DISTRICT OF COLUMBIA
CONSTRUCTION GRANTS
FISCAL YEAR 2013
DRAFT PROJECT PRIORITY LIST
FOR WATER POLLUTION CONTROL PROJECTS

Send comments to:

District Department of the Environment
Water Quality Division
1200 First Street, N.E., 5th Floor
Washington, DC 20002
Attention: PPL Public Hearing 2013

DISTRICT DEPARTMENT OF THE ENVIRONMENT

NOTICE OF PUBLIC HEARING

The previously scheduled hearing is being rescheduled to allow the public sufficient time to prepare for the hearing.

The District Department of Environment (DDOE) invites the public to present its comments at a public hearing on the fiscal years (FY) 2013 and 2014 Project Priority List (PPL) for the District of Columbia's Construction Grants Program. The PPL delineates projects likely to receive Federal and DC funds to construct or improve wastewater treatment facilities and other related infrastructures for FY 2013 and in future years.

The draft PPL document is on file at the Martin Luther King, Jr. Library, 901 G St., NW, Washington, DC 20001, and may be inspected during normal business hours. In addition, the document can be downloaded at the following website address http://ddoe.dc.gov , under the Regulation & Law tab at the Public Notices & Hearings link.

DATE:	**Tuesday, October 23, 2012**
TIME:	**6:00 p.m.**
PLACE:	**District Department of the Environment** **1200 First Street, NE, Washington, DC 20002** **6th Floor Conference Room** **NoMa-Galludet U Metro Stop**

Persons who wish to testify are requested to furnish in writing, their names, addresses, telephone numbers, and the organization they represent, if any, to the attention of N. Shulterbrandt to the address below, by Friday, October 19, 2012.

District Department of the Environment
Water Quality Division
1200 First Street, NE, 5th Floor
Washington, DC 20002

Other persons present at the hearing who wish to be heard, may testify if there is time after those on the witness list have been called and heard. Persons are urged to submit duplicate copies of their written statements. All presentations shall be limited to five minutes. The hearing will end earlier if all persons wishing to make comments have been heard. Persons may submit written testimony by mail to the address above. Such written testimony is to be clearly marked "PPL Public Hearing 2013" and received no later than 4pm on Wednesday, October 24, 2012. DDOE will consider all comments in its final decision.

For additional information, call 202-535-2600.

DRAFT District of Columbia
Intended Use Plan and Project Priority List for
Construction Grants (CG) Funds

Federal Fiscal Year 2013

The District of Columbia (DC) receives Clean Water Act State Revolving Fund (SRF) allocations for use in a Construction Grants program. SRF provides funding for the construction of municipal wastewater facilities and implementation of nonpoint source pollution control and estuary protection projects. Projects identified for implementation should have the potential to achieve the highest return in terms of attainment of water quality standards and protection of the public health for the residents and visitors to the District of Columbia.

Title VI of the Clean Water Act (CWA) authorizes the US Environmental Protection Agency (EPA) to award capitalization grants to states for the purpose of establishing a CWA State Revolving fund. Legislative provisions in several EPA Appropriation Acts allow the District to receive its capitalization allotment as Title II grants for any activities eligible to receive funding under Title VI.[a]

Goals for the Use Of District Construction Grant Funds

To provide financial assistance to the DC wastewater facility to achieve compliance with federal and local water quality standards.

To obtain maximum capitalization of the DC Construction grants to facilitate the funding needs of the DC wastewater treatment facility.

To continue exploration of expanded implementation of non-point source projects to enhance the District of Columbia's compliance with pollution control management issues and regulations.

To consider, where feasible, the funding of "green projects" which are defined in EPA Headquarters' Memorandum entitled "Award of Grants to the District of Columbia and the Territories with Funds Appropriated by P.L. 111-5, the "American Recovery and Reinvestment Act of 2009". Such projects must be specified in at least one of the following categories: water efficient, energy efficient, green infrastructure, environmentally innovative or may be otherwise beneficial and so demonstrated by use of a business case analysis.

Available Funds

[a] Legislative provision in Public Laws 101-144 and 101-302 allow the single-government entities of the District of Columbia, the Virgin Islands, and the Pacific trust territories to receive their annual allotments for Title VI capitalization grants as Title II construction grants. An additional provision in Public Law 102-389 expands the range of activities which DC may fund with such grants to include and Title VI-eligible activity. All projects are funded at 55% Federal grant share (45% local cost share). To the extent not inconsistent with the provisions of Title VI, the provisions and requirements of Title II apply to project and program made to DC pursuant to these legislative authorities.

The estimated FY 2013 CWA SRF allotment to the District is approximately $7,008,000. This total is only an estimate as the FY 2013 CWA SRF funding is not known and is based on the FY 2012 funding allotment.

When the final amounts are determined and made available by Congress, the available fund amount will be adjusted accordingly and projects will be funded on the basis of actual Congressional funding allotments.

It should be noted that a "green project reserve" requirement has been associated with allocations in recent years. EPA set a minimum goal of 20% of the total fiscal years allocations to be used to fund "green projects" as described in the goals section above. At this time, EPA has not set a green project reserve goal for FY 2013 funds.

The District of Columbia has a goal that 50% of the allocations be used to implement "green project reserve" and nonpoint source projects if sufficient qualifying projects are received for consideration. Any projects that are determined to be "green" shall be listed on the listing of projects as such.

If Congress authorizes any supplementary funds during this period, these funds would be directed in accordance with this Intended Use Plan and the Project Priority List unless otherwise modified by Congress or EPA.

Distribution of Funds and Future Projects

For estimated FY 2013 funds, the expected usage is as follows:

Available Federal Funds	**Grant Dollars**
Total FY 2013 CG (Estimated Allotment)	$7,008,000
Project Pool that may be submitted for use of grant funds during FY 2013	
Hickey Run Stream Restoration	$2,500,000
Alger Park Upland LID and Stream Restoration	$2,600,000
Zero Run-Off Schoolyard Project	$950,000
Urban Wetland and Bluehouse Wetland Ecosystem Installation at UDC Van Ness and Berti Backus Campuses	$2,392,225
DC Green Cubes	$253,853
DC Green Roofs Retrofits	$825,000
Green Infrastructure Enhancements	$2,335,000
Dix Street Green Infrastructure Project	$1,028,248
Klingle Trail Watershed Green Streets	$876,236
Oregon Ave. Watershed Green Streets	$1,607,340
Green Alleys	$1,197,020
Georgetown Combined Sewer Rehabilitation	$3,668,500
Combined Sewer Under Building Rehabilitation Phase 2	$550,000
Filtrate Treatment Facility	$11,300,000
Storm Sewer Improvements at Bangor St., SE and Park St., SE	$935,000
Low Area Trunk Sewer Rehabilitation	$4,148,413
Rehabilitation of Piney Branch Trunk Sewer	$10,447,500
Tiber Creek Trunk Sewer Rehab	$3,542,000

Potomac Pumping Station Phase III	$2,332,320
Potomac Interceptor Rehabilitation Fairfax	$2,920,264
Gravity Thickener Upgrades Phase II	$3,762,764
B Street/ New Jersey Avenue Trunk Sewer Rehabilitation	$957,720
National Arboretum Sewer Rehabilitation	$4,682,020
-Project Pool continued-	
Main and O St. Pumping Station Intermediate Upgrade	$2,883,760
Rehabilitation of the Lower East Side Interceptor	$3,410,000
Enhanced Nitrogen Removal Facilities	$13,885,601
Total Grant Project Pool	$85,990,783
Projected Uses	
Project Oversight/Administrative Costs to DDOE/US Army Corps of Engineers (4% of estimated allotment)	$280,320
Projects	$6,727,680
Grant awards may not exceed available grant funds	$7,008,000
Total Federal and Local Funds Available for FY 2013	
Estimated Federal Funds	$7,008,000
Estimated Local Funds for projects (45% match)	$3,027,456
Total Available Funds for FY 2013	$10,035,456

In December 2010, a revised Project Priority Rating System (PPRS) was approved. The rating system details the basis on which projects will be evaluated for their individual contribution towards restoring and protecting the water quality and meeting the health requirements of the CWA. Pursuant to Section 216 of CWA, the evaluation of treatment works projects will include a numerical scoring using the criteria. Nonpoint source projects will be evaluated and scored based upon existing studies and reports which establish a connection between priority water quality issues and activities which will accomplish a reduction or elimination of those issues. Projects are ranked based on their evaluation scores.

Occasionally, a highly ranked project on the PPL will not be ready to complete the application requirements by the yearly deadline. To ensure efficient use of the yearly allotments, a process for funding lower ranked- but ready to complete the application requirements- projects is necessary. A project on the PPL, and identified for funding during the current fiscal year, may be bypassed and a lower-ranked project may be funded under the following situations:

(a) DDOE determines that a project should be bypassed in order to address existing or imminent hazardous emergency conditions.
(b) DDOE determines that a project within the fundable range will be insufficiently developed to proceed to grant award during the current fiscal year.

DRAFT District of Columbia
Clean Water Act Construction Grants Project Priority List FY 2013

Rank /Avg. Score	Project Name (F = fundable)	Submitting Organization	GRP	Project Category	Total Cost	Total Est. EPA Cost	Local Cost	Design Plans Available
1/43	Enhanced Nitrogen Removal Facilities (F)	DC Water	No	212	$61,440,714	$13,885,601	$11,440,261	Jun 2010
2/38.6	Dix Street Green Infrastructure Project (F-E)	DDOT-Infrastructure Project Management Admin. (IPMA)	Yes	319	$1,869,542	$1,028,248	$841,294	Feb 2014
3/38	Klingle Trail Watershed Green Streets (F-E)	DD0T -IPMA	Yes	319	$1,593,156	$876,236	$716,920	Dec 2013
4/37	DC Green Cubes (F)	DGS	Yes	319	$461,550	$253,853	$207,698	Jun 2013
4/37	Zero Run-Off Schoolyard Project (F-E)	DDOE WPD	Yes	319	$2,100,000	$950,000	$1,150,000	Oct 2013
5/36.6	Urban Wetland and Bluehouse Wetland Installation at UDC Campuses (F)	UDC	Yes	319	$4,349,500	$2,392,225	$1,957,275	Jun 2013
6/36.4	Green Alleys (F-E)	DDOT-IPMA	Yes	319	$2,176,400	$1,197,020	$979,380	Oct 2013
7/35.8	Oregon Ave. Watershed Green Streets (F-E)	DDOT-IPMA	Yes	319	$2,922,435	$1,607,339	$1,315,096	Apr 2014
8/35.2	Hickey Run Stream Restoration (F)	DDOE WPD	Yes	319	$4,545,000	$2,500,000	$2,045,500	Jul 2013
9/35	Alger Park Upland LID and Stream Restoration (F)	DDOE WPD	Yes	319	$5,150,000	$2,600,000	$2,550,000	Jun 2013
9/35	DC Green Roofs Retrofits (F)	DGS	Yes	319	$1,500,000	$825,000	$675,000	Mar 2013
10/34.4	National Arboretum Sewer Rehabilitation (F)	DC Water	No	212	$8,512,764	$4,682,020	$3,830,744	July 2013
11/32.6	Filtrate Treatment Facility (F)	DC Water	No	212	$50,000,000	$11,300,000	$9,310,000	Jul 2013
12/32.4	Gravity Thickener Upgrades Phase II (F-E)	DC Water	No	212	$16,649,000	$3,762,764	$3,100,044	Jul 2014
13/32	Green Infrastructure Enhancements (F)	DDOT-UFA	Yes	319	$4,250,000	$2,335,000	$1,915,000	Jul 2013
14/30	B Street/ New Jersey Avenue Trunk Sewer Rehabilitation (F-E)	DC Water	No	212	$4,237,700	$957,720	$789,060	Mar 2014
15/29.8	Storm Sewer Improvements at Bangor St., SE and Park St., SE (F)	DC Water	No	212	$1,700,000	$935,000	$765,000	Dec 2012
16/28.2	Potomac Pumping Station Phase III (F-E)	DC Water	No	212	$10,320,000	$2,332,320	$1,921,584	Aug 2013
17/27.8	Low Area Trunk Sewer Rehabilitation (F-E)	DC Water	No	212	$7,542,570	$4,148,413	$3,394,157	Aug 2013
18/27	Main and O St. Pumping Station Intermediate Upgrade (F-E)	DC Water	No	212	$12,760,000	$2,883,760	$2,375,912	Dec 2013
19/26.4	Rehabilitation of Lower East Side Interceptor (F)	DC Water	No	212	$6,200,000	$3,410,000	$2,790,000	May 2014
20/24	Tiber Creek Trunk Sewer Rehabilitation (P)	DC Water	No	212	$6,440,000	$3,542,000	$2,898,000	Jul 2015
21/23.8	Rehabilitation of Piney Branch Trunk Sewer (F-E)	DC Water	No	212	$19,050,000	$10,447,500	$8,572,500	May 2014
22/23.4	Combined Sewer Under Building Rehabilitation Phase 2 (F)	DC Water	No	212	$1,000,000	$550,000	$450,000	Mar 2014
23/22.4	Georgetown Combined Sewer Rehabilitation (F)	DC Water	No	212	$6,670,000	$3,668,500	$3,001,500	Mar 2013
24/19.8	Potomac Interceptor Rehabilitation Fairfax (F-E)	DC Water	No	212	$12,921,521	$2,920,264	$2,405,987	Oct 2013

Total Federal Funds Needed **$85,990,783**

GPR: Green Project Reserve -DDOE goal

Project Category: 212 = CWA Section 212 Treatment Works , 319- CWA Section 319 Nonpoint Source

F: Fundable means project is reasonably expected to have plans,non-federal match available, etc available July 1 of effective PPL year

F-E: Fundable-Extended means project is fundable but unlikely to be funded due to insufficient available funds in FY 2013

P: Planning - project unlikely to be developed during the effective fiscal years

-Project Information Submitted-

dc water is life

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY | 5000 OVERLOOK AVENUE, SW | WASHINGTON, DC 20032

AUG 13 2012

Ms. Nicoline Shulterbrandt
Water Quality Division
District Department of Environment
51 N Street, N.E., 6th Floor
Washington, D.C. 20002

RE: Clean Water Act
Project Priority List (PPL) for FY 13 and 14

Dear Ms. Shulterbrandt:

Enclosed is the District of Columbia Water and Sewer Authority's Clean Water Act Project Priority List for FY 13 and 14. We have also e-mailed an electronic copy per your request. In addition we have included one signed set of the assurances and certifications that will cover all of the submissions.

Please transmit this information to Ms. Lorraine Reynolds, Associate Director, Office of Infrastructure and Assistance, (EPA), Region III, 1650 Arch Street, Philadelphia, PA 19103. We are also forwarding EPA, Region III electronic copies to enable them to conduct a preliminary review.

Should you have any questions regarding this request or need additional information, please contact our Grants Specialist, Ms. Rhonda Green on (202) 787-2276.

Sincerely,

D. McLaughlin

David McLaughlin, P.E., Director
Department of Engineering and Technical Services

Enclosure

c: Ken Pantuck, EPA

Request for Applications

Federal Construction Grants

FY 2013-2014

District of Columbia Water and Sewer Authority

5000 Overlook Ave., SW, Washington, DC 20032-5212

Organizational District: 98

Project applying for: Storm Sewer Improvements at Bangor St., SE and Park St., SE

Title of Project: Storm Sewer Improvements at Bangor St., SE and Park St., SE

Local Watershed: Anacostia Watershed

One Paragraph project summary: This project includes sewer rehabilitation to prevent flooding on Bangor Street and rehabilitating a degraded outfall on Park Street. Due to uncontrolled storm water discharges, water exiting the outfall is eroding the surrounding area causing water quality issues and a public safety issue.

Funding amount requested: $ 935,000

Matching in kind: $ 765,000

Project Period:

Federal Tax ID#52-2201147

DUNS #07-6541056

Contact Person: Rhonda Green

(P) 202-787-2276

(F) 202-787-2453

Rhonda.green@dcwater.com

D. McLaughlin 2/13/12

David McLaughlin, P.E., Director **Date**

Department of Engineering and Technical Services

Summary of Project and Project Information and Evaluation

Title and Description of Project

Storm Sewer Improvements at Bangor St., SE and Park St., SE

This project includes sewer rehabilitation to prevent flooding on Bangor Street and rehabilitating a degraded outfall on Park Street. Due to uncontrolled storm water discharges, water exiting the outfall is eroding the surrounding area causing water quality issues and a public safety issue. As part of the project, the area around the outfall will be stabilized with "green" techniques to correct erosion damage and prevent future erosion. The rehabilitation will improve water quality by reducing the amount of sediment and suspended solids carried by stormwater from the area eroded.

1. Eligibility Threshold

The erosion caused by the degraded outfall on Park Street is carrying sediment and suspended solids downstream of the outfall.

2. Readiness to Proceed in Threshold Year

This project is currently under design and intended to be publicly bid in Fall 2012

Rating Criteria

a. Water Quality Problem Addressed

Untreated and uncontrolled stormwater with suspended sediment from erosion carried downstream will be eliminated, thus solving the large storm runoff erosion problem at Park Street, SE. The impaired storm water system at both sites (Park St, SE and Bangor St, SE) will be addressed with this project. Techniques addressing the Park Street site will improve stormwater treatment prior to reaching the intermittent stream on NPS property (Circle Park).

b. Project Category

This project provides multiple-use benefit for the property. Due to the environmentally sensitive nature of the property (NPS Circle Park), the sewers on the property would restore forest habitat altered by the erosion caused by the storm sewer failure. This project also addresses a major public safety issue caused by erosion due to a damaged stormwater outfall. The stream bank surrounding the outfall, a few meters from public areas, steeply drops off due to erosion. Additionally, this project improves the operational reliability of the sewer system.

c. Water Quality Benefit

Once stream banks are stabilized, sediment and suspended solids from this region will be greatly reduced in the intermittent stream located on NPS property.

d. Effectiveness of Investment

This project will be effective in reducing sediments and suspended solids into nearby streams and assisting with compliance of separate stormwater system regulations.

e. Population Benefit

This project will directly benefit the residents of DC by addressing water quality, flooding and a public safety issue.

f. Green Project Reserve

Due to the storm runoff techniques involved with the design of the project, this project utilizes green infrastructure and would qualify as a green project.

3. Project Outcomes and Outputs

This project will provide an outcome of reduced sediments and suspended solids into the Anacostia River due to stream bank stabilization.

The output will be sewer pipe, drainage swale, trees

Activities will be the construction of a new drainage system that dissipates the flow.

4. Budget Support Detail

The cost estimated for this project is $1,700,000 based on the engineer's estimate. These costs are for construction only.

Federal Funds: $935,000	Non-federal Match: $765,000	Project Total: $1,700,000

Request for Applications

Federal Construction Grants

FY 2013-2014

District of Columbia Water and Sewer Authority

5000 Overlook Ave., SW, Washington, DC 20032-5212

Organizational District: 98

Project applying for: Georgetown Combined Sewer Rehabilitation

Title of Project: Georgetown Combined Sewer Rehabilitation

Local Watershed: Potomac Watershed

One Paragraph project summary: This project will inspect and rehab approximately 5,600 linear feet (LF) of large diameter combined sewers.

Funding amount requested: $ 3,668,500

Matching in kind: $ 3,001,500

Project Period: August 2013 - August 2015

Federal Tax ID#52-2201147

DUNS #07-6541056

Contact Person: Rhonda Green

(P) 202-787-2276

(F) 202-787-2453

Rhonda.green@dcwater.com

D. McLaughlin

David McLaughlin, P.E., Director

Department of Engineering and Technical Services

8/13/12

Date

Summary of Project and Project Information Evaluation

Title and Description of Project

Georgetown Combined Sewer Rehabilitation

This project will inspect and rehab approximately 5,600 linear feet (LF) of large diameter combined sewers.

1. Eligibility Threshold

The rehabilitation of the large diameter sewers in Georgetown will restore the operational reliability of these major sewers.

2. Readiness to Proceed in Threshold Year

The project design was awarded on April 2011 and notice to proceed for construction is anticipated in the winter of 2013.

Rating Criteria

a. Water Quality Problem Addressed

The rehabilitation of these large sewers will correct the impaired performance of the sanitary collection system.

b. Project Category

The project includes rehabilitation of a collection system for improved operational reliability.

c. Water Quality Benefit

Ensuring the proper function of these sewers will ensure water quality will be protected.

d. Effectiveness of Investment

This project will restore the service life of the sanitary sewers minimizing the need for maintenance expenses.

e. Population Benefit

Though this project is focused in Georgetown, residents from other DC neighborhoods will directly benefit from the rehabilitation.

f. Green Project Reserve

3. Project Outcomes and Outputs

This project will provide an outcome that is the least disruptive rehabilitation for large sanitary sewers.

The output will be approximately 5,600 linear feet (LF) of sewers free of structural defects.

Activities will be the completed rehabilitation of the Georgetown large diameter sewers.

4. Budget Support Detail

The cost estimate for this project is $6,670,000 based upon the engineer's estimate. These costs are for construction only.

Federal Funds: $3,668,500	Non-Federal Match : $3,001,500	Project Total: $6,670,000

Request for Applications

Federal Construction Grants

FY 2013-2014

District of Columbia Water and Sewer Authority

5000 Overlook Ave., SW, Washington, DC 20032-5212

Organizational District: 98

Project applying for:

Title of Project: Potomac Interceptor Rehabilitation Fairfax

Local Watershed: Potomac Watershed

One Paragraph project summary: This project will rehabilitate 2 portions of the Potomac Interceptor (PI) that have experienced severe internal corrosion. The portions of the PI to be rehabilitated are located in Great Falls, VA and adjacent to the Potomac Lakes Sportsplex in Loudoun County, VA.

Funding amount requested: $ 2,920,264

Matching in kind: $2,405,987

Project Period: January 2013- March 2015

Federal Tax ID#52-2201147

DUNS #07-6541056

Contact Person: Rhonda Green

(P) 202-787-2276

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Rhonda.green@dcwater.com

D. McLaughlin

David McLaughlin, P.E., Director

Department of Engineering and Technical Services

8/13/12

Date

Summary of Project and Project Information for Evaluation

Title and Description of Project

Potomac Interceptor Rehabilitation Fairfax

This project will rehabilitate 2 portions of the Potomac Interceptor (PI) that have experienced severe internal corrosion. The portions of the PI to be rehabilitated are located in Great Falls, VA and adjacent to the Potomac Lakes Sportsplex in Loudoun County, VA.

