PT09-02(B)	**Park Authority Energy Manager Position (THIS ITEM IS NOW ES09-18(B) – SEE BELOW)**
PT09-03(B)	Synthetic Field Development Program
ES08-01(B)	Education and Outreach Programs and Activities
ES08-10(B)	Partnering with Non Profit Tree Planting Groups in Establishing a Countywide Tree Planting Program
ES09-05(A)	NACo/Energy Star Change a Light Program
ES09-06(B)	Joined Energy Star Challenge
ES08-08(C)	**This action has been incorporated into ES10-15(C)**
ES08-09 (C)	Promoting the Use of Natural Landscaping Practices by the Private Sector
ES08-11(C)	Promoting Stewardship of Urban Forest Resources
ES09-08(B)	30-Year Tree Canopy Goal
ES09-09(B)	Energy Management Program Through the Establishment of a Countywide Energy Coordinator Position
ES09-10(C)	Energy Outreach Program
ES09-11(A)	Energy Star Vending Machines
ES09-12(B)	Government Center HVAC Component Replacement
ES09-13(C)	Install EMCS in Remaining County Facilities
ES09-14(B)	Increase Energy Code Compliance for Mechanical Systems
ES09-15(C)	Government Center Energy Project
ES09-16(C)	Feasibility Study for Renewable Energy Technologies
ES09-17(C)	Perform Energy Audits for County Facilities
ES09-18(A)	Energy Manager, Park Authority **(FORMERLY PT09-02(B))**
ES10-03(A)	Implement Environmental Management System for Wastewater Management Program
ES10-08(C)	Park Authority RecCenters Lighting Improvements for Swimming Pools and Racquetball Courts
ES10-09(C)	Park Authority Athletic Fields Lighting Improvements
ES10-10(C)	Building Envelop assessment and Improvement for Park Authority Facilities
ES10-11(C)	Park Authority Facilities Small HVAC Systems
ES10-12(B)	“Earth Hour” Event Participation
ES10-14 (C)	Water Conservation Education and Device Distribution Program
ES10-15(C)	Environmental Stewardship Matching Grants for Watershed Protection & Energy Conservation
ES11-01(A)	Installation of a Solar Powered Water Mixer at Noman Cole Pollution Control Plant

ES11-02(A)	Installation of a Solar Water Heater at the Noman Cole Pollution Control Plant
ES11-03(A)	Installation of Solar Powered Meters by Wastewater Treatment Division
ES11-04(B)	Wastewater Treatment Division participation in the Energyconnect's Demand Response Program for the Summer 2009 Season
ES11-06(B)	Window Replacement at Noman Cole Pollution Control Plant
ES11-07(B)	Calculate and Validate the Wastewater Collections Division Carbon Footprint
ES11-09(C)	Wastewater Management Program IT Computer Server Virtualization
ES11-10(C)	Site Lighting Upgrades for Monomedia Filters at Noman Cole Pollution Control Plant
ES11-11(C)	Mercury Vapor Lighting Replacement at Noman Cole Pollution Control Plant
ES11-12(C)	Establish A Green Roof Onsite at Noman Cole Pollution Control Plant
ES11-13(C)	Installation of Lighting Control Systems at FCPA Athletic Fields

FAIRFAX COUNTY, VIRGINIA
Environmental Improvement Program (EIP)
Appendix 6: Summary of Wise Water Use Actions
Fiscal Year 2011

Prepared September 2009

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EIP Action ID	EIP Action Title
GL08-03(A)	Plan Amendment to Strengthen Air Quality Guidance and to Incorporate Support for Green Building Concepts
GL09-01(B)	Consideration of Green Building Incentives for Private Sector Development
GL09-05(C)	Development of a County Green Building Program Through the Establishment of a Green Building Coordinator Position
WQ08-04(B)	LID Initiatives
WQ08-08(B)	Outreach and Education Program
SW08-02(B)	WWTP Effluent Reuse at Covanta E/RRF from Noman Cole WWTP
PT10-01(C)	Weather Stations for Efficient Water Use at Golf Courses
ES08-08(C)	This action has been incorporated into ES10-15(C)
ES08-09(C)	Promoting the Use of Natural Landscaping Practices by the Private Sector
ES10-03(A)	Implement Environmental Management System for Wastewater Management Program
ES10-04(A)	Water Use Reduction in Wastewater Management Program Laboratory
ES10-05(A)	Use Reclaimed Water in the Irrigation System for Noman Cole Pollution Control Plant Landscaping
ES10-06(B)	Maintain Potable Water Savings and Additional Opportunities for Reduction in Potable Water Use at Noman Cole Pollution Control Plant
ES10-07(B)	Establish a Rain Garden at the Noman Cole Pollution Control Plant
ES10-14(C)	Water Conservation Education and Device Distribution Program
ES10-15(C)	Environmental Stewardship Matching Grants for Watershed Protection & Energy Conservation
ES11-08(B)	Establish A Rain Garden at Wastewater Collections Division's Robert P. McMath Facility
ES11-12(C)	Establish A Green Roof at Noman Cole Pollution Control Plant