1. Eligibility Threshold

The rehabilitation of the Potomac Interceptor will prevent impaired operational reliability of this major sanitary sewer.

2. Readiness to Proceed in Threshold Year

Design for this project is underway and the construction contract will be publicly bid in winter 2013.

Rating Criteria

a. Water Quality Problem Addressed

By rehabilitating this major sanitary sewer, this project will correct the impaired performance of the sanitary sewer collection system.

b. Project Category

This project will rehabilitate a major interceptor for the collection system in order to improve operational reliability.

c. Water Quality Benefit

This project will improve the integrity of sewer and flow capacity to Blue Plains of this major interceptor reducing probability of a sewer break or overflows.

d. Effectiveness of Investment

This project will improve operational reliability and integrity for the collection system that provides 1/6 of the flow to Blue Plains.

e. Population Benefit

As this project rehabilitates a sanitary sewer located within Northern Virginia, this project directly benefits the residents of Northern Virginia and Maryland.

f. Green Project Reserve

3. Project Outcomes and Outputs

The outcome of this project will be a corrosion resistant more efficient operating sewer. Project output is 7100 linear feet of sewer will be lined with low friction, corrosion resistant material.

4. Budget Summary Detail

The cost estimate for this project is $12,921,521 based on the engineer's estimate. These costs are for construction only.

Federal funds: $2,920,264	Non federal match: $2,405,987	Project Total: $12,921,521

Request for Applications
Federal Construction Grants
FY 2013-2014

District of Columbia Water and Sewer Authority
5000 Overlook Ave., SW, Washington, DC 20032-5212

Organizational District: 98

Project applying for: Filtrate Treatment Facility

Title of Project: Filtrate Treatment Facility

Local Watershed: Potomac River

One Paragraph project summary: Starting the year 2014, belt filter presses will be used to dewater biosolids at the Advanced Wastewater Treatment Plant (AWTP) at Blue Plains and produce a filtrate, which is a recycle stream. This project involves construction of a new side stream filtrate treatment facility that will reduce the ammonia and carbon in the recycle stream from dewatering into the wastewater treatment process. Direct recycle of the filtrate into the mainstream wastewater treatment process would increase the cost and decrease the effectiveness of nitrogen removal while a side stream process enables reduction of the ammonia concentration more reliability and cost-effectively without any impact on the current nitrogen removal process.

Funding amount requested: $ 11,300,000

Matching in Kind: $ 9,310,000

Project Period: November 2013 – October 2016

Federal Tax ID #52-2201147

DUNS # 07-6541056

Contact Person: Rhonda Green
(P) 202-787-2276
(F) 202-787-2453
rhonda.green@dcwater.com

D. McLaughlin

David McLaughlin, P.E., Director
Department of Engineering and
Technical Services

8/13/12
Date

Summary of Project and Project Information for Evaluation

Title and description of project

Filtrate Treatment Facility (FTF)

Starting the year 2014, belt filter presses will be used to dewater biosolids at the Advanced Wastewater Treatment Plant (AWTP) at Blue Plains and the filtrate, that is the recycle stream, will be returned to the wastewater treatment process. This project involves construction of a new side stream filtrate treatment facility that will reduce the ammonia and carbon in the recycle stream from dewatering into the wastewater treatment process. Direct recycle, considering the high ammonia concentration, into the mainstream wastewater treatment process would increase the cost and decrease the effectiveness of nitrogen removal while a side stream process enables reduction of the ammonia concentration more reliability and cost-effectively without any impact on the current nitrogen removal process.

1. Eligibility Threshold

The FTF will decrease the amount of nitrogen returned to the main process train and consequently decrease the amount of nitrogen discharged to the Potomac River. .

2. Readiness to Proceed Threshold in fiscal year

Construction is expected to start in October 2013

Rating Criteria Procedures

Upon meeting the minimum program threshold, projects will be rated and ranked based on the following criteria:

a) Water Quality Problem Addressed (Existing condition which impairs water quality)

The water quality problem addressed by this project is the high level of nitrogen in the receiving water due to a variety of causes including untreated and uncontrolled runoff throughout the watershed upstream of Blue Plains.

b) Project Category (Classification of type of project)

This project improves the operational reliability of both the existing and new facilities. It will to remove nitrogen from the wastewater as well as reduce nitrogen discharge to the Potomac River. The project is will contribute to meeting the limits in the NPDES permit.

c) Water Quality Benefit (Improvement in priority watersheds)

The project will contribute to DC Water's ability to reliably meet the permitted total nitrogen load.

d) Effectiveness of Investment

This project will achieve NPDES compliance, specifically the discharge limit for total nitrogen.

e) Population Benefit

The AWTP at Blue Plains serves approximately 1.6 million people, including all the (~600,000) residents of the District of Columbia. The high quality effluent from Blue Plains results in improved water quality in the Potomac River outfall and downstream, including the Chesapeake Bay

f) Green Project Reserve Project

Additional oxygen and an external carbon source are required to treat the filtrate in the mainstream wastewater process. The new process eliminates the need for an external carbon source. Typically, external carbon sources could impact air quality; this potential impact is avoided in the FTF. Furthermore, the FTF uses significantly less energy due to lower oxygen demand for the new process.

3. Project Outcomes and Outputs:

Outcome: Contributes to the reliability of the Advanced Wastewater Treatment Plant at Blue Plains to meet the stringent NPDES effluent permit requirement for total nitrogen discharge, which improves the water quality in the Potomac River.

Output: Six reactor tanks and specialized equipment and process controls to grow and maintain a specialized strain of bacteria referred to as "anammox" organisms that are capable of direct anaerobic conversion of a mixture ammonia and nitrite to nitrogen gas. This process requires no supplemental carbon addition and less energy for aeration than the mainstream wastewater treatment process to remove nitrogen.

4. Budget Support Detail

The cost estimate for this project is $50,000,000 based upon the engineer's estimate. These costs are for construction only.

Federal funds: $11,300,000	Non federal match: $9,310,000	Project Total: $50,000,000

Request for Applications
Federal Construction Grants
FY 2013-2014

District of Columbia Water and Sewer Authority
5000 Overlook Ave., SW, Washington, DC 20032-5212

Organizational District: 98

Project applying for: Combined Sewer Under Building Rehabilitation Phase 2

Title of Project: Combined Sewer Under Building Rehabilitation Phase 2

Local Watershed: Citywide

One Paragraph project summary: This project will rehabilitate a percentage of the combined sewer that is classified as under a building. These lines are categorized as high priority due to their location. The selected pipes are located inside the city boundary limit and they can range from 10 inch to 22 feet in diameter.

Funding amount requested: $550,000

Matching in Kind: $450,000

Project Period: August 2014 to July 2016

Federal Tax ID #52-2201147

DUNS # 07-6541056

Contact Person: Rhonda Green
(P) 202-787-2276
(F) 202-787-2453
rhonda.green@dcwater.com

D. McLaughlin

David McLaughlin, P.E., Director
Department of Engineering and
Technical Services

8/13/12
Date

Summary of Project and Project Information

Title and Description of Project

Combined Sewers under buildings Rehabilitation Phase 2

This project will rehabilitate a percentage of the combined sewer that is classified as under a building. These lines are categorized as high priority due to their location. The selected pipes are located inside the city boundary limit and they can range from 10 inch to 22 feet in diameter.

1. Eligibility Threshold

The rehabilitation of these combined sewers will restore operational capacity and will prevent any potential risk to the public.

2. Readiness to Proceed in Threshold Year

Design for this project will began in Spring 2013 and the construction contract will be publicly bid in Summer 2014.

Rating Criteria

a. Water Quality Problem Addressed

By rehabilitating these combined sewers, this project will correct the impaired performance of these combined sewer collection system.

b. Project Category

This project will rehabilitate portion of the combined sewer system in order to improve operational reliability.

c. Water Quality Benefit

These sewers are in the Anacostia and Potomac Rivers' watershed, therefore, ensuring the proper functioning of these sewers will assure that the water quality will be protected.

d. Effectiveness of Investment

This project will restore these assets to a long service life minimizing the need for maintenance expenses.

e. Population Benefit

As this project is located inside the District boundary, it will directly benefit the residents of DC.

f. Green Project Reserve

3. Project Outcomes and Outputs

This project will provide an outcome to the resident of DC by improving the quality of the combined system and diminish the risk of having a major breakdown.

It will provide an output of 1,200 feet of combined sewer that is free of structural defects, has reduced infiltration and reduces the amount of flow that must be treated at Blue Plains.

5. Budget Support Detail

The cost estimate for this project is $1,000,000 based upon the engineer's estimate. These costs are for construction only.

Federal funds: $550,000	Non federal match: $450,000	Project Total: $1,000,000

Request for Applications
Federal Construction Grants
FY 2013-2014

District of Columbia Water and Sewer Authority
5000 Overlook Ave., SW, Washington, DC 20032-5212

Organizational District: 98

Project applying for: Rehabilitation of the Piney Branch Trunk Sewer from the intersection of 3rd and Madison Streets to Structure No 70.

Title of Project: Rehabilitation of the Piney Branch Trunk Sewer

Local Watershed: Piney Branch

One Paragraph project summary:
The project involves the inspection cleaning and lining of about 11,200 feet of a defective trunk sewer and restoration of service and other connections.

Funding amount requested: $10,477,500

Matching in Kind: $8,572,500

Project Period: August 2014 to February 2018

Federal Tax ID #52-2201147

DUNS # 07-6541056

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D. McLaughlin

David McLaughlin, P.E., Director
Department of Engineering and
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8/13/12
Date

Summary of Project and Project Information for Evaluation

Title and Description of Project

Piney Branch Trunk Sewer

This project will rehabilitate a portion of the Piney Branch Trunk Sewer from the intersection of 3rd Street and Madison St, NW to Structure No. 70.

1. Eligibility Threshold

The rehabilitation of the Piney Branch Trunk Sewer will significantly restore operational reliability of this major sanitary sewer as well as increasing its service life and preventing sewer backups due to sewer failures.

2. Readiness to Proceed in Threshold Year

Condition Assessment is under way for the project to be followed by design of the sewer and the construction contract will be publicly bid on August 2014.

Rating Criteria

a. Water Quality Problem Addressed

By rehabilitating this major sanitary sewer, this project will ensure that there is no danger of leakage/ exfiltration or backups in the system.

b. Project Category

This project will rehabilitate a major sanitary interceptor for the collection system in order to improve the operational reliability.

c. Water Quality Benefit

The sewer is in the Piney Branch Watershed and rehabilitation of the sewer will help to protect water quality in the stream.

d. Effectiveness of Investment

The Piney Branch Trunk Sewer is 101 years old but with rehabilitation, its service life can be extended and can minimize other maintenance and down time related expenses in the system.

e. Population Benefit

This project rehabilitates a major sewer in the District of Columbia and will therefore benefit the DC residents.

f. Green Project Reserve

3. **Project Outcomes and Outputs**

This project will rehabilitate 11,200 feet of critical infrastructure in the District's sewer system resulting in improved reliability, increased service life and reduction of infiltration/inflow and sewer backups due to possible sewer failure.

4. Budget Support Detail

The cost estimate for the project is $19,050,000 is based on the engineer's estimate. These costs are for construction only.

Federal funds: $10,447,500	Non federal match: $8,572,500	Project Total: $19,050,000

Request for Applications
Federal Construction Grants
FY 2013-2014

District of Columbia Water and Sewer Authority
5000 Overlook Ave., SW, Washington, DC 20032-5212

Organizational District: 98

Project applying for: Gravity Thickener Upgrades – Phase II

Title of Project: Gravity Thickener Upgrades – Phase II

Local Watershed: Potomac River

One Paragraph project summary: This project involves upgrading the current Gravity thickeners to optimize performance by reducing the severity and incidence of high solids concentration in the gravity thickener overflow. The new upgrade will also consist of replacing unreliable equipment. In addition, the scum from the primary clarifiers and the gravity thickeners will be independently processed. It will also remove sources of air entrainment in the gravity thickener feed flow. This is a continuation of work done in the Phase I Gravity Thickener Upgrades that were completed several years ago.

Funding amount requested: $ 3,762,674

Matching in Kind: $ 3,100,044

Project Period: October 2014 –February 2019

Federal Tax ID #52-2201147

DUNS # 07-6541056

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8/13/12
Date

Summary of Project and Project Information for Evaluation

Title and description of project

Gravity Thickener Upgrades – Phase II

This project involves upgrading the current Gravity thickeners to optimize performance by reducing the severity and incidence of high solids concentration in the gravity thickener overflow. The new upgrade will also consist of replacing unreliable equipment. In addition, the scum from the primary clarifiers and the gravity thickeners will be independently processed. It will also remove sources of air entrainment in the gravity thickener feed flow. This is a continuation of work done with the Phase I Gravity Thickener Upgrades that were completed several years ago.

1. Eligibility Threshold

This gravity thickener upgrade will result in improved equipment and control process thus reducing high over flow of total suspended solids (TSS) concentration returning to the primary system. It will also monitor influent solids concentration for grit removal effectiveness. In addition, it will control the thickened sludge concentration to be within the range of 3.5 to 6.0% total solid providing a consistent feed to biosolids processing. These improvements will contribute to the reliability of the wastewater treatment process at the Advanced Wastewater Treatment Plant at Blue Plains and thereby improve water quality in the Potomac River.

2. Readiness to Proceed Threshold in fiscal year

This construction is expected to start October 2014.

Rating Criteria Procedures

Upon meeting the minimum program threshold, projects will be rated and ranked based on the following criteria:

a) Water Quality Problem Addressed (Existing condition which impairs water quality)

High quality effluent is discharged from the Advanced Wastewater Treatment Plant at Blue Plains as a result of a series of effective treatment processes, including gravity thickening. To continue to discharge effluent of such a high quality, equipment and facilities at Blue Plains must be reliable, effective and efficient. The proposed project provides equipment upgrades and improved process monitoring and control, which contributes to improving the reliability of the wastewater treatment plant.

b) Project Category (Classification of type of project)

The project improves the operational reliability and efficiency of the existing gravity thickeners. It will replace equipment that is not reliable and efficient.

c) Water Quality Benefit (Improvement in priority watersheds)

The anticipated upgrade to the gravity thickeners and its various operations are essential for the reliability and performance of the downstream process equipment at Blue Plains, thereby

contributing to the high quality effluent discharge. The Advanced Wastewater Treatment Plant at Blue Plains discharges into the Potomac River.

d) Effectiveness of Investment

This project will improve reliability of the current wastewater treatment plant operation, specifically gravity thickening, which is a major unit process operation in solids processing. This gravity thickener upgrade will result in improved equipment and control process thus reducing high over flow of total suspended solids (TSS) concentration returning to the primary system. It will also monitor influent solids concentration for grit removal effectiveness. In addition, it will control the thickened sludge concentration to be within the range of 3.5 to 6.0% total solid providing a consistent feed to biosolids processing. These improvements will contribute to the reliability of the wastewater treatment process at the Advanced Wastewater Treatment Plant at Blue Plains and thereby improve water quality in the Potomac River.

e) Population Benefit

The AWTP at Blue Plains serves approximately 1.6 million people, including all the (~600,000) residents of the District of Columbia. The high quality effluent from Blue Plains results in improved water quality in the Potomac River outfall and downstream, including the Chesapeake Bay.

f) Green Project Reserve Project

3. Project Outcomes and Outputs:

Outcome: Contributes to the reliability of the Advanced Wastewater Treatment Plant at Blue Plains to meet NPDES effluent permit requirements, which improves the water quality in the Potomac River.

Output: Four rehabilitated gravity thickeners and replaced in service two gravity thickeners that had been decommissioned.

4. Budget Support Detail

The cost estimate for this project is $16,649,000 based upon the engineer's estimate. These costs are for construction only.

Federal funds: $3,762,764	Non federal match: $3,100,044	Project total: $16,649,000

Request for Applications
Federal Construction Grants
FY 2013-2014

District of Columbia Water and Sewer Authority
5000 Overlook Ave., SW, Washington, DC 20032-5212

Organizational District: 98

Project applying for: Low Area Trunk Sewer Rehabilitation

Title of Project: Low Area Trunk Sewer Rehabilitation

Local Watershed: Anacostia River

One Paragraph project summary: This project will rehabilitate approximately 11,700 linear feet of the Low Area Trunk Sewer to eliminate minor structural defects and restore operational reliability. The portion of the Low Area Trunk Sewer to be rehabilitated begins at the intersection of Pennsylvania Avenue, NW and 13th Street, NW and ends upstream of Main Pumping Station at the intersection of 2nd Street, SE and Tingey Street, SE.

Funding amount requested: $4,148,414

Matching in Kind: $3,394,156

Project Period: November 2013 to May 2015

Federal Tax ID #52-2201147

DUNS # 07-6541056

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8/13/12

Date

Summary of Project and Project Information for Evaluation

Title and Description of Project

Low Area Trunk Sewer Rehabilitation

This project will rehabilitate approximately 11,700 linear feet of the Low Area Trunk Sewer to eliminate minor structural defects and restore operational reliability. The portion of the Low Area Trunk Sewer to be rehabilitated begins at the intersection of Pennsylvania Avenue, NW and 13th Street, NW and ends upstream of Main Pumping Station at the intersection of 2nd Street, SE and Tingey Street, SE.

1. Eligibility Threshold

The rehabilitation of the Low Area Trunk Sewer will significantly restore operational reliability of this major sanitary sewer.

2. Readiness to Proceed in Threshold Year

Design for this project will began in Spring 2011 and the construction contract will be publicly bid in Fall 2013.

Rating Criteria

a. Water Quality Problem Addressed

By rehabilitating this major sanitary sewer, this project will correct the impaired performance of the sanitary sewer collection system.

b. Project Category

This project will rehabilitate a major interceptor for the collection system in order to improve operational reliability.

c. Water Quality Benefit

This sewer is in the Anacostia and Potomac Rivers' watershed, therefore, ensuring the proper functioning of this line will assure that the water quality will be protected.

d. Effectiveness of Investment

This project will restore this asset to a long service life minimizing the need for maintenance expenses.

e. population Benefit

As this project rehabilitates a sanitary sewer inside of DC, this project directly benefits the residents of DC.

f. Green Project Reserve

3. Project Outcomes and Outputs

This project will provide an outcome that is the least disruptive rehabilitation of a major sewer in a very high visibility location.

It will provide an output of 11,700 feet of sewer line that is free of structural defects, has reduced infiltration and reduces the amount of flow that must be treated at Blue Plains.

4. Budget Support Detail

The cost estimate for this project is $7,542,570 based upon the engineer's estimate. These costs are for construction only.

Federal funds: $4,148,413	Non federal match: $3,394,157	Project Total: $7,542,570

Request for Applications

Federal Construction Grants

FY 2013-2014

District of Columbia Water and Sewer authority

5000 Overlook Ave., SW Washington, DC 20032-5212

Organizational District: 98

Project applying for: Tiber Creek Trunk Sewer Rehab

Title of Project: Tiber Creek Trunk Sewer Rehab

Local Watershed: Potomac Watershed

One Paragraph project summary: This project entails Project involves point repairs of three segments on Tiber Creek Trunk Sewer (approx. 65 in number) using appropriate rehabilitation technique, cleaning of the entire 64,00 ft of sewer, pre and post CCTV, reinstating service connections and other related activities

Funding amount requested (55% of our share): $3,542,000

Matching in kind (dc water share): $2,898,000

Project Period: April 2015- March 2017

Federal Tax ID#52-2201147

DUNS #07-6541056

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David McLaughlin, P.E., Director **Date**

Department of Engineering and Technical Services

Summary of Project and Project Information for Evaluation

Title and Description of Project

Tiber Creek Trunk Sewer Rehab

This project entails Project involves point repairs of three segments on Tiber Creek Trunk Sewer (approx. 65 in number) using appropriate rehabilitation technique, cleaning of the entire 6,400 ft of sewer, pre and post CCTV, reinstating service connections and other related activities

1. Eligibility Threshold

Project helps to restore structural integrity of the trunk sewer and establishes the continuity of its operation. It will also create hydraulically favorable conditions by minimizing cases of sewer surge and improving its capacity.

2. Readiness to Proceed in Threshold Year

Rating Criteria

a. Water Quality Problem Addressed

The water quality problem addressed by this project is to reduce surcharging by improving sewer hydraulics.

b. Project Category

The project includes rehabilitation of a collection system for improved operational reliability.

c. Water Quality Benefit

This project will provide for effective use sewer capacity by eliminating obstructions which should result in reducing surcharging and overflows which will have a positive impact on water quality.

d. Effectiveness of Investment

This project will achieve improved reliability of the system by improving the hydraulic capacity of a major trunk sewer.

e. Population Benefit

This is a major sewer that serves to convey flow for large portion of the center core of the District.

f. Green Project Reserve

3. Project Outcomes and Outputs

This project will provide an outcome of the continuity of flow and improvement of hydraulics

The output will be approximately 65 point repairs and the cleaning of 6,500 linear ft of sewer

4. Budget Support Detail

The cost estimate for this project is $6,440,000 based upon the engineers estimate. These costs are for construction only.

Federal Funds: $3,542,000	Non-Federal Match: $2,898,000	Project Total: $6,440,000

Request for Applications

Federal Construction Grants

FY 2013-2014

District of Columbia Water and Sewer authority

5000 Overlook Ave., SW, Washington, DC 20032-5212

Organizational District: 98

Project applying for: Potomac Pumping Station Phase III

Title of Project: Potomac Pumping Station Phase III

Local Watershed: Potomac Watershed

One Paragraph project summary: This project entails replacing the existing bar screens, gate valves, actuators and controls. The projects will also replace (8) gate valves, sluice gates, and make improvements to the switch gear.

Funding amount requested: $2,332,320

Matching in kind: $1,921,584

Project Period: November 2013 - August 2015

Federal Tax ID#52-2201147

DUNS #07-6541056

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David McLaughlin, P.E., Director **Date**

Department of Engineering and Technical Services

Summary of Project and Project Information for Evaluation

Title and Description of Project

Potomac Pumping Station Phase III

This project entails replacing the existing bar screens, gate valves, actuators and controls. The project will also replace (8) gate valves, sluice gates, and make improvements to the switch gear.

1. Eligibility Threshold

The Potomac Pumping Station Intermediate project will improve reliability and efficiency of the station by replacing existing critical assets including valves, bar screens, electrical equipment and controls that were not rehabilitated under the previous projects.

Readiness to Proceed in Threshold Year

The project design was awarded on January 2011 and notice to proceed for construction is anticipated in the winter of 2013.

Rating Criteria

a. Water Quality Problem Addressed

The water quality problem addressed by this project is to improve equipment reliability required to pump untreated/uncontrolled runoff water to Blue Plains.

b. Project Category

The project includes rehabilitation of a collection system for improved operational reliability.

c. Water Quality Benefit

Ensuring the proper function of this pumping station will make certain that the station is operating at its rated capacity and the Anacostia River water quality will be protected.

d. Effectiveness of Investment

This project will restore the service life of the pumping station minimizing the need for maintenance expenses.

e. Population Benefit

As this project improves efficiency and availability of a pumping station inside of DC, this project directly benefits the residents of DC.

f. Green Project Reserve

2. Project Outcomes and Outputs

This project will provide an outcome that no additional overflows will go into the Potomac River because the pumping station will be more reliable.

The output will be (8) gate valves rehabbed, (4) new bar screens, sluice gates and improvements to the electric switch gear.

Activities will be the completed design and construction of the Potomac Pumping Station.

3. Budget Support Detail

The cost estimate for this project is $10,320,000 based upon the engineers estimate. These costs are for construction only.

Federal Funds: $2,332,320	Non-federal Match: $1,921,584	Project Total: $10,320,000

Request for Applications

Federal Construction Grants

FY 2013-2014

District of Columbia Water and Sewer Authority

5000 Overlook Ave., SW, Washington, DC 20032-5212

Organizational District: 98

Project applying for: Main and O St. Pumping Station Intermediate Upgrade

Title of Project: Main and O St. Pumping Station Intermediate Upgrade

Local Watershed: Anacostia Watershed

One Paragraph project summary: This project entails construction of replacing the existing storm pumps, motors and controls, and discharge flap gates on the six storm water pumps. The project will also replace a sanitary bar screen, sluice gates and gate valves.

Funding amount requested: **$** 2,883,760

Matching in kind: **$**2,375,912

Project Period: April 2014 - August 2016

Federal Tax ID#52-2201147

DUNS #07-6541056

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David McLaughlin, P.E., Director **Date**

Department of Engineering and Technical Services

Summary of Project and Project Information for Evaluation

Title and Description of Project

Main and O St. Pumping Station Intermediate

This project entails replacement of the existing storm pumps, motors and controls, and discharge flap gates on the six storm water pumps. The project will also replace a sanitary bar screen, sluice gates and gate valves.

1. Eligibility Threshold

The Main and O ST Pumping Station Intermediate upgrade project will improve reliability and efficiency of the station by replacing existing critical assets including pumps, valves, bar screens, electrical equipment and controls that were not rehabilitated under the previous projects.

2. Readiness to Proceed in Threshold Year

The project design will be awarded on March 2011 and notice to proceed for construction is anticipated in the spring of 2014.

Rating Criteria

a. Water Quality Problem Addressed

The water quality problem addressed by this project is to improve equipment reliability required to pump untreated/uncontrolled runoff water to Blue Plains.

b. Project Category

The project includes rehabilitation of a collection system for improved operational reliability.

c. Water Quality Benefit

Ensuring the proper function of this pumping station will make certain that the station is operating at its rated capacity and the Anacostia River water quality will be protected.

d. Effectiveness of Investment

This project will restore the service life of the pumping station to minimize the need for maintenance expenses.

e. Population Benefit

The Main Pumping Station serves approximately 1/4 of all the residents of the District of Columbia (~150,000 people). The high efficient use of the Main Pumping Station results in a lack overflows to the Anacostia River.

f. Green Project Reserve

3. Project Outcomes and Outputs

This project will provide an outcome that no additional overflows will go into the Anacostia River because the pumping station will be more reliable.

The output will be replacing (6) storm pumps, motors and controls, and discharge flap gates on the six storm water pumps. .

Activities will be the complete design and construction of the Main and O St. Pumping Stations.

4. Budget Support Detail

The cost estimate for this project is $12,760,000 based on the engineer's estimate. These costs are for construction only.

Federal funds: $2,883,760	Non Federal Match: $2,375,912	Project Total: $12,760,000

Request for Applications
Federal Construction Grants
FY 2013-2014

District of Columbia Water and Sewer Authority
5000 Overlook Ave., SW, Washington, DC 20032-5212

Organizational District: 98

Project applying for: East Side Interceptor Inside the Arboretum

Title of Project: National Arboretum Sewer Rehabilitation

Local Watershed: Hickey Run

One Paragraph project summary: This project will rehabilitate or replace the entire public sanitary sewer infrastructure inside the United States National Arboretum to structurally repair and reduce inflow and infiltration. Project also addresses the permanent repair of the failed East Side Interceptor (ESI) sanitary sewer adjacent to Hickey Run in the National Arboretum that occurred on June 3, 2009.

Funding amount requested: $4,682,020

Matching in Kind: $3,830,744

Project Period: March 2014 to September 2015

Federal Tax ID #52-2201147

DUNS # 07-6541056

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8/13/12
Date

Summary of Project and Project Information for Evaluation

Title and Description of Project

National Arboretum Sewer Rehabilitation

This project will rehabilitate or replace the entire public sanitary sewer infrastructure inside the United States National Arboretum to structurally repair and reduce inflow and infiltration. Project also addresses the permanent repair of the failed East Side Interceptor (ESI) sanitary sewer adjacent to Hickey Run in the National Arboretum that occurred on June 3, 2009. The permanent repair of the East Side Interceptor will restore the service life of the infrastructure over and adjacent to Hickey Run.

1. Eligibility Threshold

Rehabilitation of the ESI will reduce potential future failures and resulting discharge while reducing inflow and infiltration.

2. Readiness to Proceed in Threshold Year

Design for this project is underway and the construction contract will be publicly bid in Winter 2014.

Rating Criteria

a. Water Quality Problem Addressed

By rehabilitating or replacing all sanitary sewers that serve or traverse across the National Arboretum, this project will address two problems that adversely affect water quality – 1) the project corrects the impaired performance of the sanitary collection system and 2) the project corrects the excessive infiltration and inflow that enters the sanitary collection system on National Arboretum property.

b. Project Category

This project provides multiple-use benefit for the property. Due to the sensitive nature of the property (the National Arboretum), the sewers on the property would be rehabilitated in a trenchless manner that would be as least disruptive as possible. Sewers on the property that cannot be rehabilitated and need to be replaced are aligned (realigned from current alignment) to increase ecological use of the property as the National Arboretum. As all the sanitary sewers in the National Arboretum would be replaced or rehabilitated, the replacement or rehabilitation of the collection system improves operational reliability.

c. Water Quality Benefit

Hickey Run is currently regulated by a TMDL for pathogens, and the waterway is on the 303 d list as high priority. In 1998, the Unified Watershed Assessment was performed for Hickey Run and qualified Hickey

Run as a Category 1 watershed. Downstream, Hickey Run discharges into the Anacostia River. This project protects Hickey Run from future exposure to sanitary sewer collapses in the National Arboretum, the property surrounding Hickey Run.

d. Effectiveness of Investment

This project will permanently resolve the non-compliance from the sanitary sewer discharge (collapse of the East Side Interceptor) into Hickey Run and eliminate significant I / I from the collection system.

e. Population Benefit

As this project is inside DC and impacts a local watershed (Hickey Run), this project directly benefits the residents of DC.

f. Green Project Reserve

Due to the excessive I / I that would be eliminated from the system, a business case could be made for the energy savings at Blue Plains WWTP from the reduction of sewage treated.

4. **Project Outcomes and Outputs**

This project will provide an outcome that is the least disruptive rehabilitation of a major sewer in the very sensitive environment. It also provides for restoring all the DC Water sewers inside the Arboretum.

It will provide an output of sewer lines; 5000 feet of 51 inch diameter, 1,700 feet of 15 inch diameter and 1,500 feet of 10 inch diameter, that is free of structural defects, has reduced infiltration and reduces the amount of flow that must be treated at Blue Plains.

5. Budget Support Detail

The cost estimate for this project is $8,512,764 based upon the engineer's estimate. These costs are for construction only.

Federal funds: $4,682,020	Non federal match: $3,830,744	Project Total: $8,512,764

Request for Applications
Federal Construction Grants
FY 2013-2014

District of Columbia Water and Sewer Authority
5000 Overlook Ave., SW, Washington, DC 20032-5212

Organizational District: 98

Project applying for: B Street / New Jersey Avenue Trunk Sewer Rehabilitation

Title of Project: B Street / New Jersey Avenue Trunk Sewer Rehabilitation

Local Watershed: Anacostia, Rock Creek and Potomac Rivers.

One Paragraph project summary:
This project will rehabilitate approximately 17,000 linear feet of the B Street /New Jersey Avenue Trunk Sewer to reduce inflow and infiltration.

Funding amount requested: $957,720

Matching in Kind: $789,060

Project Period: August 2013 to August 2014

Federal Tax ID #52-2201147

DUNS # 07-6541056

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8/13/12
Date

Summary of Project and Project Information for Evaluation

Title and Description of Project

B Street / New Jersey Avenue Trunk Sewer Rehabilitation

This project will rehabilitate approximately 17,000 linear feet of the B Street /New Jersey Avenue Trunk Sewer to reduce inflow and infiltration. The B Street / New Jersey Avenue Trunk Sewer is a combined sewer that serves the area from the White House, National Mall, the US Capital and portions of South East DC that experiences high levels of inflow and infiltration.

1. Eligibility Threshold

The rehabilitation of the B Street / New Jersey Avenue Trunk Sewer will significantly reduce inflow and infiltration.

2. Readiness to Proceed in Threshold Year

Condition Assessment for this project is underway and the construction contract will be publicly bid in summer of 2014.

Rating Criteria

a. Water Quality Problem Addressed

Rehabilitating this major combined sewer will prevent excessive infiltration and inflow in the combined sewer as well as reducing the possibility of a sewer discharge.

b. Project Category

This project will rehabilitate a major interceptor for the collection system in order to improve operational reliability.

c. Water Quality Benefit

Inspection and rehabilitation of the sewer will help prevent discharge of sewage.

d. Effectiveness of Investment

This project will prolong the useful life of the sewer main.

e. Population Benefit

As this project is inside DC and affects CSOs on the Anacostia and Potomac Rivers, this project directly benefits the residents of DC. It also has a benefit to the public in terms of safety since it is located under major roadways and could be a safety hazard if it is not rehabilitated and collapses.

f. Green Project Reserve

Due to the excessive I / I that would be eliminated from the system, a business case could be made for the energy savings at Blue Plains WWTP from the reduction of sewage treated.

3. **Project Outcomes and Outputs**

This project will rehabilitate approximately 17,000 linear feet of the B Street /New Jersey Avenue Trunk Sewer to reduce inflow and infiltration. Infiltration and flow will be alleviated in a high profile and hydraulically critical sewer serving the area from the White House, National Mall, the US Capital and portions of South East DC. The rehabilitation will also provide a measure of reassurance from a safety viewpoint since the consequences of pipe failure under a busy street can be dangerous.

4. Budget Support Detail

The cost estimate for this project is $4,237,700 based on the engineers estimated. These costs are for construction only.

Federal funds: $957,720	Non-federal match: $789,060	Project Total: $4,237,700

Request for Applications
Federal Construction Grants
FY 2013-2014

District of Columbia Water and Sewer Authority
5000 Overlook Ave, SW Washington, DC 20032-5212

Organizational District: 98

Project applying for: Rehabilitation of the Lower East Side Interceptor

Title of Project: Rehabilitation of the Lower East Side Interceptor

Local Watershed: Anacostia Watershed

One Paragraph project summary: This project will rehabilitate the lower east side interceptor. The pipe is approximately 15,385 linear feet long with a 72 inch diameter. The project is located between the East Capitol Street near the RFK stadium in SE and end at the Main pumping station on O St in SE.

Funding amount requested: $3,410,000

Matching in Kind: $2,790,000

Project Period: September 2014 to November 2015

Federal Tax ID #52-2201147

DUNS # 07-6541056

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8/13/12
Date

Summary of Project and Project Information for Evaluation

Title and Description of Project

Rehabilitation of the Lower East Side Interceptor

This project will rehabilitate the lower east side interceptor. The pipe is approximately 15,385 linear feet long with a 72 inch diameter. The project is located between the East Capitol Street near the RFK stadium in SE and end at the Main pumping station on O St in SE.

1. Eligibility Threshold

The rehabilitation of the lower east side interceptor will restore the operational reliability of this major sewer interceptor.

2. Readiness to Proceed in Threshold Year

Design for this project will began in summer 2013 and the construction contract will be publicly bid in summer 2014.

Rating Criteria

a. Water Quality Problem Addressed

By rehabilitating this major combined sewer interceptor, this project will correct the impaired performance of the combined sewer collection system.

b. Project Category

This project will rehabilitate a major combined interceptor for the collection system in order to improve the operational reliability.

c. Water Quality Benefit

This sewer is in the Anacostia river watershed, therefore, ensuring the proper functioning of this major sewer interceptor will assure that the water quality will be protected.

d. Effectiveness of Investment

This project will restore this asset to a long service life minimizing the need for maintenance expenses.

e. Population Benefit

As this project is located inside the District boundary, it will directly benefit the residents of DC.

f. Green Project Reserve

3. Project Outcomes and Outputs

This project will provide an outcome that is the least disruptive rehabilitation of a major combined sewer interceptor in a very high visibility and traffic location.

It will provide an output of 15,735 feet of combined sewer interceptor that is free of structural defects, has reduced infiltration and reduces the amount of flow that must be treated at Blue Plains.

4. Budget Support Detail

The cost estimate for this project is $6,200,000 based upon the engineer's estimate. These costs are for construction only.

Federal funds: $3,410,000	Non federal match: $2,790,000	Project Total: $6,200,000

DISTRICT
DEPARTMENT
OF THE
ENVIRONMENT

CERTIFICATONS

Regarding Lobbying; Debarment, Suspension and Other Responsibility Matters; and Drug-Free Workplace Requirements

Applicants should refer to the regulations cited below to determine the certification to which they are required to attest. Applicants should also review the instructions for certification included in the regulations before completing this form. Signature of this form provides for compliance with certification requirements under 28 CFR Part 69, "New Restrictions on Lobbying" and 28 CFR Part 67, "Government-wide Debarment and Suspension (Non-procurement) and Government-wide requirements for Drug-free Workplace (Grants)". The certifications shall be treated as a material representation of fact.

1. Lobbying

   As required by Section 1352, title 31 of the U.S. Code. And implemented at 28 CFR Part 69, for persons entering into a grant or cooperative agreement over $100,000, as defined at 28 CFR Part 69, the applicant certifies that:

   A. No Federally appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress; an officer or employee of Congress, or an employee of a Member of Congress connection with the making of any Federal grant, the entering into any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal grant 01 cooperative agreement;

   B. If any funds other than Federally appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of a Member of Congress in connection with this Federal grant or cooperative agreement, the undersigned shall complete and submit Standard Form –III, "Disclosure of Lobbying Activities," in accordance with its instructions;

C. The undersigned shall require that the language of this certification be included in the award documents for all sub awards at all tiers including subgrants, contracts under grants and cooperative agreements, and subcontracts, and that all sub-recipients shall certify and disclose accordingly.

2. Debarment, Suspension, And Other Responsibility Matters (Direct Recipient)

As required by Executive Order 12549, Debarment and Suspension, and implemented at 28 CFR Part 67, for prospective participants in primary covered transactions, as defined at 28 CFR Part 67, Section 67.510-

A. The applicant certifies that it and its principals:

1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, sentenced to a denial of Federal benefits by a State or Federal court, or voluntarily, excluded from covered transactions by any Federal department or agency;

2) Have not within a three-year period preceding this application been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public Federal, State, or local) transaction or contract under a public transaction; violation Federal or State antitrust statues or commission of embezzlement, theft, forgery, Bribery, falsification or destruction of records, making false statements, or receiving Stolen property;

3) Are not presently indicated for or otherwise criminally or civilly charged by a governmental entity (Federal, State, or local with commission of any of the offenses enumerated in paragraph (l)(b) of this certification; and

4) Have not within a three-year period preceding this application had one or more public transactions (Federal, State, or local) terminated for cause or default; and

B. Where the applicant is unable to certify to any of the statements in this certification, he or she shall attach an explanation to this application.

3. Drug-Free Workplace (Grantees Other Than Individuals)

As required by the Drug Free Workplace Act of 1988, and implemented at 28 CFR Part 67, Subpart F. for grantees, as defined at 28 CFR Part 67 Sections 67.615 and 67.620-

A. The applicant certifies that it will or will continue to provide a drug-free work place by:

1) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the applicant's workplace and specifying the actions that will be taken against employees for violation of such prohibition;

2) Establishing an on-going drug-free awareness program to inform employee's about- any available drug counseling, rehabilitation, and employee assistance programs; and the penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;

3) Making it a requirement that each employee to be engaged in the performance of the grant be given a copy of the statement required by paragraph (a);

4) Notifying the employee in the statement required by paragraph (a) that, as a condition of employment under the grant, the employee will-

   a) Abide by the terms of the statement; and

   b) Notify the employer in writing of his or her conviction for a violation of criminal drug statue occurring in the workplace no later than five calendar days after such conviction; and

5) Notifying the agency, in writing, within 10 calendar days after receiving notice under subparagraph (d)(2) from an employee or otherwise receiving actual notice of such conviction. Employers of convicted employees must provide notice, including position title to: Chief of Grants Management, 1200 First St., NE, 5th Floor, Washington, DC 20002. Notice shall include the identification number(s) of each effected grant;

6) Taking one of the following actions, within 30 calendar days of receiving notice under subparagraph (d)(2), with respect to any employee who is so convicted-

   a) Taking appropriate personnel action against such an employee, up to and incising termination, consistent with the requirements of the Rehabilitation Act of 1973, as amended; or

   b) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency;

c) Making a good faith effort to continue to maintain a drug-free work place through implementation of paragraphs (a), (l), (c), (d), (e), and (1).

B. The applicant may insert in the space provided below the sites for the performance of work done in connection with the specific grant:

1) Place of Performance (Street address, city, county, state, zip code)

2) Drug-Free Workplace (Grantees who are Individuals)

C. As a condition of the grant, I certify that I will not engage in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance in conducting any activity with the grant; and

D. If convicted of a criminal drug offense resulting from a violation occurring during the conduct of any grant activity, I will report the conviction, in writing, within 10 calendar days of the conviction, to:

District Department of the Environment
1200 First Street, NE 5th Floor
Washington, DC 20002

As the duly appointed representative of the applicant, I hereby certify that the applicant will comply with the above certifications.

District of Columbia Water and Sewer Authority
5000 Overlook Ave., SW, Washington, DC 20032

1. Grantee Name and Address

FY 13and14 Clean Water PPL

2. Project Name

David McLaughlin, P.E., Director
Department of Engineering and Technical Services

3. Typed Name and Title of Authorized Representative

D. McLaughlin

4. Signature

8/13/12

5. Date

DISTRICT DEPARTMENT OF THE ENVIRONMENT

ASSURANCES

The applicant hereby assures and certifies compliance with all federal statutes, regulations, policies, guidelines and requirements, including OMB Circulars No. A-21, A-110, A-122, A-128, A-87; E.O. 12372 and Uniform Administrative Requirements for Grants and Cooperative Agreements 28 CFR, Part 66, Common Rule, that governs the application, acceptance and use of Federal funds for this federally-assisted project.

Also, the Application assures and certifies that:

1. It possesses legal authority to apply for the grant; that a resolution, motion or similar action has been duly adopted or passed as an official act of the applicant's governing body, authorizing the filing of the application, including all understandings and assurances contained therein, and directing and authorizing the person identified as the official representative of the applicant to act in connection with the application and to provide such additional information as may be required.

2. I will comply with requirements of the provisions of the Uniform Relocation Assistance and Real Property Acquisitions Act of 1970, PL 91-646, which provides for fair and equitable treatment of persons displaced as a result of Federal and federally-assisted programs.

3. It will comply with provisions of Federal law which limit certain political activities of employees of a State or local unit of government whose principal employment is in connection with an activity financed in whole or in part by Federal grants. (5 USC 1501, et. (Seq.).

4. It will comply with the minimum wage and maximum hours provisions of the Federal Fair Labor Standards Act if applicable.

5. It will establish safeguards to prohibit employees from using their positions for purpose that is or gives the appearance of being motivated by a desire for private gain for themselves or others, particularly those with whom they have family, business, or other ties.

6. It will give the sponsoring agency of the Comptroller General, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the grant.

7. It will comply with all requirements imposed by the Federal-sponsoring agency concerning special requirements of Law, program requirements, and other administrative requirements.

8. It will comply with the flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973, Public Law 93-234, 87 Stat. 975, approved December 31, 1976. Section 102(a) requires, on and after March 2, 1975, the purchase of flood insurance in communities where such insurance is available as a condition for the receipt of any Federal financial assistance for construction or acquisition purposes for use in any area that has been identified by the Secretary of the Department of Housing and Urban Development as an area having special flood hazards. The phrase "Federal Financial Assistance" includes any form of loan, grant guaranty, insurance payment, rebate, subsidy, disaster assistance loan or grant, or any other form of direct or indirect Federal assistance.

9. It will assist the Federal grantor agency in compliance with Section 106 of the National Historic Preservation Act of 1966 as amended (16 USC 470), Executive Order 11593, and the Archeological and Historical Preservation Act of 1966 (16 USC 569a-1 et. seq.), by (a) consulting with the State Historic Preservation Officer on the conduct of investigations, as necessary, to identify properties listed in or eligible for inclusion in the National Register of Historic Places that are subject to adverse effects (see 36 CFR Part 800.8) by the activity, and notifying the Federal grantor agency of the existence of any such properties and by (b) complying with all requirements established by the Federal grantor agency to avoid or mitigate adverse effects upon such properties.

10. It will comply with the provisions of 28 CFR applicable to grants and cooperative agreements, including Part 18. Administrative Review Procedure, Part 22; Confidentiality of Identifiable Research and Statistical Information; Part 42, Nondiscrimination/ Equal Employment Opportunity Policies and Procedures; Part 61, Procedures; Part 61, Procedures, for Implementing the National Environmental Policy Act; Part 63, Floodplain Management and Wetland Protection Procedures; and Federal laws or regulations applicable to Federal Assistance Programs.

11. It will comply, and all its contractors will comply with Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973, as amended; Section 504 of the Rehabilitation Act of 1973, as amended; Subtitle A, Title III of the Americans with Disabilities Act (ADA) (1990); Title IIX of the Education Amendments of 1972 and the Age Discrimination Act of 1975.

12. In the event a Federal or State court or Federal or State administrative agency makes a finding of discrimination after a due process hearing on the grounds of race, color, religion, national origin, sex, or disability against a recipient of funds, the recipient will forward a copy of the finding to the Office for Civil Rights, U.S. Department of Justice

13. It will provide an Equal Employment Opportunity Program if required to maintain one, where the application is for $500,000 or more.

14. It will comply with the provisions of the Coastal Barrier Resources Act (P.L 97-348) dated October 19, 1982, 16 USC 3501 et. seq., which prohibits the expenditure of most new Federal funds within the units of the Coastal Barrier System.

D. McLaughlin
Signature

8/13/12
Date

DISTRICT DEPARTMENT OF THE ENVIRONMENT (DDOE)
1200 1st St. NE 5th Flr.
Washington, DC 20002

Congressional District: 0

Project: To install upland LID and restore in-stream features of the Texas Ave. tributary of the Anacostia River

Project Title: Alger Park Upland LID and Stream Restoration Project

Watershed: Anacostia (Texas Ave. Tributary)

Summary: The project will entail the designs and implementation of a comprehensive approach to a small watershed restoration. Project components will include a suite of upland LID projects which will slow, retain, and filter stormwater before it enters the Texas Ave. tributary's reach which lies within Alger Park. Hill slopes within the park will be stabilized to protect the tree canopy and reduce hillside erosion. The final component of the project will involve a comprehensive stream restoration project to reduce in-stream bank erosion while restoring habitat features and improving water quality.

Funding Amount Requested: **$2,600,000**

Matching/In-Kind Amount: **$2,550,000**

Project Period: **FY13-FY14**

Federal Tax Identification Number: **53-6001131**

DUNS: **780986563**

Contact Person: Josh Burch
Environmental Protection Specialist, Watershed Protection Division
District Department of the Environment (DDOE)
1200 First Street, NE, 5th Floor
Washington, DC 20002
202-535-2247
josh.burch@dc.gov

Authorized Representative: **Sheila Besse**
Associate Director, Watershed Protection Division, DDOE

Signature: Sheila A. Besse **Date:** 8/13/12

-Project Information Submitted-

PROJECT SUMMARY: Alger Park is located in Southeast Washington, DC and lies to the north and east of Hillcrest Drive. The park is home to a 1300 foot stretch of stream making up one of the two headwater streams of the Texas Ave. tributary of the Anacostia River. The park has an area of approximately seven acres and is a steeply sloped forested area. The small ephemeral stream lies in the park but is subject to flash flood events due to the 23-acre sewershed that drains into the park space. The District estimates that roughly nine acres (41%) of the watershed is impervious, most of which is single family homes and roadways. The Christiana soils in the park are subject to high rates of erosion. Subsequently, the high velocity stormwater flows entering the stream channel have caused a large volume of erosion and created highly unstable stream banks. DDOE plans to undertake a comprehensive watershed restoration project to improve water quality, enhance in-stream and riparian habitat conditions, stabilize hillsides in the valley and enhance its vegetative cover.

DDOE is presently issuing a Request for Proposals (RFP) for two sets of 30% (conceptual) designs for upland LID work (to retro fit 50% of the sub-watershed's impervious area), hillside stabilization work, and in-stream channel restoration work. Upon completion of the conceptual designs DDOE will select the suite of restoration alternatives presented most amenable to long-term goals toward delisting the Texas Ave. DDOE will then follow a design-bid-build sequence to execute the 100% designs and the subsequent implementation of the overall Alger Park restoration project. This comprehensive approach to a subwatershed restoration would deal with stormwater in the upland areas, hillside stabilization and canopy preservation, and then focus on in-stream restoration efforts.

This project when completed will provide a valuable example of how urban areas can model future subwatershed restoration projects by addressing upland and in-stream problems within the same project's scope. Long-term this project will improve water quality in the Texas Ave. tributary, enhance habitat areas for aquatic and terrestrial species and will provide recreational trails for area residents. This restoration project will further the District's efforts to de-list the Texas Ave. tributary from the EPAs 303-d list of polluted water bodies.

CWSRF ELIGIBILITY

In order for a project to be eligible to receive CWSRF funding, it must meet several decision criteria set forth by EPA. The Alger Park Upland LID and Stream Restoration project will prevent and remediate nonpoint source pollution on public lands by both reducing the volume and velocity of stormwater reaching the stream and removing nitrogen, phosphorus and sediment. The design and construction of this capital water quality project will both protect and improve the water quality of the Texas Ave. tributary and ultimately the Anacostia River. According to the decision criteria, the Alger Park Restoration project is eligible to receive CWSRF funding.

GREEN PROJECT RESERVE (GPR) COMPLIANCE

A GPR project must meet the definition of one of the four GPR categories, which are (1) green infrastructure, (2) water efficiency, (3) energy efficiency and (4) environmentally innovative. The Alger

Park Restoration project meets the definition of green infrastructure, as stated in the CWSRF GPR guidance issued by EPA on April 21, 2010, which includes "a wide array of practices at multiple scales that manage wet weather and that maintain and restore natural hydrology by infiltration, evapotranspiring and harvesting and using stormwater." Specifically, the project meets the following criteria for Categorical Projects:

- Section 1.2-1: Implementation of green streets and/or bioretention cells;
- Section 1.2-3: Implementation of a project for the expansion of urban forests;
- Section 1.2-6: Comprehensive retrofitting to keep stormwater out of the stormsewer system which drains into Alger Park
- Section 1.2-7: Restoration of stream banks through bioengineering.

PROJECT LOCATION (CSO OR MS4)

The Alger Park Restoration project is located in the MS4 area of the District.

ENVIRONMENTAL GOALS SUPPORT

The environmental goals set forth in the PPL required information summary are:

1. Specific TMDL implementation plan (will project implementation contribute to the delisting District waterbody or waterbodies TMDL efficiency (organics, metals, others));
2. Enhanced impervious area retrofit (will project result in 1.2" volume storage);
3. Enhanced green roof coverage (will project result in 1.2" volume storage);
4. Chesapeake Bay Program goals (will project implementation assist the District in meeting its CBP TMDL goals-TMDL efficiency (N, P, TSS));
5. CSS overflow event remediation (will project focus on volume storage or a specific sewershed);
6. Climate Action Plan (will project address the Climate Action Plan (i.e., water efficiency/energy/air quality indicators).

The Alger Park Restoration project is part of a larger group of projects listed on the Anacostia Watershed Implementation Plan, which addresses TMDLs in the watershed. In order to calculate the annual efficiencies for N, P, and TSS for a stream restoration project, the general method used is to multiply the length restored by 0.02 lbs N/ft/year, 0.0035 lbs P/ft/year, and 2.55 lbs TSS/ft/year. Since approximately 2600 feet of the stream in Alger Park (1300 foot stream length but the CBP load reduction calculator counts the left and right banks independently) is to be restored, the project will result in efficiencies of 52 lbs N/year, 9.1 lbs P/year, and 6,630 lbs TSS/year using Chesapeake Bay Program numbers just for the stream restoration component of the project alone. These calculations are on the low side of the anticipated reductions. First, a major component of the project will be upland LID work which will filter pollutants from nearby roadways thus giving added load reductions. Because the stream channel is extremely incised and the sandy stream banks have a much higher rate of erosion than the Spring Branch stream project where the load reductions were calculated from.

By aiming to retrofit 50% of the impervious cover in the watershed DDOE can achieve significant reductions (using Center for Watershed Protection's Draft BMP calculator) by retrofitting 4.5 acres of impervious area in the subwatershed and by designing LID to the 1.2" storm. The below table is an example of the types of reductions that could be achieved:

Pollutant	**Practice & Treatment Area**	**Practice & Treatment Area**	**Practice & Treatment Area**	**Total Site Reductions**
	BioRetention-75,000sq. ft.	*Permeable Pavement-46,020sq. ft.*	*Dry Swale-75,000sq. ft.*	*196,020 sq. ft.*
Total Run-Off Reduction	2231 cubic feet	2510 cubic feet	2231 cubic feet	6,972 cubic feet
Total Phosphorus	0.33lbs/yr	0.36lbs/yr	0.36lbs/yr	1.02lbs/yr
Total Nitrogen	2.82lbs/yr	2.69lbs/yr	2.82lbs/yr	8.33lbs/yr
Total Suspended Solids	71.00lbs/yr	83.75lbs/yr	76.77lbs/yr	231.52lbs/yr

During the design phase of this project DDOE will have a better sense and ability to calculate the pollutant load reductions achieved from LID installation in this project. Alger Park is part of the Texas Avenue tributary to the Anacostia River, and this restoration project will assist the District in meeting its Chesapeake Bay Program TMDL goals.

COST BENEFIT

DDOE at present time cannot accurately estimate the cost per load reduction for this project since the upland LID work has yet to be designed and the respective drainage areas to be treated have not been identified. Upon completion of the 30% conceptual designs in 2013 DDOE will have a more precise estimate for the cost benefits of load reductions per BMP.

The construction cost of the restoration project is approximately $5,150,000. At present DDOE is utilizing Bag Bill funds to develop 30% designs for the project. Following the 30% designs DDOE will move to develop full plan sets in partnership with other District agencies to pool resources to address the massive erosion in Alger Park. DDOE is seeking funding through the SRF to initiate a design-bid-build project for upland LID work, hill stabilization, and in-stream restoration work. By integrating all three major components into a design-bid-build project DDOE anticipates that it will provide significant time and cost savings. Upon completion of the designs DDOE will embark upon one large project creating savings and efficiencies by minimizing mobilization costs and by having one primary contractor working on the multiple facets of this project in a sequential order.

PROJECT FEASIBILITY

According to the PPL required information, the project should be implemented within four (4) months of

being listed on the PPL list. Specifically, the project sponsor should demonstrate the following:

Ownership – Owner is applicant

The area of the Alger Park Restoration project is located on District-owned property (Department of Parks and Recreation (DPR)) that is managed by the Department of General Services (DGS) as well as public right-of-way property owned and managed by the District Department of Transportation (DDOT). If this project is funded, a memorandum of understanding will be executed between DDOE, DPR, DGS, and DDOT.

Timeline identified – Design exists/construction phases identified

DDOE in the coming weeks will be soliciting proposals for a design team to execute 30% designs for the project to explore potential for upland LID work and in-stream restoration work. After reviewing and selecting the preferred of two 30% design options DDOE will issue a request for proposals for full designs then for full construction for the Alger Park Restoration project.

Engineer/permit reviewer input – Concept plan/stamped drawing/permits obtained

DDOE-WPD engineers/reviewers will meet with the designer after the 30%, 60%, and 90% design submittals to review the plans and offer comments.

Organization/agency has successfully completed and maintained a green infrastructure project – testimonials, photos, press, etc.

DDOE-WPD received nearly $14,000,000 in ARRA funds through CWSRF in FY2010 and committed all to green infrastructure projects, including green roofs, green alleys, impervious surface removal, regenerative stormwater conveyance systems, and other LID installations.

Individual and team experience is evident in technical and organizational management of the project – Resumes, firm qualifications, past project descriptions, etc.

The Alger Park Restoration project will be solicited to qualified firms with experience in the design and construction of steam restoration, hillside stabilization, and low impact development projects. All submissions will be reviewed by a team of professionals with expert knowledge in the aforementioned fields for design and construction, and the project itself will be managed by equally-qualified DDOE-WPD staff.

Experience working with District or Federal Government agencies and funding and in multi-stakeholder settings – Past project descriptions

Given that DDOE-WPD is itself a District agency, it has a long history of working with other District and Federal agencies, as well as with non-profit organizations, community groups, and educators. Following are a few examples of such partnerships:

<u>Bingham Run and Milkhouse Ford Regenerative Conveyance Projects</u>
In 2011, DDOE restored two storm water fed tributaries of Rock Creek using regenerative stormwater conveyances (RSC), also known as a coastal plain outfalls. An RSC is a specialized type of low impact

development technique that uses stream restoration techniques to create a dependable open channel conveyance with pools and riffle-weir grade controls to create a system of physical features, chemical processes, and biological mechanisms that greatly reduce erosive forces and positively impact the ecology of a drainage area. The RSC installations will reduce erosion and decrease pollutants reaching Rock Creek by slowing down and infiltrating stormwater runoff from Oregon Avenue.

These projects were a unique partnership between the District and the National Park Service (NPS) to control stormwater from District lands while restoring intermittent streams on NPS land.

Watts Branch Stream Restoration Project

The District Department of the Environment, the U.S. Fish and Wildlife Service and USDA-NRCS restored a 1.7 mile stretch of Watts Branch from Southern Avenue to Minnesota Avenue NE. The project will reduce stream bank erosion, improve water quality, and restore aquatic habitat. Stream restoration has reshaped the channel to reduce channel erosion, created pools and riffles to support aquatic life, and reestablished streamside vegetation. Stream restoration was one part of a multi-agency, collaborative effort to improve water quality of the Watts Branch watershed and the Anacostia River. Other projects included rehabilitating sanitary sewers, constructing stormwater management facilities, and reducing the amount of stormwater runoff from impervious areas.

INNOVATIVENESS

Alger Park sits in a relatively confined subwatershed presenting the District, through this project, a unique opportunity to maximize our impact on improving this small watershed. While the District has undertaken stream restoration and LID projects in the past this project would be a first doing both at the same time to maximize the reduction in velocity and volume of stormwater entering a stream valley while also restoring the stream itself. Because of the unique location of Alger Park and the surrounding topography the Alger Park Restoration project will have a significant impact toward delisting Texas Ave from the District's list of impaired water bodies.

PROJECT ACTIVITIES, OUTCOMES, AND OUTPUTS:

- Activities:
  - Community meetings for the 30% designs and presentation of the 30% final designs
  - Community meetings for the finalization of the 100% designs
  - Both 30% and 100% design finalization including all appropriate local and federal permits with associated local and federal permits
  - Low Impact Development installation in the upland area of the subwatershed
  - Hillside slope stabilization in the park area adjacent to the stream
  - In-channel stream restoration work
- Outcomes:
  - Reduced volume and velocity of storm water entering into the stream channel
  - Reduced pollutant load entering the stream channel
  - Reduction of 52 lbs N/year, 9.1 lbs P/year, and 6,630 lbs TSS/year from stream restoration portion of project
  - Estimated reduction of P of 1.02lbs/yr., N of 8.33lbs/yr., and TSS of 231.52 lbs/yr. through LID installations
- Outputs:

- LID treatment and capture of impervious surface run-off in the upland areas of the subwatershed
- 4.5 acres of impervious area retrofitted with LID
- Restoration of 1300 linear feet of highly incised urban stream
- Creation of 1300 linear feet of in-stream habitat areas
- Stabilization and vegetation of 5 acres of sloped upland and riparian forest

BUDGET:

Item	Request	Local Match	Total Costs
30% Designs	$0.00	$100,000.00	$100,000.00
100% Designs	$50,000.00	$200,000.00	$250,000.00
LID Implementation	$500,000.00	$500,000.00	$1,000,000.00
Hillside Stabilization	$100,000.00	$100,000.00	$200,000.00
Stream Restoration	$1,950,000.00	$1,650,000.00	$3,600,000.00
Total:	$2,600,000.00	$2,550,000.00	$5,150,000.00

BUDGET NARRATIVE:

- 30% Designs- DDOE is presently using local funds to develop two sets of 30% (conceptual) designs for this project. Following the completion of the conceptual designs DDOE will select optimal options and move forward to request proposals for 100% designs.
- 100% Designs- DDOE expects designs to run around $250,000 for the various components of the project.
- LID Implementation- In order to best protect the park and stream valley DDOE in partnership with DDOT will implement a suite of LID projects in the sewershed that drain into Alger Park to slow, capture, and filter stormwater before it enters the stream valley
- Hillside Stabilization- The park area surrounding the stream is a steeply sloped forested area that in some areas, due to upland stormwater run-off is highly susceptible to high rates of erosion causing considerable large canopy tree loss. A key component of this project is to stabilize the slopes in a manner which will stabilize the slopes while ensuring the protection of the tree canopy over the park
- Stream Restoration- Due to the steeply sloped stream valley, the high volume and velocity of stormwater entering the stream valley, and the highly unstable nature of the soils has made the stream within Alger Park severely incised and disconnected from any form of floodplain. Stream restoration will involve reconnecting the stream with its floodplain by installing a series of step pools stabilized by large sandstone boulders and cobble. The regenerative stream approach, implemented successfully in other parts of the District and in other coastal plain areas, will help improve water quality, stabilize stream banks, and enhance habitat conditions through the stream reach restored.
- Total Costs- The project in total will cost an estimated $5,150,000.

DISTRICT
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CERTIFICATONS

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1. Lobbying

   As required by Section 1352, title 31 of the U.S. Code. And implemented at 28 CFR Part 69, for persons entering into a grant or cooperative agreement over $100,000, as defined at 28 CFR Part 69, the applicant certifies that:

   A. No Federally appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress; an officer or employee of Congress, or an employee of a Member of Congress connection with the making of any Federal grant, the entering into any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal grant 01 cooperative agreement;

   B. If any funds other than Federally appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of a Member of Congress in connection with this Federal grant or cooperative agreement, the undersigned shall complete and submit Standard Form –III, "Disclosure of Lobbying Activities," in accordance with its instructions;

C. The undersigned shall require that the language of this certification be included in the award documents for all sub awards at all tiers including subgrants, contracts under grants and cooperative agreements, and subcontracts, and that all sub-recipients shall certify and disclose accordingly.

2. Debarment, Suspension, And Other Responsibility Matters (Direct Recipient)

As required by Executive Order 12549, Debarment and Suspension, and implemented at 28 CFR Part 67, for prospective participants in primary covered transactions, as defined at 28 CFR Part 67, Section 67.510-

A. The applicant certifies that it and its principals:

1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, sentenced to a denial of Federal benefits by a State or Federal court, or voluntarily, excluded from covered transactions by any Federal department or agency;

2) Have not within a three-year period preceding this application been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public Federal, State, or local) transaction or contract under a public transaction; violation Federal or State antitrust statues or commission of embezzlement, theft, forgery, Bribery, falsification or destruction of records, making false statements, or receiving Stolen property;

3) Are not presently indicated for or otherwise criminally or civilly charged by a governmental entity (Federal, State, or local with commission of any of the offenses enumerated in paragraph (l)(b) of this certification; and

4) Have not within a three-year period preceding this application had one or more public transactions (Federal, State, or local) terminated for cause or default; and

B. Where the applicant is unable to certify to any of the statements in this certification, he or she shall attach an explanation to this application.

3. Drug-Free Workplace (Grantees Other Than Individuals)

As required by the Drug Free Workplace Act of 1988, and implemented at 28 CFR Part 67, Subpart F. for grantees, as defined at 28 CFR Part 67 Sections 67.615 and 67.620-

A. The applicant certifies that it will or will continue to provide a drug-free work place by:

1) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the applicant's workplace and specifying the actions that will be taken against employees for violation of such prohibition;

2) Establishing an on-going drug-free awareness program to inform employee's about- any available drug counseling, rehabilitation, and employee assistance programs; and the penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;

3) Making it a requirement that each employee to be engaged in the performance of the grant be given a copy of the statement required by paragraph (a);

4) Notifying the employee in the statement required by paragraph (a) that, as a condition of employment under the grant, the employee will-

   a) Abide by the terms of the statement; and

   b) Notify the employer in writing of his or her conviction for a violation of criminal drug statue occurring in the workplace no later than five calendar days after such conviction; and

5) Notifying the agency, in writing, within 10 calendar days after receiving notice under subparagraph (d)(2) from an employee or otherwise receiving actual notice of such conviction. Employers of convicted employees must provide notice, including position title to: Chief of Grants Management, 1200 First St., NE, 5th Floor, Washington, DC 20002. Notice shall include the identification number(s) of each effected grant;

6) Taking one of the following actions, within 30 calendar days of receiving notice under subparagraph (d)(2), with respect to any employee who is so convicted-

   a) Taking appropriate personnel action against such an employee, up to and incising termination, consistent with the requirements of the Rehabilitation Act of 1973, as amended; or

   b) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency;

c) Making a good faith effort to continue to maintain a drug-free work place through implementation of paragraphs (a), (l), (c), (d), (e), and (1).

B. The applicant may insert in the space provided below the sites for the performance of work done in connection with the specific grant:

1) Place of Performance (Street address, city, county, state, zip code)

2) Drug-Free Workplace (Grantees who are Individuals)

C. As a condition of the grant, I certify that I will not engage in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance in conducting any activity with the grant; and

D. If convicted of a criminal drug offense resulting from a violation occurring during the conduct of any grant activity, I will report the conviction, in writing, within 10 calendar days of the conviction, to:

District Department of the Environment
1200 First Street, NE 5th Floor
Washington, DC 20002

As the duly appointed representative of the applicant, I hereby certify that the applicant will comply with the above certifications.

DDOE/WPD 1200 First St - NE
Washington, DC 20002
1. Grantee Name and Address

CWSRF PPL
2. Project Name

Sheila A. Besse, Associate Director
3. Typed Name and Title of Authorized Representative

Sheila A. Besse
4. Signature

8/13/12
5. Date

GOVERNMENT OF THE DISTRICT OF COLUMBIA
DEPARTMENT OF TRANSPORTATION

d. **Infrastructure Project Management Administration**

Application for the Clean Water Act State Revolving Fund Non-Point Source Construction Grants Project Priority List

Submitting Organization: District Department of Transportation (DDOT), Infrastructure Project Management Administration (IPMA), 55 M St SE, Washington, DC 20003-3522
Congressional District: District of Columbia

Project Title: Dix Street Green Infrastructure Project

Watershed: Upper Anacostia River, MS4 Area; **Subwatershed:** Watts Branch

Project Summary:
The Dix Street Green Infrastructure Project will retrofit an urban, residential street with green infrastructure, including bioretention cells, curb bulbouts with bioretention, pervious pavers, permeable pavement, and increased tree plantings. In 2011, the District Department of the Environment (DDOE) funded Washington Parks & People (WPP) through a competitive grant award to develop a conceptual plan for a "District curb alternative". WPP designed the curb alternative for three blocks of Dix St NE, to manage a drainage area of approximately 300,000 square feet (6 acres) in size. WPP worked closely with the surrounding community in the development of their conceptual design plans, and designed their proposed retrofits to retain 1.5 inches of stormwater runoff. The practices implemented through this project will allow infiltration of stormwater runoff into groundwater and/or evapotranspiration of water through plants resulting in reduced polluted stormwater runoff from entering Watts Branch, DC's largest non-tidal tributary to the Anacostia River.

Funding Amount Requested

Total Project Construction Cost:	$1,869,542.00
Funding requested (55%):	$1,028,248.10
Matching/In-Kind amount (45%):	$841,293.90 from local Capital Funds

Project Period: May 2013-September 2015

Federal Tax Identification Number: 536001131 **DUNS number:** 002336019

Contact: Meredith Upchurch, LID Team Lead, 202-671-4663, meredith.upchurch@dc.gov

Authorized Representative

8/13/2012

Ronaldo T. Nicholson, P.E.; Deputy Director/Chief Engineer **Date**

PROJECT DESCRIPTION

The goal of this project is to retrofit an urban, residential street with green infrastructure. The practices implemented through this project will assist in reducing polluted stormwater runoff from entering Watts Branch, DC's largest non-tidal tributary to the Anacostia River. Green infrastructure practices installed as part of this project will include bioretention cells, curb bulbouts with bioretention, pervious pavers, permeable pavement, and increased tree plantings. All of these practices will be constructed to allow infiltration of stormwater runoff into groundwater and/or evapotranspiration of water through plant life into the atmosphere.

In 2011, the District Department of Environment (DDOE) funded Washington Parks & People (WPP) through a competitive grant award to develop a conceptual plan for a "curb alternative." The idea behind this grant was to look for alternative ways of managing stormwater pollution from the District's public right of way, while at the same time making significant improvements to the local community. WPP chose Dix St in NE DC, located within the Watts Branch watershed. Their proposed retrofit is approximately three blocks long, and drains an area approximately 300,000 square feet (6 acres) in size. WPP worked closely with the surrounding community in the development of their conceptual design plans, and designed their proposed retrofits to retain 1.5 inches of stormwater runoff. In compliance with its recently issued MS4 permit, the District is planning to implement a 1.2 inch retention standard by July 2013 for all new stormwater management plans approved by DDOE for redevelopment projects. Construction of this project would be going above and beyond the anticipated new requirements for stormwater management in the District.

In working with the community, WPP was also able to indentify other local improvement opportunities attributable to retrofits with green infrastructure. Examples include safer walking and biking space, increased gathering and activity space, improved parking and improved access to public transportation. All of these amenities would assist in improving the quality of life for the neighborhood's citizens. Successful implementation of this project would serve as an important demonstration project for the multiple benefits of "greening" urban infrastructure.

CWSRF ELIGIBILITY

In order for a project to be eligible to receive CWSRF funding, it must meet several decision criteria set forth by EPA. The Dix Street Green Infrastructure project will prevent and remediate nonpoint source pollution by capturing and retaining stormwater runoff from impervious surfaces in the surrounding area. A conceptual design for this project (30% design plan) has been completed for this project, and additional funding is needed for design completion and construction. Completion of this project will help ensure continual improvement in the Watts Branch watershed. Watts Branch is the largest non-tidal tributary within the District draining to the Anacostia River. In recent years, the District has invested significant resources, along with Federal and local partners, to restore the Watts Branch watershed. Most notably, construction of one of the District's first green streets was completed along

Nannie Helen Burroughs Ave in 2012, a major arterial within the Watts Branch watershed. The District also recently completed a 1.8 mile restoration of the Watts Branch stream corridor. The additional retrofits implemented by the Dix Street Green Infrastructure Project will therefore improve conditions in Watts Branch, and the Anacostia River. According to the decision criteria, the Dix Street Green Infrastructure project is eligible to receive CWSRF funding.

GREEN PROJECT RESERVE (GPR) COMPLIANCE

A GPR project must meet the definition of one of the four GPR categories, which are (1) water efficiency, (2) energy efficiency, (3) green infrastructure and (4) environmentally innovative. The Dix Street NE Green Infrastructure project meets the definition of green infrastructure, as stated in the American Recovery and Reinvestment Act Guidance, produced by the U.S. EPA Office of Water on March 2, 2009. That guidance defines green infrastructure as "a wide array of practices at multiple scales that manage and treat stormwater and that maintain and restore natural hydrology by infiltrating, evapotranspiring and capturing and using stormwater…On the local scale green infrastructure consists of site- and neighborhood-specific practices, such as bioretention, trees, green roofs, porous pavements and cisterns." Specifically, this project complies with the Green Infrastructure section of the guidance, subsection V(a), which provides examples of projects that may be funded. Example (a) supports green street projects as being eligible for funding by describing these projects as "Implementation of green streets (combinations of green infrastructure practices in transportation rights-of-ways), for either new development, redevelopment or retrofits."

PROJECT LOCATION (CSO OR MS4)

The Dix Street Green Infrastructure project is located within the MS4 area of the District in the Watts Branch subwatershed of the Anacostia River watershed.

ENVIRONMENTAL GOALS SUPPORT

The environmental goals set forth in the PPL required information summary are:

1. Specific TMDL implementation plan (will project implementation contribute to the delisting District waterbody or waterbodies TMDL efficiency (organics, metals, others);
2. Enhanced impervious area retrofit (will project result in 1.2" volume storage);
3. Enhanced green roof coverage (will project result in 1.2" volume storage);
4. Chesapeake Bay Program goals (will project implementation assist the District in meeting its CBP TMDL goals-TMDL efficiency (N, P, TSS);
5. CSS overflow event remediation (will project focus on volume storage or a specific sewershed);
6. Climate Action Plan (will project address the Climate Action Plan (i.e., water efficiency/energy/air quality indicators)?).

Successful implementation of this project will help reduce loads of pollutants to Watts Branch and the Anacostia River. Installing LID along Dix St was identified as a priority project in the Watts Branch Watershed Implementation Plan (WIP) published by the DDOE Watershed Protection Division in 2009. The Watts Branch WIP was written to assist in complying with TMDLs developed for Watts Branch. Using the EPA simple method for calculating load reductions, reductions in total nitrogen (TN), total phosphorous (TP) and total suspended solids (TSS) were calculated for the project's entire drainage area. Calculations found reductions in 0.883 lbs TN/yr , 0.132 lbs TP/yr and 35.310 lbs TSS/yr.

The Dix Street Green Infrastructure Project also qualifies as an enhanced impervious area retrofit. The goal for this project before going to conceptual design was to retain 1.5" of stormwater runoff from the catchment area. Implementation sites were chosen for construction of curb bulbout bioretention cells, off-street bioretention cells, pervious pavers, and permeable pavement. Approximately 63,072 square feet of existing impervious surface will be retrofitted with these practices. A total of approximately 300,000 square feet (six acres) of the surrounding area will drain to these practices. These practices were sized to retain 1.5" of runoff from the entire drainage area. This project will therefore exceed environmental goal number two by providing greater than 1.2" of stormwater volume retention. It is important to note that these calculations do not factor in other green enhancements to Dix Street, such as increased tree plantings. These enhancements will provide additional stormwater runoff reduction benefits.

This project will also contribute to the District's efforts in meeting Chesapeake Bay Program goals. The District has committed to significantly reduce the amount of nutrient and sediment runoff as part of its goals for the new Bay-wide TMDL. The District has served as a model jurisdiction in the bay watershed for installing green infrastructure, and this project will assist the District in following through with that enterprise.

COST BENEFIT

The cost for design completion and construction is approximately $1.87 million. The cost per gallon retained is $5.50.

PROJECT FEASIBILITY

According to the PPL required information, the project should be implemented within four (4) months of being listed on the PPL list. Specifically, the project sponsor should demonstrate the following:

Ownership – Owner is applicant

There are four governmental agencies involved in this project: District Department of Transportation (DDOT) and the District Department of Parks & Recreation (DPR). A memorandum of understanding will be executed among these agencies, which are all active stakeholders in the project.

Timeline identified – Design exists/construction phases identified

A conceptual design has been completed for the project. Attachment A displays the general layout for

the design. Full design for this project could take about nine months to complete. If a grant is awarded by January, design could start in May 2013.

Engineer/permit reviewer input – Concept plan/stamped drawing/permits obtained

DDOE staff and DDOT staff (both agencies have been represented by engineering staff) have met with the designers and approved the conceptual plans. One of the strengths of this project is that the community was given ample opportunity to provide input. This project serves as an important demonstration project showing that green infrastructure not only has environmental benefits, but can also improve the quality of life for local residents.

Organization/agency has successfully completed and maintained a green infrastructure project – testimonials, photos, press, etc. Individual and team experience is evident in technical and organizational management of the project – Resumes, firm qualifications, past project descriptions, etc.

- The DDOT Project team led by Meredith Upchurch has shown success in completing LID projects in the District with the recent completion of the Green Alleys project which was funded by CWSRF funds. DDOT is also progressing LID in the ongoing design of the RiverSmart Washington project and the development of Green Infrastructure and LID Standard Designs.
- DDOT has several green infrastructure stormwater management projects that are in design, under construction, and completed including:
    - Green Alleys Pilot projects, completed Summer 2012
    - Nannie Helen Burroughs Ave NE Green Street, completed 2012
    - Pennsylvania Ave SE bioretention areas, completed 2010 - 2011
    - Georgia Ave NW bioretention areas, completed 2011
    - Nebraska Ave Bioswales, completed 2009
    - LID Retrofits for Roadways, starting construction 2012
    - RiverSmart Washington Design Project, currently in design
    - Q St Green Alley, currently in design

Experience working with District or Federal Government agencies and funding and in multi-stakeholder settings – Past project descriptions

- DDOT has extensive work in designing and constructing projects in the District and working with DDOE, DPR, DC Water, and NPS to bring projects to completion.

INNOVATIVENESS

The conceptual design for this project was the product of a grant issued by DDOE to WPP to develop "District curb alternatives" (DCA). DDOE was looking for innovative ways to handle stormwater runoff from the District's public right-of-way (PROW). DDOE encouraged DCA grantees to develop conceptual designs that would also offer improvements to local aesthetics, traffic issues and local property values. Curb alternatives have been developed in cities such as Portland and Seattle, but have not been applied to city blocks within the District. If implemented, this project could serve as an important model for future planning and development in the District by displaying not just the water quality benefits from installing green infrastructure, but improving the "livability" of local communities.

PROJECT OUTCOMES AND OUTPUTS

The output of the project will be the installation of bioretention, permeable pavement, and stormwater volume retention techniques to retrofit 63,000 square feet of impervious surface in the Watts Branch Watershed. The outcome of the project is that the LID practices will reduce stormwater volume flowing into Watts Branch and improve the health of the stream. These practices in conjunction with the many other projects already completed in the watershed, including stream restoration, Nannie Helen Burroughs Ave Green Streets, and Green Alleys should produce significant improvement in the condition of Watts Branch.

BUDGET

Funding is being requested for design, construction, and construction management of this project

Total estimated design cost - $320,000

Includes:

- Complete survey of the street, including utilities
- Complete 30%, 65% and 90% Designs
- Apply for all required local permits
- Complete construction drawings
- Provide construction administration

Total estimated construction cost - $1,269,942.00

Includes:

- Bulbouts with Bioretention – 3,380 sf X $55.00/sf = $185,900.00
- Pervious Pavers – 7,514 sf X $30.00/sf = $225,420.00
- Pervious Pavement – 46,364 sf X $12.50/sf = $579,550.00
- Streetside Bioretention – 5,814 sf X $48.00/sf = $279,072.00

Total Estimated Project Management Cost is $279,600 which includes 1200 hours of DDOT staff project implementation and oversight, department plan reviews, and materials verifications.

The total project cost is $ 1,869,542.00

Budget Table

Line Item	Federal Match	Local Match	Total
Design Cost *Includes:* *- Complete survey of the street, including utilities* *- Complete 30%, 65% and 90% Designs* *- Applications for all required permits* *- Complete construction drawings*	**$ 176,000.00**	**$ 144,000.00**	**$ 320,000.00**
Construction Cost Total (individual costs detailed below)	**$ 698,468.10**	**$ 571,473.90**	**$ 1,269,942.00**
Bulbouts with bioretention (3,380 sf)	$ 102,245.00	$ 83,655.00	$ 185,900.00
Pervious Pavers (7,514 sf)	$ 123,981.00	$ 101,439.00	$ 225,420.00
Pervious Pavement (46,364 sf)	$ 318,752.50	$ 260,797.50	$ 579,550.00
Bioretention (5,814 sf)	$ 153,489.60	$ 125,582.40	$ 279,072.00
Project Management Cost 1560 Hours Construction Management 1200 Hours DDOT project management, project review, and materials verification	$ 153,780	$ 125,820	$ 279,600
		Project Total	**$ 1,869,542.00**

Greening Dix Street NE

Imagine Healthy Water

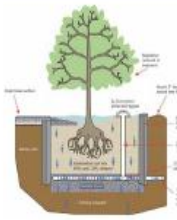
The Dix Street Community is reclaiming Dix St. NE to make it safer, more beautiful and healthy. They are working with the District Department of the Environment, Washington Parks & People and Sustainable Life Designs to create conceptual designs for the street and surrounding areas. Our team is looking for funding to construct these streetscape improvements. Ideas for possible improvements are illustrated on the left and right of this page.

Trees

Trees are beautiful, make streets safer and they clean water! Trees provide shade to keep things cool, hold and filter water so it's cleaner, and clean the air so it's healthier to breathe.

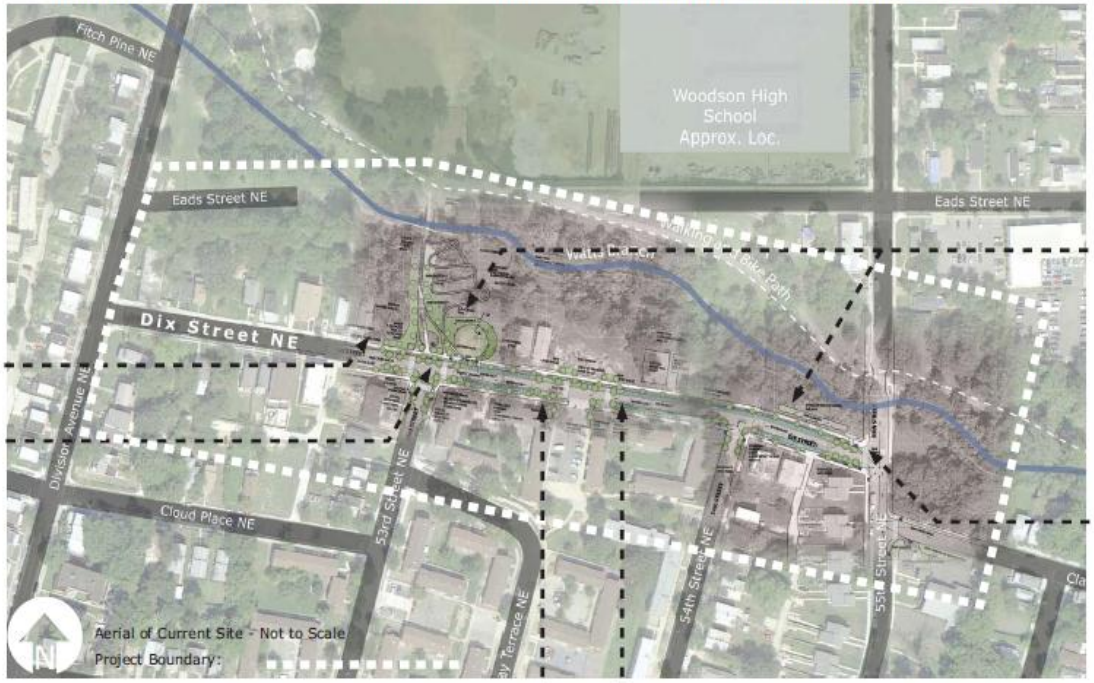
Tree Boxes

Tree Boxes benefit trees and people. They hold and clean water, slowing it down before it goes into the street sewer, and the earth cleans the water before it goes into Watts Branch Stream.



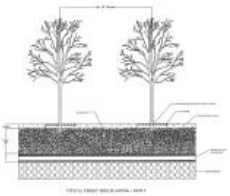
Street Gardens - Bioretention

These gardens in the street have plants and soil to clean water. They have curbs to keep cars out.



Structural Soil

Unlike typical soil, structural soil is a special mixture of gravel and soil that provides support for pavement as well as plant growth.



Permeable Paving

This pavement is designed to have empty pore space similar to soil. By providing these pores, water is allowed to drain through the pavement into the soil before entering our sewers and rivers.

Rain Gardens - Swales

These sunken gardens collect water. They contain plants that love water and soil that cleans pollution. Swale elevation channels water from high to low.

Street Gardens - Swales

These gardens in the street have plants and soil that clean water, curbs that keep cars out, and are built into hills.

District Department of the Environment
202-535-2600
1200 First Street, NE 5th Floor
Washington, DC 20002
http://ddoe.dc.gov/ddoe/site/default.asp

Washington Parks & People
202-462-7275
2437 15th St., NW
Washington, DC, 20009
http://www.washingtonparks.net/

Sustainable Life Designs
202-557-5814
57 N St. NW, Suite H
Washington, DC 20001
http://www.sustainablelifedesigns.com/

Source: Town of Edmonston, MD, Open Source Green Streets Documents
http://edmonstonmd.gov/GreenStreetOpenSource.html
Source: City of Portland, Bureau of Environmental Services, Sustainable Stormwater Management Solutions
http://www.portlandonline.com/bes/index.cfm?c=31870
Source: University of New Hampshire Stormwater Center 2007 Annual Report
http://dcest.unh.edu/unh_stormwater_report_2007/treatments/tree_box/treatment_process.php

DISTRICT DEPARTMENT OF THE ENVIRONMENT

ASSURANCES

The applicant hereby assures and certifies compliance with all federal statutes, regulations, policies, guidelines and requirements, including OMB Circulars No. A-21, A-110, A-122, A-128, A-87; E.O. 12372 and Uniform Administrative Requirements for Grants and Cooperative Agreements 28 CFR, Part 66, Common Rule, that governs the application, acceptance and use of Federal funds for this federally-assisted project.

Also, the Application assures and certifies that:

1. It possesses legal authority to apply for the grant; that a resolution, motion or similar action has been duly adopted or passed as an official act of the applicant's governing body, authorizing the filing of the application, including all understandings and assurances contained therein, and directing and authorizing the person identified as the official representative of the applicant to act in connection with the application and to provide such additional information as may be required.

2. I will comply with requirements of the provisions of the Uniform Relocation Assistance and Real Property Acquisitions Act of 1970, PL 91-646, which provides for fair and equitable treatment of persons displaced as a result of Federal and federally-assisted programs.

3. It will comply with provisions of Federal law which limit certain political activities of employees of a State or local unit of government whose principal employment is in connection with an activity financed in whole or in part by Federal grants. (5 USC 1501, et. (Seq.).

4. It will comply with the minimum wage and maximum hours provisions of the Federal Fair Labor Standards Act if applicable.

5. It will establish safeguards to prohibit employees from using their positions for purpose that is or gives the appearance of being motivated by a desire for private gain for themselves or others, particularly those with whom they have family, business, or other ties.

6. It will give the sponsoring agency of the Comptroller General, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the grant.

7. It will comply with all requirements imposed by the Federal-sponsoring agency concerning special requirements of Law, program requirements, and other administrative requirements.

8. It will comply with the flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973, Public Law 93-234, 87 Stat. 975, approved December 31, 1976. Section 102(a) requires, on and after March 2, 1975, the purchase of flood insurance in communities where such insurance is available as a condition for the receipt of any Federal financial assistance for construction or acquisition purposes for use in any area that has been identified by the Secretary of the Department of Housing and Urban Development as an area having special flood hazards. The phrase "Federal Financial Assistance" includes any form of loan, grant guaranty, insurance payment, rebate, subsidy, disaster assistance loan or grant, or any other form of direct or indirect Federal assistance.

9. It will assist the Federal grantor agency in compliance with Section 106 of the National Historic Preservation Act of 1966 as amended (16 USC 470), Executive Order 11593, and the Archeological and Historical Preservation Act of 1966 (16 USC 569a-1 et. seq.), by (a) consulting with the State Historic Preservation Officer on the conduct of investigations, as necessary, to identify properties listed in or eligible for inclusion in the National Register of Historic Places that are subject to adverse effects (see 36 CFR Part 800.8) by the activity, and notifying the Federal grantor agency of the existence of any such properties and by (b) complying with all requirements established by the Federal grantor agency to avoid or mitigate adverse effects upon such properties.

10. It will comply with the provisions of 28 CFR applicable to grants and cooperative agreements, including Part 18. Administrative Review Procedure, Part 22; Confidentiality of Identifiable Research and Statistical Information; Part 42, Nondiscrimination/ Equal Employment Opportunity Policies and Procedures; Part 61, Procedures; Part 61, Procedures, for Implementing the National Environmental Policy Act; Part 63, Floodplain Management and Wetland Protection Procedures; and Federal laws or regulations applicable to Federal Assistance Programs.

11. It will comply, and all its contractors will comply with Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973, as amended; Section 504 of the Rehabilitation Act of 1973, as amended; Subtitle A, Title III of the Americans with Disabilities Act (ADA) (1990); Title IIX of the Education Amendments of 1972 and the Age Discrimination Act of 1975.

12. In the event a Federal or State court or Federal or State administrative agency makes a finding of discrimination after a due process hearing on the grounds of race, color, religion, national origin, sex, or disability against a recipient of funds, the recipient will forward a copy of the finding to the Office for Civil Rights, U.S. Department of Justice

13. It will provide an Equal Employment Opportunity Program if required to maintain one, where the application is for $500,000 or more.

14. It will comply with the provisions of the Coastal Barrier Resources Act (P.L 97-348) dated October 19, 1982, 16 USC 3501 et. seq., which prohibits the expenditure of most new Federal funds within the units of the Coastal Barrier System.

Signature

August 13, 2012
Date

DISTRICT DEPARTMENT OF THE ENVIRONMENT

CERTIFICATONS

Regarding Lobbying; Debarment, Suspension and Other Responsibility Matters; and Drug-Free Workplace Requirements

Applicants should refer to the regulations cited below to determine the certification to which they are required to attest. Applicants should also review the instructions for certification included in the regulations before completing this form. Signature of this form provides for compliance with certification requirements under 28 CFR Part 69, "New Restrictions on Lobbying" and 28 CFR Part 67, "Government-wide Debarment and Suspension (Non-procurement) and Government-wide requirements for Drug-free Workplace (Grants)". The certifications shall be treated as a material representation of fact.

1. Lobbying

   As required by Section 1352, title 31 of the U.S. Code. And implemented at 28 CFR Part 69, for persons entering into a grant or cooperative agreement over $100,000, as defined at 28 CFR Part 69, the applicant certifies that:

   A. No Federally appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress; an officer or employee of Congress, or an employee of a Member of Congress connection with the making of any Federal grant, the entering into any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal grant 01 cooperative agreement;

   B. If any funds other than Federally appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of a Member of Congress in connection with this Federal grant or cooperative agreement, the undersigned shall complete and submit Standard Form –III, "Disclosure of Lobbying Activities," in accordance with its instructions;

C. The undersigned shall require that the language of this certification be included in the award documents for all sub awards at all tiers including subgrants, contracts under grants and cooperative agreements, and subcontracts, and that all sub-recipients shall certify and disclose accordingly.

2. Debarment, Suspension, And Other Responsibility Matters (Direct Recipient)

As required by Executive Order 12549, Debarment and Suspension, and implemented at 28 CFR Part 67, for prospective participants in primary covered transactions, as defined at 28 CFR Part 67, Section 67.510-

A. The applicant certifies that it and its principals:

1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, sentenced to a denial of Federal benefits by a State or Federal court, or voluntarily, excluded from covered transactions by any Federal department or agency;

2) Have not within a three-year period preceding this application been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public Federal, State, or local) transaction or contract under a public transaction; violation Federal or State antitrust statues or commission of embezzlement, theft, forgery, Bribery, falsification or destruction of records, making false statements, or receiving Stolen property;

3) Are not presently indicated for or otherwise criminally or civilly charged by a governmental entity (Federal, State, or local with commission of any of the offenses enumerated in paragraph (l)(b) of this certification; and

4) Have not within a three-year period preceding this application had one or more public transactions (Federal, State, or local) terminated for cause or default; and

B. Where the applicant is unable to certify to any of the statements in this certification, he or she shall attach an explanation to this application.

3. Drug-Free Workplace (Grantees Other Than Individuals)

As required by the Drug Free Workplace Act of 1988, and implemented at 28 CFR Part 67, Subpart F. for grantees, as defined at 28 CFR Part 67 Sections 67.615 and 67.620-

A. The applicant certifies that it will or will continue to provide a drug-free work place by:

1) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the applicant's workplace and specifying the actions that will be taken against employees for violation of such prohibition;

2) Establishing an on-going drug-free awareness program to inform employee's about- any available drug counseling, rehabilitation, and employee assistance programs; and the penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;

3) Making it a requirement that each employee to be engaged in the performance of the grant be given a copy of the statement required by paragraph (a);

4) Notifying the employee in the statement required by paragraph (a) that, as a condition of employment under the grant, the employee will-

   a) Abide by the terms of the statement; and

   b) Notify the employer in writing of his or her conviction for a violation of criminal drug statue occurring in the workplace no later than five calendar days after such conviction; and

5) Notifying the agency, in writing, within 10 calendar days after receiving notice under subparagraph (d)(2) from an employee or otherwise receiving actual notice of such conviction. Employers of convicted employees must provide notice, including position title to: Chief of Grants Management, 1200 First St., NE, 5th Floor, Washington, DC 20002. Notice shall include the identification number(s) of each effected grant;

6) Taking one of the following actions, within 30 calendar days of receiving notice under subparagraph (d)(2), with respect to any employee who is so convicted-

   a) Taking appropriate personnel action against such an employee, up to and incising termination, consistent with the requirements of the Rehabilitation Act of 1973, as amended; or

   b) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency;

c) Making a good faith effort to continue to maintain a drug-free work place through implementation of paragraphs (a), (l), (c), (d), (e), and (1).

B. The applicant may insert in the space provided below the sites for the performance of work done in connection with the specific grant:

1) Place of Performance (Street address, city, county, state, zip code)

2) Drug-Free Workplace (Grantees who are Individuals)

C. As a condition of the grant, I certify that I will not engage in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance in conducting any activity with the grant; and

D. If convicted of a criminal drug offense resulting from a violation occurring during the conduct of any grant activity, I will report the conviction, in writing, within 10 calendar days of the conviction, to:

District Department of the Environment
1200 First Street, NE 5th Floor
Washington, DC 20002

As the duly appointed representative of the applicant, I hereby certify that the applicant will comply with the above certifications.

Department of Transportation; 55 M Street, SE; Washington DC 20003
1. Grantee Name and Address

Dix Street Green Infrastructure Project
2. Project Name

Ronaldo T. Nicholson,PE; Deputy Director/Chief Engineer
3. Typed Name and Title of Authorized Representative

4. Signature

August 13, 2012
5. Date

GOVERNMENT OF THE DISTRICT OF COLUMBIA
DEPARTMENT OF TRANSPORTATION

d. **Infrastructure Project Management Administration**

Application for the Clean Water Act State Revolving Fund Non-Point Source Construction Grants Project Priority List

Submitting Organization:
District Department of Transportation (DDOT), Infrastructure Project Management Administration (IPMA), 55 M St SE, Washington, DC 20003-3522
Congressional District: District of Columbia

Project Title: Green Alleys
Watershed: The project locations have not been finalized, but will be located in the Anacostia, Potomac, or Rock Creek MS4 areas or the Potomac and Rock Creek CSO areas.

Project Summary:
The Green Alley project will continue the efforts of the District Department of Transportation (DDOT) to construct alleys using permeable pavement. The city constructed the first green alleys in DC in 2012 and will construct several more through 2013. Alleys in the city have typically not had stormwater controls and send their runoff into the streets and city storm sewer system. Green Alleys use permeable pavement to capture, store, and infiltrate water falling on the alley and from the adjacent properties before it flows into the sewer system. DDOT seeks to continue the Green Alley program and to build on the experience from the first green alleys. The project will refine the analysis, design, and construction processes to determine the most cost effective methods for green alley implementation and use newly developed green alley designs standards. The project will focus on areas where stormwater can be infiltrated and sewer infrastructure is minimized to reduce cost and maximize stormwater capture.

Funding Amount Requested

Total Project Construction Cost:	$2,176,400.00
Funding requested (55%):	$1,197,020.00
Matching/In-Kind amount (45%):	$979,380.00 (from local Capital Funds)

Project Period: May 2013 – September 2015

Federal Tax Identification Number: 536001131; **DUNS number:** 002336019

Contact: Meredith Upchurch, LID Team Lead, 202-671-4663, meredith.upchurch@dc.gov

Authorized Representative:

8/13/2012

Ronaldo T. Nicholson, P.E.; Deputy Director/Chief Engineer **Date**

Project Summary:

The District Department of Transportation (DDOT) constructed the first green alleys in DC in 2012 using ARRA funding through the Clean Water State Revolving Fund. The first four alleys were constructed using pervious concrete and eight more alleys will be constructed in 2012-13 using a variety of materials, including asphalt and paving blocks. DDOT seeks to build on the experience from the first green alleys and refine the analysis, design, and construction processes to determine the most cost effective methods for implementation.

Funding from the FY13 Clean Water Act State Revolving Fund will provide a robust pilot which will focus on maximizing the area retrofitted, with a goal of retrofitting 45,000 square feet of alley surface (approximately 6 alleys, depending on size). The project will focus on areas where stormwater can be infiltrated and hard infrastructure is minimized to reduce cost. The project will also use newly developed green alley standard designs to minimize design services needed for each site. This project can retain 250,000 gallons of stormwater through the multiple project sites. The alley will capture at least three times the drainage area for each site. The results of the pilot will be used to expand green alley implementation citywide and inform permeable pavement design and construction in roadways. The project will also inform DC Water's Clean Rivers Green Infrastructure Demonstration project.

The project area goal is to install 45,000 square feet of permeable pavement in six alley sites that measure 15 feet by 500 feet. Alleys vary in size and in the number of segments per block, so the total number of alley sites or the size per alley may be less.

Green Project Reserve Compliance:

- The Green Alleys project meets the EPA Green Project Reserve definition for green infrastructure. The project will capture and infiltrate stormwater using permeable pavement on the site and neighborhood scale. The project is part of DDOT's Green Streets program to include green infrastructure retrofits in the transportation right of way.

Project Location

- The project locations have not been determined. Of the six sites proposed, at least four will be in the MS4 area.
- DDOT has been developing a list of candidate green alley locations from resident requests and requests from within DDOT, DDOE, City Council members, the Mayor's office, and environmental organizations. DDOT is developing a criteria and ranking system which will help determine the best sites for green alleys. Sites are being evaluated for technical feasibility, watershed impact, and city priority.
- The candidate site list is attached. The list is under development and as the sites are evaluated the fields will be completed.

Support of Environmental Goals

- All project sites will use permeable pavement to reduce stormwater runoff volume and improve water quality by filtering water through layers of pavement and stone to remove metals, nutrients, and other pollutants.
- The projects will contribute to TMDL plans for their watershed locations by capturing and filtering the water which will reduce pollutant loads to the waterbody.
- The projects will be designed to retain 1.2 inches of runoff and due to the large storage area to drainage area ratio of permeable pavement, the project will capture additional storage and drainage area.

- The four project sites in the MS4 area will assist DC in meeting local watershed and Chesapeake Bay Program goals through reduced stormwater runoff volume to Rock Creek, Potomac, or the Anacostia River watersheds.
- The potential two sites in the Potomac or Rock Creek CSS area will be focus on volume storage with the intent to reduce overflow events.

Cost Benefit

- The project will install 45,000 square feet of permeable pavement in alleys, which can retain approximately 5.7 gallons of water per square foot of alley. The alley will capture surrounding drainage areas to maximize the volume captured.
- The project can retain approximately 244 thousand gallons of stormwater runoff
- The total project cost is $2,176,400
- Total project cost per gallon retained: $8.89/gallon

Project Feasibility

- The project sites are all in the public right-of-way under the control of DDOT.
- Project design will start in Spring 2013 with construction estimated to occur between Fall 2013 and Fall 2014.
- The DDOT Project team led by Meredith Upchurch has shown success in completing LID projects in the District with the recent completion of the Green Alleys project which was funded by CWSRF funds. DDOT is also progressing LID in the ongoing design of the RiverSmart Washington project and the development of Green Infrastructure and LID Standard Designs.
- DDOT has several green infrastructure stormwater management projects that are in design, under construction, and completed including:
    - Green Alleys Pilot projects, completed Summer 2012
    - Nannie Helen Burroughs Ave NE Green Street, completed 2012
    - Pennsylvania Ave SE bioretention areas, completed 2010 - 2011
    - Georgia Ave NW bioretention areas, completed 2011
    - Nebraska Ave Bioswales, completed 2009
    - LID Retrofits for Roadways, starting construction 2012
    - RiverSmart Washington Design Project, currently in design
    - Q St Green Alley, currently in design
- DDOT has extensive work in designing and constructing projects in the District and working with DDOE and DC Water to bring projects to completion.

Innovation in urban nonpoint source pollution controls

- DDOT is seeking to maximize stormwater capture and infiltration through this continuation of the Green Alleys project. DDOT is creating a criteria and ranking system to pick sites that have the most potential for stormwater infiltration and will be the most cost effective.
- DDOT intends to further refine green alley site selection and demonstrate these LID technologies so they can be more easily replicated in future alley and roadway stormwater retrofit projects.

Project Outcomes and Outputs

The output of the project will be the installation of 45,000 square feet of permeable pavement at six green alley sites citywide. The project outcome of the green alleys project is the reduction of stormwater volume flowing into multiple watersheds in the MS4 area and CSO area of the city.

Project Budget

- The project budget includes funding for design, construction, and project management in the total amount of $2,176,400.00. The detailed budget is shown in Attachment D.
- The design budget includes a design consultant to design the project from concept to completion, the cost of survey and utility location, required geotechnical testing, permit fees, and administrative costs. The total design budget estimate is $419,000.
- The construction budget includes all the items needed to construct the project, including excavation, stone, drainage infrastructure, and pavement. DDOT projects always include items for contractor mobilization which is a fixed percentage cost stated in the DDOT standard specifications. The construction item cost includes all materials, labor, and overhead to install the item. The budget includes 20% additional for minor construction items. The total estimated construction budget is $1,495,800.
- The project management budget includes DDOT staff project management, DDOT staff to review and approve project details, and a construction management firm to oversee the on-site and daily details of the construction project. The project management budget is $261.600.

Square	Location & Boundary Roads	Ward	Alley Condition	Current Pavement Type	High Priority Request	Soil Analysis	Hydrologic Soil Group	Adjacent Buildings	MS4/CSO	Water shed	Drainage Area	Width	Length	Area	Est. Cost	Catch Basin	Historic	Requestor
2958	1800 Kenyon, Irving	1	good	concrete		Ub, UoC			CSO	Rock Creek		15	379	5685		0	FALSE	Elias Hoffman
2604	19th, Adams Mill, Kenyon	1	fair	brick		UoC			CSO	Rock Creek		15	200	3000		0	TRUE	Frank Pacifico
2604		1	poor	brick								15	160	2400		0	TRUE	
2604		1	fair	brick								15	680	10200		0	TRUE	
2868	1300 Florida & Belmont (may be done)	1	poor	brick		Ub			CSO	Anacostia River		15	396	5940		0	TRUE	Brian Levy, 1321 Fla Ave NW
1281	32nd, R, 31st Street	2	poor	asphalt		UxB			CSO	Potomac River		15	305	4575		0	TRUE	
2528	1919 23rd Street, NW	2	good	asphalt		UxC			CSO	Rock Creek		15	1073	16095		0	TRUE	
238	1304 T St NW, Pedestrian alley	2	good	asphalt		UeB			CSO	Anacostia River		20	126	2520		0	TRUE	Andrew King, kingofdc@earthlink.net
1836	Albemarle, Alton, 38th, 39th St NW	3	poor	concrete		MdC, CdC, MhB			MS4	Rock Creek		18	670	12060		0	FALSE	Dorcas Adkins, 3814 Albemarle St NW
1753	Jenifer, Ingomar, 41st, & Reno NW	3	poor	asphalt		MdB			MS4	Potomac River		11	563	6193		0	FALSE	Angelica Braestrup
1301J	Benton, Kuidekper, Observatory, Beecher	3	good	asphalt								16	244	3904		0	FALSE	Julie Dugger 3739 Benton
1810	39th Pl, 40th St, Calvert St NW	3	good	concrete		UxB			MS4	Potomac River		15	531	7965		0	FALSE	David King, 2242 39th Pl NW
1664	5315 43rd st NW	3	good	concrete		MdB			MS4	Potomac River		15	108	1620		0	FALSE	Jill Diskan
1300H	2242 Hall Place NW	3	good	concrete		Ub			CSO	Potomac River		15	91	1365		0	FALSE	Kate Sullivan Hare, 2242 Hall Pl NW
1300H	Hall Pl & W Place NW	3	poor	gravel		Ub			CSO	Potomac River		14	268	3752		0	FALSE	Jackie Blumenthal 3515 W Pl NW, ANC3B-02
1300H		3	poor	gravel								14	88	1232		0	FALSE	
1300I		3	fair	asphalt								15	410	6150		0	FALSE	
2076X	34th Pl, Newark & Ordway St NW	3	fair	concrete								15	420	6300		0	TRUE	
3158	721 Olgethorpe St NW	4	poor	asphalt		SgC			CSO	Rock Creek		15	105	1575		0	FALSE	Elnie Goodman
2954	1201 Fern St NW	4	fair	concrete		CdC			MS4	Rock Creek		15	500	7500		0	FALSE	Barry Hudson, 1201 Fern St NW
2967	9th, Dahlia, Georgia NW	4	poor	asphalt		U7						16	354	5664		0	FALSE	Catherine Stratton Treadway
3171X	700 Butternut St NW	4	poor	gravel		SgC			MS4	Rock Creek		12	310	3720		0	FALSE	Kevin & Anne Costello, 749 Butternut St
2771N	13th, 14th, Roxanna	4	fair	concrete		MdC			MS4	Rock Creek		15	563	8445		0	FALSE	Paula Edwards, 1318 Roxanna Rd
2771	14th & Locust NW	4	poor	asphalt		MdC			MS4	Rock Creek		15	927	13905		0	FALSE	Bernadine Evans, 1376 Locust Rd NW
2971S	800 block Van Buren, Veneble, Piney Branch	4	good	asphalt		CdB			CSO	Rock Creek		15	566	8490		0	FALSE	Bernadette Gaskin, 859 Van Buren St NW
3158	721 Olgethorpe St NW	4	poor	asphalt		SgC			CSO	Rock Creek		15	105	1575		0	FALSE	Elnie Goodman
3158		4	poor	asphalt								15	170	2550		0	FALSE	
3158		4	poor	asphalt								15	125	1875		0	FALSE	
2954	1201 Fern St NW	4	fair	concrete		CdC			MS4	Rock Creek		15	500	7500		0	FALSE	Barry Hudson, 1201 Fern St NW
2738	1436 Hemlock St NW	4	good	concrete		MdB			MS4	Rock Creek		15	173	2595		0	FALSE	Eric Johnson, 1436 Hemlock St NW
2738		4	fair	concrete								15	177	2655		0	FALSE	
2738		4	fair	concrete								15	400	6000		0	FALSE	
2738		4	fair	concrete								15	127	1905		0	FALSE	
2738		4	fair	concrete								15	138	2070		0	FALSE	
3202	500 Oneida Pl NW	4	fair	concrete		UzB			CSO	Rock Creek		16	110	1760		0	FALSE	Illana Lancaster
3202		4	fair	concrete								16	118	1888		0	FALSE	
3202		4	good	asphalt								16	565	9040		0	FALSE	
2971	800 Whittier Place NW	4	fair	concrete		CdB			CSO	Rock Creek		15	436	6540		0	FALSE	Susan Pultz, 808 Whittier Pl
2971		4	fair	concrete								15	124	1860		0	FALSE	
2724	Nicholson & 16th St NW	4	good	concrete		SgB			MS4	Rock Creek		15	290	4350		0	FALSE	Jesse Raben 1627 Nicholson St NW
3167X	Aspen, Whittier, 600 block	4	fair	concrete		SgC			CSO	Rock Creek		15	200	3000		0	FALSE	Greig Stewart
3337H	Peabody, Quackenbos, 200 block NW	4	good	concrete		SgC, WpB			CSO	Rock Creek		16	400	6400		0	FALSE	Vicki Taylor
2971	Whittier Pl, Venable Pl, 800 Block	4	fair	concrete		CdB			CSO	Rock Creek		15	202	3030		0	FALSE	Faith Wheeler, 818 Whittier Pl NW, ANC 4B02
2739	Juniper, Jonquil, 14th, 16th NW	4	fair	concrete		MdB, MdC			MS4	Rock Creek		15	135	2025		0	FALSE	David Zinner
2739		4	good	concrete								15	325	4875		0	FALSE	
2739		4	good	concrete								15	124	1860		0	FALSE	
2739		4	good	concrete								15	135	2025		0	FALSE	
2739		4	good	concrete								15	141	2115		0	FALSE	
3123	1st, N Capital, W, Adams	5	poor	brick		UeB			CSO	Anacostia River		12	163	1956		0	FALSE	W5 Council office
4559	1917 D St NE	6	good	asphalt					MS4	Anacostia River		14	129	1806		0	FALSE	Sean Montano Greene
5090	42nd, Eads, Edson NE	7	poor	concrete		SpC			MS4	Anacostia River		15	212	3180		0	FALSE	Patricia Hallman
5191	Blaine, Ames, Division, 50th St NE	7	fair	concrete					MS4	Anacostia River		15	570	8550		0	FALSE	Patricia Hallman
5079	Minnesota, Benning, Ft. Mahan	7	poor	asphalt								10	804	8040		0	FALSE	Dennis Chestnut, Gizachew Andargeh (OP)
5128	44th, Hayes, & Gault NE	7	poor	gravel		Ip			MS4	Anacostia River		15	212	3180		0	FALSE	DDOE List
5301	C & 53rd St SE, behind CW Harris School	7	poor	concrete		KmB			MS4	Anacostia River		15	220	3300		0	FALSE	Peter Hill
5480	G & 31st ST SE	7	poor	asphalt		GeB			MS4	Anacostia River		12	155	1860		0	FALSE	Steve Saari

Attachment B: Stormwater Management Estimate and Project Budget

-Project Information Submitted-

Six Green Alleys at 15' x 500'	**45000**	**SF**	**Gallons Stored**	**244,708**		
Item	**Qty**	**Unit**	**Unit Cost**	**Total Cost**	**Federal Funds (55%)**	**Non-Federal Match (45%)**
Design						
Design Consultant	1800	Hour	$125	$225,000	$123,750	$101,250
Geotechnical Testing	50	Each	$3000	$150,000	$82,500	$67,500
Survey & Utility Location	6	Each site	5000	$30,000	$16,500	$13,500
Direct Costs (printing, mailing)	1	Lump	$2,000	$2,000	$1,100	$900
Permit Fees	6	Each site	$2,000	$12,000	$6,600	$5,400
DESIGN TOTAL				$419,000	$230,450	$188,550
Construction						
Permeable Pavement	5000	SY	$100	$500,000	$275,000	$225,000
Excavation (3 ft)	5000	CY	$40	$200,000	$110,000	$90,000
Aggregate Base (28 in)	3833	CY	$55	$210,833	$115,958	$94,875
Geotextile	6500	SY	$5	$32,500	$17,875	$14,625
Underdrain	3000	LF	$20	$60,000	$33,000	$27,000
Sewer Infrastructure Connections (concrete pipe, manholes)		Lump Sum		$60,000	$33,000	$27,000
Concrete Curb	194	CY	$320	$50,000	$27,500	$22,500
Alley Entrances	12	EA	$4,000	$50,000	$27,500	$22,500
Miscellaneous Construction Items (20%)		Lump Sum		$232,667	$127,967	$104,700
Contractor Mobilization (per DDOT spec 612.02)		Lump Sum		$99,800	$54,890	$44,910
CONSTRUCTION TOTAL				$1,495,800	$822,690	$673,110
Project Management						
Construction Management	1560	Hour	$110	$171,600	$94,380	$77,220
DDOT Staff Project Management	700	Hour	$90	$63,000	$34,650	$28,350
DDOT Department Reviewers and Material Veri	300	Hour	$90	$27,000	$14,850	$12,150
PROJECT MANAGEMENT TOTAL				$261,600	$143,880	$117,720
PROJECT TOTAL COST				**$2,176,400.00**	$1,197,020.00	$979,380.00

DISTRICT DEPARTMENT OF THE ENVIRONMENT

ASSURANCES

The applicant hereby assures and certifies compliance with all federal statutes, regulations, policies, guidelines and requirements, including OMB Circulars No. A-21, A-110, A-122, A-128, A-87; E.O. 12372 and Uniform Administrative Requirements for Grants and Cooperative Agreements 28 CFR, Part 66, Common Rule, that governs the application, acceptance and use of Federal funds for this federally-assisted project.

Also, the Application assures and certifies that:

1. It possesses legal authority to apply for the grant; that a resolution, motion or similar action has been duly adopted or passed as an official act of the applicant's governing body, authorizing the filing of the application, including all understandings and assurances contained therein, and directing and authorizing the person identified as the official representative of the applicant to act in connection with the application and to provide such additional information as may be required.

2. I will comply with requirements of the provisions of the Uniform Relocation Assistance and Real Property Acquisitions Act of 1970, PL 91-646, which provides for fair and equitable treatment of persons displaced as a result of Federal and federally-assisted programs.

3. It will comply with provisions of Federal law which limit certain political activities of employees of a State or local unit of government whose principal employment is in connection with an activity financed in whole or in part by Federal grants. (5 USC 1501, et. (Seq.).

4. It will comply with the minimum wage and maximum hours provisions of the Federal Fair Labor Standards Act if applicable.

5. It will establish safeguards to prohibit employees from using their positions for purpose that is or gives the appearance of being motivated by a desire for private gain for themselves or others, particularly those with whom they have family, business, or other ties.

6. It will give the sponsoring agency of the Comptroller General, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the grant.

7. It will comply with all requirements imposed by the Federal-sponsoring agency concerning special requirements of Law, program requirements, and other administrative requirements.

8. It will comply with the flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973, Public Law 93-234, 87 Stat. 975, approved December 31, 1976. Section 102(a) requires, on and after March 2, 1975, the purchase of flood insurance in communities where such insurance is available as a condition for the receipt of any Federal financial assistance for construction or acquisition purposes for use in any area that has been identified by the Secretary of the Department of Housing and Urban Development as an area having special flood hazards. The phrase "Federal Financial Assistance" includes any form of loan, grant guaranty, insurance payment, rebate, subsidy, disaster assistance loan or grant, or any other form of direct or indirect Federal assistance.

9. It will assist the Federal grantor agency in compliance with Section 106 of the National Historic Preservation Act of 1966 as amended (16 USC 470), Executive Order 11593, and the Archeological and Historical Preservation Act of 1966 (16 USC 569a-1 et. seq.), by (a) consulting with the State Historic Preservation Officer on the conduct of investigations, as necessary, to identify properties listed in or eligible for inclusion in the National Register of Historic Places that are subject to adverse effects (see 36 CFR Part 800.8) by the activity, and notifying the Federal grantor agency of the existence of any such properties and by (b) complying with all requirements established by the Federal grantor agency to avoid or mitigate adverse effects upon such properties.

10. It will comply with the provisions of 28 CFR applicable to grants and cooperative agreements, including Part 18. Administrative Review Procedure, Part 22; Confidentiality of Identifiable Research and Statistical Information; Part 42, Nondiscrimination/ Equal Employment Opportunity Policies and Procedures; Part 61, Procedures; Part 61, Procedures, for Implementing the National Environmental Policy Act; Part 63, Floodplain Management and Wetland Protection Procedures; and Federal laws or regulations applicable to Federal Assistance Programs.

11. It will comply, and all its contractors will comply with Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973, as amended; Section 504 of the Rehabilitation Act of 1973, as amended; Subtitle A, Title III of the Americans with Disabilities Act (ADA) (1990); Title IIX of the Education Amendments of 1972 and the Age Discrimination Act of 1975.

12. In the event a Federal or State court or Federal or State administrative agency makes a finding of discrimination after a due process hearing on the grounds of race, color, religion, national origin, sex, or disability against a recipient of funds, the recipient will forward a copy of the finding to the Office for Civil Rights, U.S. Department of Justice

13. It will provide an Equal Employment Opportunity Program if required to maintain one, where the application is for $500,000 or more.

14. It will comply with the provisions of the Coastal Barrier Resources Act (P.L 97-348) dated October 19, 1982, 16 USC 3501 et. seq., which prohibits the expenditure of most new Federal funds within the units of the Coastal Barrier System.

Signature

August 13, 2012
Date

DISTRICT DEPARTMENT OF THE ENVIRONMENT

CERTIFICATONS

Regarding Lobbying; Debarment, Suspension and Other Responsibility Matters; and Drug-Free Workplace Requirements

Applicants should refer to the regulations cited below to determine the certification to which they are required to attest. Applicants should also review the instructions for certification included in the regulations before completing this form. Signature of this form provides for compliance with certification requirements under 28 CFR Part 69, "New Restrictions on Lobbying" and 28 CFR Part 67, "Government-wide Debarment and Suspension (Non-procurement) and Government-wide requirements for Drug-free Workplace (Grants)". The certifications shall be treated as a material representation of fact.

1. Lobbying

   As required by Section 1352, title 31 of the U.S. Code. And implemented at 28 CFR Part 69, for persons entering into a grant or cooperative agreement over $100,000, as defined at 28 CFR Part 69, the applicant certifies that:

   A. No Federally appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress; an officer or employee of Congress, or an employee of a Member of Congress connection with the making of any Federal grant, the entering into any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal grant 01 cooperative agreement;

   B. If any funds other than Federally appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of a Member of Congress in connection with this Federal grant or cooperative agreement, the undersigned shall complete and submit Standard Form –III, "Disclosure of Lobbying Activities," in accordance with its instructions;

C. The undersigned shall require that the language of this certification be included in the award documents for all sub awards at all tiers including subgrants, contracts under grants and cooperative agreements, and subcontracts, and that all sub-recipients shall certify and disclose accordingly.

2. Debarment, Suspension, And Other Responsibility Matters (Direct Recipient)

As required by Executive Order 12549, Debarment and Suspension, and implemented at 28 CFR Part 67, for prospective participants in primary covered transactions, as defined at 28 CFR Part 67, Section 67.510-

A. The applicant certifies that it and its principals:

1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, sentenced to a denial of Federal benefits by a State or Federal court, or voluntarily, excluded from covered transactions by any Federal department or agency;

2) Have not within a three-year period preceding this application been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public Federal, State, or local) transaction or contract under a public transaction; violation Federal or State antitrust statues or commission of embezzlement, theft, forgery, Bribery, falsification or destruction of records, making false statements, or receiving Stolen property;

3) Are not presently indicated for or otherwise criminally or civilly charged by a governmental entity (Federal, State, or local with commission of any of the offenses enumerated in paragraph (l)(b) of this certification; and

4) Have not within a three-year period preceding this application had one or more public transactions (Federal, State, or local) terminated for cause or default; and

B. Where the applicant is unable to certify to any of the statements in this certification, he or she shall attach an explanation to this application.

3. Drug-Free Workplace (Grantees Other Than Individuals)

As required by the Drug Free Workplace Act of 1988, and implemented at 28 CFR Part 67, Subpart F. for grantees, as defined at 28 CFR Part 67 Sections 67.615 and 67.620-

A. The applicant certifies that it will or will continue to provide a drug-free work place by:

1) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the applicant's workplace and specifying the actions that will be taken against employees for violation of such prohibition;

2) Establishing an on-going drug-free awareness program to inform employee's about- any available drug counseling, rehabilitation, and employee assistance programs; and the penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;

3) Making it a requirement that each employee to be engaged in the performance of the grant be given a copy of the statement required by paragraph (a);

4) Notifying the employee in the statement required by paragraph (a) that, as a condition of employment under the grant, the employee will-

   a) Abide by the terms of the statement; and

   b) Notify the employer in writing of his or her conviction for a violation of criminal drug statue occurring in the workplace no later than five calendar days after such conviction; and

5) Notifying the agency, in writing, within 10 calendar days after receiving notice under subparagraph (d)(2) from an employee or otherwise receiving actual notice of such conviction. Employers of convicted employees must provide notice, including position title to: Chief of Grants Management, 1200 First St., NE, 5th Floor, Washington, DC 20002. Notice shall include the identification number(s) of each effected grant;

6) Taking one of the following actions, within 30 calendar days of receiving notice under subparagraph (d)(2), with respect to any employee who is so convicted-

   a) Taking appropriate personnel action against such an employee, up to and incising termination, consistent with the requirements of the Rehabilitation Act of 1973, as amended; or

   b) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency;

c) Making a good faith effort to continue to maintain a drug-free work place through implementation of paragraphs (a), (l), (c), (d), (e), and (1).

B. The applicant may insert in the space provided below the sites for the performance of work done in connection with the specific grant:

1) Place of Performance (Street address, city, county, state, zip code)

2) Drug-Free Workplace (Grantees who are Individuals)

C. As a condition of the grant, I certify that I will not engage in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance in conducting any activity with the grant; and

D. If convicted of a criminal drug offense resulting from a violation occurring during the conduct of any grant activity, I will report the conviction, in writing, within 10 calendar days of the conviction, to:

District Department of the Environment
1200 First Street, NE 5th Floor
Washington, DC 20002

As the duly appointed representative of the applicant, I hereby certify that the applicant will comply with the above certifications.

Department of Transportation; 55 M Street, SE; Washington DC 20003
1. Grantee Name and Address

Green Alleys
2. Project Name

Ronaldo T. Nicholson,PE; Deputy Director/Chief Engineer
3. Typed Name and Title of Authorized Representative

4. Signature

August 13, 2012
5. Date

GOVERNMENT OF THE DISTRICT OF COLUMBIA
DEPARTMENT OF TRANSPORTATION

d. **Infrastructure Project Management Administration**

Application for the Clean Water Act State Revolving Fund Non-Point Source Construction Grants Project Priority List

Submitting Organization: District Department of Transportation (DDOT), Infrastructure Project Management Administration (IPMA), 55 M St SE, Washington, DC 20003-3522
Congressional District: District of Columbia

Project Title: Klingle Trail Watershed Green Streets

Watershed: The project location is in the MS4 area in Klingle Run subwatershed of Rock Creek.

Project Summary:
The Klingle Trail Watershed Green Streets project will install low impact development (LID) techniques in the streets that drain into Klingle Run. DDOT is starting the design of the Klingle Trail project in Fall 2012, which will replace Klingle Road adjacent to the stream. Klingle Run has been severely impacted by stormwater runoff from the watershed that outfalls into the stream. In the Environmental Assessment for the trail project, the need to control stormwater upstream in the watershed was identified, but the scope of work for the trail project is limited to the trail and stream boundary. This project will install bioretention, permeable pavement, and other appropriate volume reduction techniques to retain stormwater runoff on the streets and alleys that drain into Klingle Run. The Green Streets project will be added on to the trail project such that design and construction is done as part of and at the same time as the trail project.

Funding Amount Requested

Total Project Construction Cost:	$1,593,155.70
Funding requested (55%):	$876,235.64
Matching/In-Kind amount (45%):	$716,920.07 (from local Capital Funds)

Project Period: October 2012 – June 2015

Federal Tax Identification Number: 536001131 **DUNS number:** 002336019

Contact: Meredith Upchurch, LID Team Lead, 202-671-4663, meredith.upchurch@dc.gov

Authorized Representative

Ronaldo T. Nicholson, P.E.; Deputy Director/Chief Engineer 8/13/2012 **Date**

Project Summary:

In Fall 2012, DDOT will begin design on Klingle Trail, a bike and walking trail which will replace Klingle Road through the Klingle Valley and adjacent to the stream. Klingle Road failed more than a decade ago due to excessive stormwater runoff through the valley. The trail project will use LID techniques and stream restoration to manage stormwater within the valley and improve the condition of the stream. The project is limited to the boundary of the trail and stream and does not reduce the runoff coming from above the valley. This issue was noted during the Environmental Assessment (EA) process. This project, Klingle Trail Watershed Green Streets project, will manage the runoff in the upper watershed of the valley to reduce stormwater that is conveyed to the stream and runs off into the valley.

In the project, DDOT will install low impact development (LID) techniques in the streets that drain into Klingle Run, shown in Attachment A. The project will install bioretention, permeable pavement, and other appropriate volume reduction techniques to retain stormwater runoff on the streets and alleys that drain into Klingle Run. These LID techniques are proven to retain stormwater volume and treat the runoff to remove metals, nutrients, bacteria, and sediments. Reduction and treatment of runoff will improve the health and condition of the receiving stream.

The roads and alleys draining into Klingle Run total about 320,000 square feet of impervious surface. See Attachment B for a list of the streets and alleys. The Klingle Trail Watershed Green Streets Project proposes to manage 152,000 square feet of impervious surface through permeable paving and bioretention. The project proposes to manage 10,000 square feet of paving through bioretention, 100,000 square feet of paving through permeable paving parking lanes, 10,000 square feet of alley using permeable pavement, and 2000 square feet of sidewalk through soil remediation in the tree space.

The Klingle Trail Watershed Green Streets project will be implemented as part of the Klingle Trail project. Design and construction can be done as part of and at the same time as the trail project which will be starting in the fall of 2012 and finishing in 2015.

Green Project Reserve Compliance:

- The Green Streets in Klingle Trail Watershed project meets the EPA Green Project Reserve definition for green infrastructure. The project will capture and infiltrate stormwater using bioretention, permeable pavement, and soil remediation on the site and neighborhood scale. The Klingle Trail project is part of DDOT's Green Streets program to include green infrastructure retrofits in the transportation right of way.

Project Location

- The project location is in the MS4 area of the city in the Klingle Run watershed which drains into Rock Creek.

Support of Environmental Goals

- Klingle Run is identified in the Rock Creek Watershed Improvement Plan as a targeted watershed. Installing green streets in the Klingle Run watershed will reduce stormwater runoff and delay peak flows into the stream. This project will contribute to TMDL plans for Klingle Run and Rock Creek by capturing and filtering the water which will reduce pollutant loads to the waterbody.
- All project sites will use bioretention and permeable pavement to reduce stormwater runoff volume which has been proven to improve water quality by filtering water through layers of pavement and stone to remove metals, nutrients, and other pollutants.

- The project will be designed to retain 1.2 inches of runoff and will place practices to maximize the area that can be controlled.
- The project will assist DC in meeting local watershed and Chesapeake Bay Program goals by reducing stormwater runoff volume to Klingle Run and Rock Creek and filtering the water to improve water quality.

Cost Benefit

- The project will manage 150,000 square feet of road and alley drainage area using bioretention areas or bumpouts, permeable paving parking lanes, and permeable pavement in alleys. Sidewalk and tree space runoff will also be improved through 2000 square feet of soil remediation.
- The project will retain 165,757 gallons in the LID practices.
- Total project cost per gallon retained: $9.61/gallon

Project Feasibility

- The project sites are all in the public right-of-way under the control of DDOT.
- Project design can start as soon as funding is awarded and will be done as an add-on to the contract for the Klingle Trail design which is scheduled from September 2012-December 2013. Construction is planned for 2014-2015.
- The project will be managed by DDOT's IPMA Team 2 led by Paul Hoffman with consultation and review by the Stormwater LID Team, led by Meredith Upchurch. DDOT/IPMA has shown success in progressing LID projects in the District with the recent completion of the Green Alleys project, the ongoing design of the RiverSmart Washington project and the development of Green Infrastructure and LID Standard Designs. An experience design consultant team will be hired to design the project details.
- DDOT has several green infrastructure stormwater management projects that are in design, under construction, and completed including:
    - Green Alleys Pilot projects, completed Summer 2012
    - Nannie Helen Burroughs Ave NE Green Street, completed 2012
    - Pennsylvania Ave SE bioretention areas, completed 2010 - 2011
    - Georgia Ave NW bioretention areas, completed 2011
    - Nebraska Ave Bioswales, completed 2009
    - LID Retrofits for Roadways, starting construction 2012
    - RiverSmart Washington Design Project, currently in design
    - Q St Green Alley, currently in design
- DDOT has extensive work in designing and constructing projects in the District and working with DDOE and DC Water to bring projects to completion.

Innovation in urban nonpoint source pollution controls

- DDOT will demonstrate neighborhood wide LID implementation in the Klingle Trail Watershed project. This demonstration will build on the RiverSmart Washington project to further refine placement of LID on dense neighborhood streets.
- LID placement in dense neighborhood streets must consider the use of the streets, resident and visitor parking needs, and optimal placement to capture stormwater. The demonstration of LID techniques in these areas will further inform LID design for wider scale implementation in all DDOT projects.

- The streets within the Klingle Trail watershed are adjacent to the Washington Cathedral, the Cathedral School, Washington International School, and Tregaron Conservancy, which can give a high visibility to the LID practices.

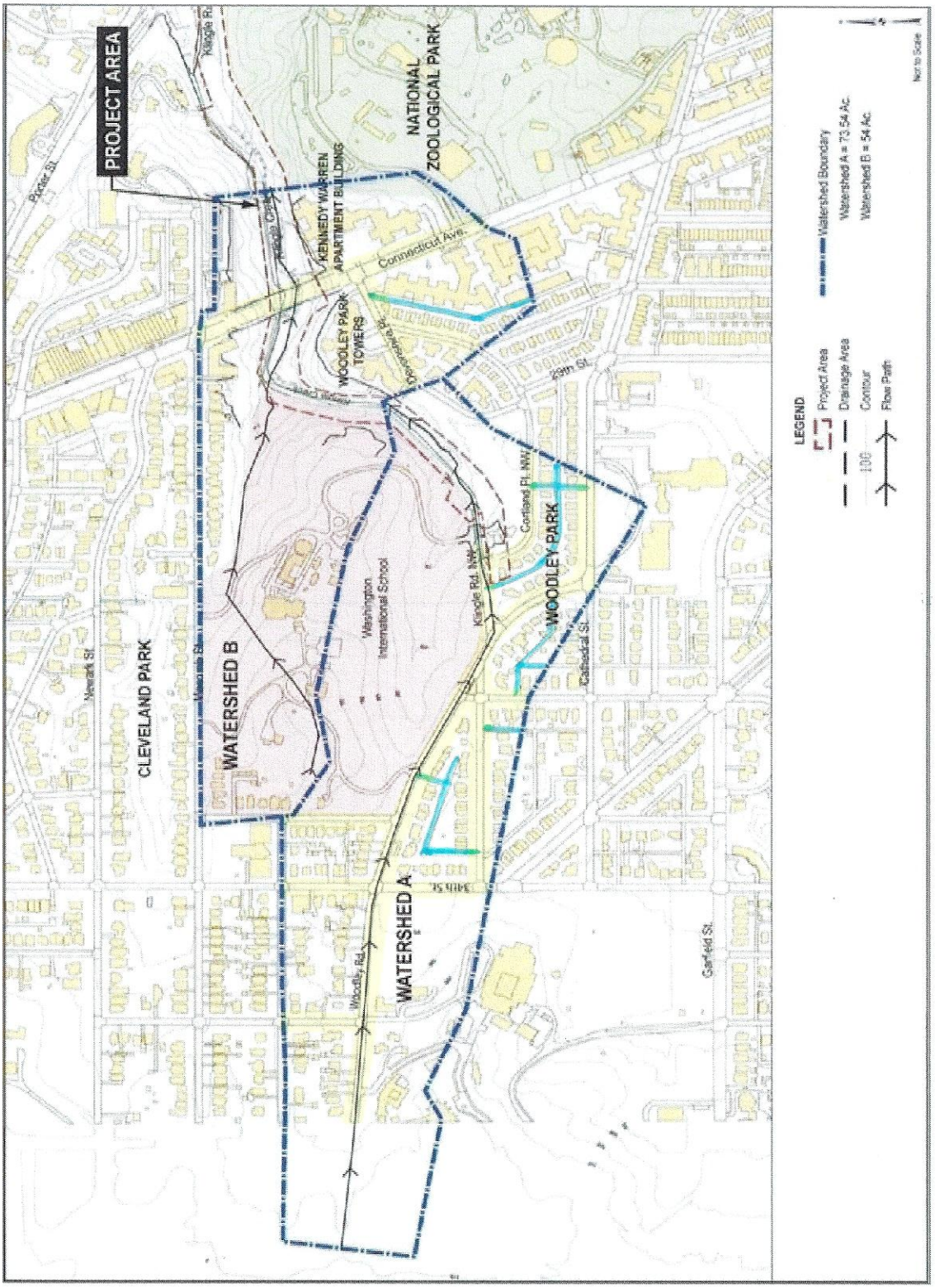
Project Outcomes and Outputs

The output of the project will be the installation of bioretention, permeable pavement, and stormwater volume retention techniques to retain stormwater from 152,000 square feet of impervious surface in the Klingle Run Watershed. The outcome of the project is that the LID practices will reduce stormwater volume flowing into Klingle Run and improve the health of the stream. These practices in conjunction with the stream restoration planned with the Klingle Trail project should produce significant improvement in the condition of Klingle Run.

Project Budget

- The project budget includes funding for design, construction, and project management in the total amount of $1,593,155.70. The detailed budget is shown in Attachment C.
- The design budget includes a design consultant to design the project from concept to completion, the cost of survey and utility location, required geotechnical testing, permit fees, and administrative costs. The total design budget estimate is $389,000.
- The construction budget includes all the items needed to construct the project, including excavation, soil, stone, drainage infrastructure, pavement, and plants. DDOT projects always include items for maintenance of traffic, soil erosion and sediment control, and contractor mobilization which is a fixed percentage cost stated in the DDOT standard specifications. The construction item cost includes all materials, labor, and overhead to install the item. The budget includes 20% additional for minor construction items. The total estimated construction budget is $924,556.
- The project management budget includes DDOT staff project management, DDOT staff to review and approve project details, and a construction management firm to oversee the on-site and daily details of the construction project. The project management budget is $279,600.

Attachment A: Klingle Trail Watershed



Attachment B: Streets & Alleys in Klingle Run Watershed

Street/Alley	**Width (ft)**	**Length (ft)**	**Paved Area (SF)**
Watershed 'A'			
Cathedral Ave	30	525	15,750
Cortland Place	25	625	15,625
Klingle Road	30	350	10,500
Woodley Road	30	2800	84,000
32nd Street	25	275	6,875
33rd Place	30	420	12,600
34th Street	40	340	13,600
35th Street	30	280	8,400
Alley Square 2098 (Klingle Rd, Woodley Rd, 32nd St, 34th St)	16	790	12,640
Alley Square 2101 (Cathedral Ave, Klingle Rd, 32nd St, Cleveland Ave)	16	150	2,400
Alley Square 2102 (Cathedral Ave, Klingle Rd, 32nd St, Woodley Rd)	16	580	9,280
Alley Square 2103 (Cathedral Ave, Cortland Pl, 29th St, Klingle Rd)	16	912	14,592
Watershed 'B'			
Connecticut Ave	60	1265	75,900
Cortland Place	25	355	8,875
Devonshire Place	30	520	15,600
Alley Square 2106 (Cathedral Ave, Devonshire Pl, Connecticut Ave, 28th St)	16	685	10,960
Total Paved Road & Alley Area			317,597

Attachment C: Stormwater Management Estimate and Project Budget

-Project Information Submitted-

DDOT Klingle Trail Watershed Green Streets

LID Technique	Area	Unit		Gallons Stored		
Manage 150,000 SF of road and alley drainage area						
Ten Bioretention Areas or Bumpouts (5' x 40')	2000	SF		27,377		
(8'x 1250') Permeable Paving parking lanes	10000	SF		66,722		
Tree space improvement (4'x500')	2000	SF		4,937		
Permeable Paving in alley	10000	SF		66,722		
			Total	165,757		
Item	**Qty**	**Unit**	**Unit Cost**	**Total Cost**	**Federal Funds (55%)**	**Non-Federal Match (45%)**
Design						
Design Consultant	1800	Hour	$125	$225,000	$123,750	$101,250
Geotechnical Testing	40	Each	$3000	$120,000	$66,000	$54,000
Survey & Utility Location	1	Lump	$30,000	$30,000	$16,500	$13,500
Direct Costs (printing, mailing, presentation)	1	Lump	$4,000	$4,000	$2,200	$1,800
Permit Fees	1	Lump	$10,000	$10,000	$5,500	$4,500
DESIGN TOTAL				$389,000	$213,950	$175,050
Construction						
Permeable Pavement	2222	SY	$100	$222,222	$122,222	$100,000
Excavation (3ft paving, 4ft bioretention)	2519	CY	$40	$100,741	$55,407	$45,333
Aggregate Base (28 in)	1778	CY	$55	$97,778	$53,778	$44,000
Bioretention Soil (30 in)	185	CY	$55	$10,185	$5,602	$4,583
Mulch	444	SY	$5	$2,222	$1,222	$1,000
Soil Remediation (12 in)	74	CY	$60	$4,444	$2,444	$2,000
Plants	222	SY	$100	$22,222	$12,222	$10,000
Geotextile	3178	SY	$5	$15,889	$8,739	$7,150
Underdrain	2817	LF	$20	$56,333	$30,983	$25,350
Sewer Infrastructure Connections (concrete pipe, manholes)	Lump Sum			$100,000	$55,000	$45,000
Concrete Curb	96	CY	$320	$30,797	$16,938	$13,859
Alley Entrances	5	EA	$4,000	$20,000	$11,000	$9,000
Maintenance of Traffic	Lump Sum			$20,000	$11,000	$9,000
Soil Erosion & Sediment Control	Lump Sum			$10,000	$5,500	$4,500
Miscellaneous Construction Items (20%)	Lump Sum			$142,567	$78,412	$64,155
Contractor Mobilization (per DDOT spec 612.02)	Lump Sum			$69,155	$38,035	$31,120
CONSTRUCTION TOTAL				$924,556	$508,506	$416,050
Project Management						
Construction Management	1560	Hour	$110	$171,600	$94,380	$77,220
DDOT Staff Project Management	800	Hour	$90	$72,000	$39,600	$32,400
DDOT Department Reviewers and Material Verification	400	Hour	$90	$36,000	$19,800	$16,200
PROJECT MANAGEMENT TOTAL				$279,600	$153,780	$125,820
PROJECT TOTAL COST				**$1,593,155.70**	$876,235.64	$716,920.07

DISTRICT DEPARTMENT OF THE ENVIRONMENT

ASSURANCES

The applicant hereby assures and certifies compliance with all federal statutes, regulations, policies, guidelines and requirements, including OMB Circulars No. A-21, A-110, A-122, A-128, A-87; E.O. 12372 and Uniform Administrative Requirements for Grants and Cooperative Agreements 28 CFR, Part 66, Common Rule, that governs the application, acceptance and use of Federal funds for this federally-assisted project.

Also, the Application assures and certifies that:

1. It possesses legal authority to apply for the grant; that a resolution, motion or similar action has been duly adopted or passed as an official act of the applicant's governing body, authorizing the filing of the application, including all understandings and assurances contained therein, and directing and authorizing the person identified as the official representative of the applicant to act in connection with the application and to provide such additional information as may be required.

2. I will comply with requirements of the provisions of the Uniform Relocation Assistance and Real Property Acquisitions Act of 1970, PL 91-646, which provides for fair and equitable treatment of persons displaced as a result of Federal and federally-assisted programs.

3. It will comply with provisions of Federal law which limit certain political activities of employees of a State or local unit of government whose principal employment is in connection with an activity financed in whole or in part by Federal grants. (5 USC 1501, et. (Seq.).

4. It will comply with the minimum wage and maximum hours provisions of the Federal Fair Labor Standards Act if applicable.

5. It will establish safeguards to prohibit employees from using their positions for purpose that is or gives the appearance of being motivated by a desire for private gain for themselves or others, particularly those with whom they have family, business, or other ties.

6. It will give the sponsoring agency of the Comptroller General, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the grant.

7. It will comply with all requirements imposed by the Federal-sponsoring agency concerning special requirements of Law, program requirements, and other administrative requirements.

8. It will comply with the flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973, Public Law 93-234, 87 Stat. 975, approved December 31, 1976. Section 102(a) requires, on and after March 2, 1975, the purchase of flood insurance in communities where such insurance is available as a condition for the receipt of any Federal financial assistance for construction or acquisition purposes for use in any area that has been identified by the Secretary of the Department of Housing and Urban Development as an area having special flood hazards. The phrase "Federal Financial Assistance" includes any form of loan, grant guaranty, insurance payment, rebate, subsidy, disaster assistance loan or grant, or any other form of direct or indirect Federal assistance.

9. It will assist the Federal grantor agency in compliance with Section 106 of the National Historic Preservation Act of 1966 as amended (16 USC 470), Executive Order 11593, and the Archeological and Historical Preservation Act of 1966 (16 USC 569a-1 et. seq.), by (a) consulting with the State Historic Preservation Officer on the conduct of investigations, as necessary, to identify properties listed in or eligible for inclusion in the National Register of Historic Places that are subject to adverse effects (see 36 CFR Part 800.8) by the activity, and notifying the Federal grantor agency of the existence of any such properties and by (b) complying with all requirements established by the Federal grantor agency to avoid or mitigate adverse effects upon such properties.

10. It will comply with the provisions of 28 CFR applicable to grants and cooperative agreements, including Part 18. Administrative Review Procedure, Part 22; Confidentiality of Identifiable Research and Statistical Information; Part 42, Nondiscrimination/ Equal Employment Opportunity Policies and Procedures; Part 61, Procedures; Part 61, Procedures, for Implementing the National Environmental Policy Act; Part 63, Floodplain Management and Wetland Protection Procedures; and Federal laws or regulations applicable to Federal Assistance Programs.

11. It will comply, and all its contractors will comply with Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973, as amended; Section 504 of the Rehabilitation Act of 1973, as amended; Subtitle A, Title III of the Americans with Disabilities Act (ADA) (1990); Title IIX of the Education Amendments of 1972 and the Age Discrimination Act of 1975.

12. In the event a Federal or State court or Federal or State administrative agency makes a finding of discrimination after a due process hearing on the grounds of race, color, religion, national origin, sex, or disability against a recipient of funds, the recipient will forward a copy of the finding to the Office for Civil Rights, U.S. Department of Justice

13. It will provide an Equal Employment Opportunity Program if required to maintain one, where the application is for $500,000 or more.

14. It will comply with the provisions of the Coastal Barrier Resources Act (P.L 97-348) dated October 19, 1982, 16 USC 3501 et. seq., which prohibits the expenditure of most new Federal funds within the units of the Coastal Barrier System.

Signature

August 13, 2012
Date

DISTRICT DEPARTMENT OF THE ENVIRONMENT

CERTIFICATONS

Regarding Lobbying; Debarment, Suspension and Other Responsibility Matters; and Drug-Free Workplace Requirements

Applicants should refer to the regulations cited below to determine the certification to which they are required to attest. Applicants should also review the instructions for certification included in the regulations before completing this form. Signature of this form provides for compliance with certification requirements under 28 CFR Part 69, "New Restrictions on Lobbying" and 28 CFR Part 67, "Government-wide Debarment and Suspension (Non-procurement) and Government-wide requirements for Drug-free Workplace (Grants)". The certifications shall be treated as a material representation of fact.

1. Lobbying

   As required by Section 1352, title 31 of the U.S. Code. And implemented at 28 CFR Part 69, for persons entering into a grant or cooperative agreement over $100,000, as defined at 28 CFR Part 69, the applicant certifies that:

   A. No Federally appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress; an officer or employee of Congress, or an employee of a Member of Congress connection with the making of any Federal grant, the entering into any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal grant 01 cooperative agreement;

   B. If any funds other than Federally appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of a Member of Congress in connection with this Federal grant or cooperative agreement, the undersigned shall complete and submit Standard Form –III, "Disclosure of Lobbying Activities," in accordance with its instructions;

C. The undersigned shall require that the language of this certification be included in the award documents for all sub awards at all tiers including subgrants, contracts under grants and cooperative agreements, and subcontracts, and that all sub-recipients shall certify and disclose accordingly.

2. Debarment, Suspension, And Other Responsibility Matters (Direct Recipient)

As required by Executive Order 12549, Debarment and Suspension, and implemented at 28 CFR Part 67, for prospective participants in primary covered transactions, as defined at 28 CFR Part 67, Section 67.510-

A. The applicant certifies that it and its principals:

1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, sentenced to a denial of Federal benefits by a State or Federal court, or voluntarily, excluded from covered transactions by any Federal department or agency;

2) Have not within a three-year period preceding this application been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public Federal, State, or local) transaction or contract under a public transaction; violation Federal or State antitrust statues or commission of embezzlement, theft, forgery, Bribery, falsification or destruction of records, making false statements, or receiving Stolen property;

3) Are not presently indicated for or otherwise criminally or civilly charged by a governmental entity (Federal, State, or local with commission of any of the offenses enumerated in paragraph (l)(b) of this certification; and

4) Have not within a three-year period preceding this application had one or more public transactions (Federal, State, or local) terminated for cause or default; and

B. Where the applicant is unable to certify to any of the statements in this certification, he or she shall attach an explanation to this application.

3. Drug-Free Workplace (Grantees Other Than Individuals)

As required by the Drug Free Workplace Act of 1988, and implemented at 28 CFR Part 67, Subpart F. for grantees, as defined at 28 CFR Part 67 Sections 67.615 and 67.620-

A. The applicant certifies that it will or will continue to provide a drug-free work place by:

1) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the applicant's workplace and specifying the actions that will be taken against employees for violation of such prohibition;

2) Establishing an on-going drug-free awareness program to inform employee's about- any available drug counseling, rehabilitation, and employee assistance programs; and the penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;

3) Making it a requirement that each employee to be engaged in the performance of the grant be given a copy of the statement required by paragraph (a);

4) Notifying the employee in the statement required by paragraph (a) that, as a condition of employment under the grant, the employee will-

   a) Abide by the terms of the statement; and

   b) Notify the employer in writing of his or her conviction for a violation of criminal drug statue occurring in the workplace no later than five calendar days after such conviction; and

5) Notifying the agency, in writing, within 10 calendar days after receiving notice under subparagraph (d)(2) from an employee or otherwise receiving actual notice of such conviction. Employers of convicted employees must provide notice, including position title to: Chief of Grants Management, 1200 First St., NE, 5th Floor, Washington, DC 20002. Notice shall include the identification number(s) of each effected grant;

6) Taking one of the following actions, within 30 calendar days of receiving notice under subparagraph (d)(2), with respect to any employee who is so convicted-

   a) Taking appropriate personnel action against such an employee, up to and incising termination, consistent with the requirements of the Rehabilitation Act of 1973, as amended; or

   b) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency;

c) Making a good faith effort to continue to maintain a drug-free work place through implementation of paragraphs (a), (l), (c), (d), (e), and (1).

B. The applicant may insert in the space provided below the sites for the performance of work done in connection with the specific grant:

1) Place of Performance (Street address, city, county, state, zip code)

2) Drug-Free Workplace (Grantees who are Individuals)

C. As a condition of the grant, I certify that I will not engage in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance in conducting any activity with the grant; and

D. If convicted of a criminal drug offense resulting from a violation occurring during the conduct of any grant activity, I will report the conviction, in writing, within 10 calendar days of the conviction, to:

District Department of the Environment
1200 First Street, NE 5th Floor
Washington, DC 20002

As the duly appointed representative of the applicant, I hereby certify that the applicant will comply with the above certifications.

Department of Transportation; 55 M Street, SE; Washington DC 20003
1. Grantee Name and Address

Klingle Trail Watershed Green Streets
2. Project Name

Ronaldo T. Nicholson,PE; Deputy Director/Chief Engineer
3. Typed Name and Title of Authorized Representative

4. Signature

August 13, 2012
5. Date

GOVERNMENT OF THE DISTRICT OF COLUMBIA
DEPARTMENT OF TRANSPORTATION

d. Infrastructure Project Management Administration

Application for the Clean Water Act State Revolving Fund Non-Point Source Construction Grants Project Priority List

Submitting Organization:
District Department of Transportation (DDOT), Infrastructure Project Management Administration (IPMA), 55 M St SE, Washington, DC 20003-3522
Congressional District: District of Columbia

Project Title: Oregon Ave Watershed Green Streets
Watershed: The project location is in the MS4 area in the Pinehurst Creek and Rock Creek watersheds.

Project Summary:
The Oregon Ave Watershed Green Streets project will install low impact development (LID) techniques in the streets that drain into Oregon Ave and the outfalls into Pinehurst Creek and Rock Creek Park. DDOT is starting the design of the Oregon Ave project in Fall 2012, which will reconstruct and improve the transportation options on Oregon Ave. Rock Creek Park has been severely impacted by stormwater runoff from the watershed above Oregon Ave that outfalls into the park. In the Environmental Assessment for the Oregon Ave project, the need to control stormwater upstream in the watershed was identified, but the scope of work for the project is limited to Oregon Ave. This project will install bioretention, permeable pavement, and other appropriate volume reduction techniques to retain stormwater runoff on the streets and alleys that drain into Oregon Ave and Rock Creek Park. The Green Streets project will be added on to the Oregon Ave project such that design and construction is done as part of and at the same time as the Oregon Ave project.

Funding Amount Requested

Total Project Construction Cost:	$2,922,435.41
Funding requested (55%):	$1,607,339.48
Matching/In-Kind amount (45%):	$1,315,095.94 (from local Capital Funds)

Project Period: December 2012 – June 2015

Federal Tax Identification Number: 536001131 **DUNS number:** 002336019

Contact: Meredith Upchurch, LID Team Lead, 202-671-4663, meredith.upchurch@dc.gov

Authorized Representative

8/13/2012

Ronaldo T. Nicholson, P.E.; Deputy Director/Chief Engineer **Date**

Project Summary:

In Fall 2012, DDOT will begin design on Oregon Ave, a reconstruction project to improve Oregon Ave and include sidewalks, bike lanes, and stormwater management. Oregon Ave receives significant flows of stormwater from adjacent streets and storm sewer outfalls convey runoff from the watershed above Oregon Ave into Rock Creek Park and Pinehurst Creek. The Oregon Ave project will use LID techniques to manage stormwater from the road, but it is limited to the boundary of the road. The runoff from the watershed and reduction of flow to the outfalls will not be reduced. This issue was noted during the Environmental Assessment (EA) process. This project application, Oregon Ave Watershed Green Streets project, will manage the runoff in the upper watershed of the valley to reduce stormwater that is conveyed to the stream and runs off into the valley.

In the project, DDOT will install low impact development (LID) techniques in the streets that drain into Oregon Ave, Pinehurst Creek, and Rock Creek Park, shown in Attachment A. The watershed map is shown in Attachment B. The project will install bioretention, permeable pavement, and other appropriate volume reduction techniques to retain stormwater runoff on the streets and alleys that drain into Oregon Ave. These LID techniques are proven to retain stormwater volume and treat the runoff to remove metals, nutrients, bacteria, and sediments. Reduction and treatment of runoff will improve the health and condition of the receiving stream.

The total drainage area coming into Oregon Ave totals about 153 acres of public and private lands. The Oregon Ave Watershed Green Streets Project proposes to manage 310,000 square feet of impervious surface through permeable paving and bioretention. The project proposes to manage 160,000 square feet of paving through bioretention, 144,000 square feet of paving through permeable paving parking lanes, and 6000 square feet of sidewalk through soil remediation in the tree space.

The Oregon Ave Watershed Green Streets project will be implemented as part of the Oregon Ave project. Design and construction can be done as part of and at the same time as the road project which will be starting in the fall of 2012 and finishing in 2015.

Green Project Reserve Compliance:

- The Green Streets in Oregon Ave Watershed project meets the EPA Green Project Reserve definition for green infrastructure. The project will capture and infiltrate stormwater using bioretention, permeable pavement, and soil remediation on the site and neighborhood scale. The Oregon Ave project is part of DDOT's Green Streets program to include green infrastructure retrofits in the transportation right of way.

Project Location

- The project location is in the MS4 area of the city in the Pinehurst Creek and Rock Creek watershed.

Support of Environmental Goals

- Pinehurst Creek and Upper Rock Creek are identified in the Rock Creek Watershed Improvement Plan as a targeted watershed. Installing green streets in the Oregon Ave watershed will reduce stormwater runoff and delay peak flows into the stream. This project will contribute to TMDL plans for Pinehurst Creek and Rock Creek by capturing and filtering the water which will reduce pollutant loads to the waterbody.

- All project sites will use bioretention and permeable pavement to reduce stormwater runoff volume which has been proven to improve water quality by filtering water through layers of pavement and stone to remove metals, nutrients, and other pollutants.
- The project will be designed to retain 1.2 inches of runoff and will place practices to maximize the area that can be controlled.
- The project will assist DC in meeting local watershed and Chesapeake Bay Program goals by reducing stormwater runoff volume to Pinehurst Creek and Rock Creek and filtering the water to improve water quality.

Cost Benefit

- The project will manage 310,000 square feet of road, alley, and sidewalk drainage area using bioretention areas or bumpouts, permeable paving parking lanes, and tree space soil remediation.
- The project will retain 215,460 gallons of water in the LID practices.
- Total project cost per gallon retained: $13.56/gallon

Project Feasibility

- The project sites are all in the public right-of-way under the control of DDOT.
- Project design can start as soon as funding is awarded and will be done as an add-on to the contract for the Oregon Ave design which is scheduled from December 2012-April 2014. Construction is planned for 2014-2015.
- The project will be managed by DDOT's IPMA Team 2 led by Paul Hoffman with consultation and review by the Stormwater LID Team, led by Meredith Upchurch. DDOT/IPMA has shown success in progressing LID projects in the District with the recent completion of the Green Alleys project, the ongoing design of the RiverSmart Washington project and the development of Green Infrastructure and LID Standard Designs. An experience design consultant team will be hired to design the project details.
- DDOT has several green infrastructure stormwater management projects that are in design, under construction, and completed including:
    - Green Alleys Pilot projects, completed Summer 2012
    - Nannie Helen Burroughs Ave NE Green Street, completed 2012
    - Pennsylvania Ave SE bioretention areas, completed 2010 - 2011
    - Georgia Ave NW bioretention areas, completed 2011
    - Nebraska Ave Bioswales, completed 2009
    - LID Retrofits for Roadways, starting construction 2012
    - RiverSmart Washington Design Project, currently in design
    - Q St Green Alley, currently in design
- DDOT has extensive work in designing and constructing projects in the District and working with DDOE and DC Water to bring projects to completion.

Innovation in urban nonpoint source pollution controls

- DDOT will demonstrate neighborhood wide LID implementation in the Oregon Ave Watershed project. This demonstration will build on the RiverSmart Washington project to further refine placement of LID on dense neighborhood streets.
- LID placement in dense neighborhood streets must consider the use of the streets, resident and visitor parking needs, and optimal placement to capture stormwater. The demonstration of LID techniques in these areas will further inform LID design for wider scale implementation in all DDOT projects.

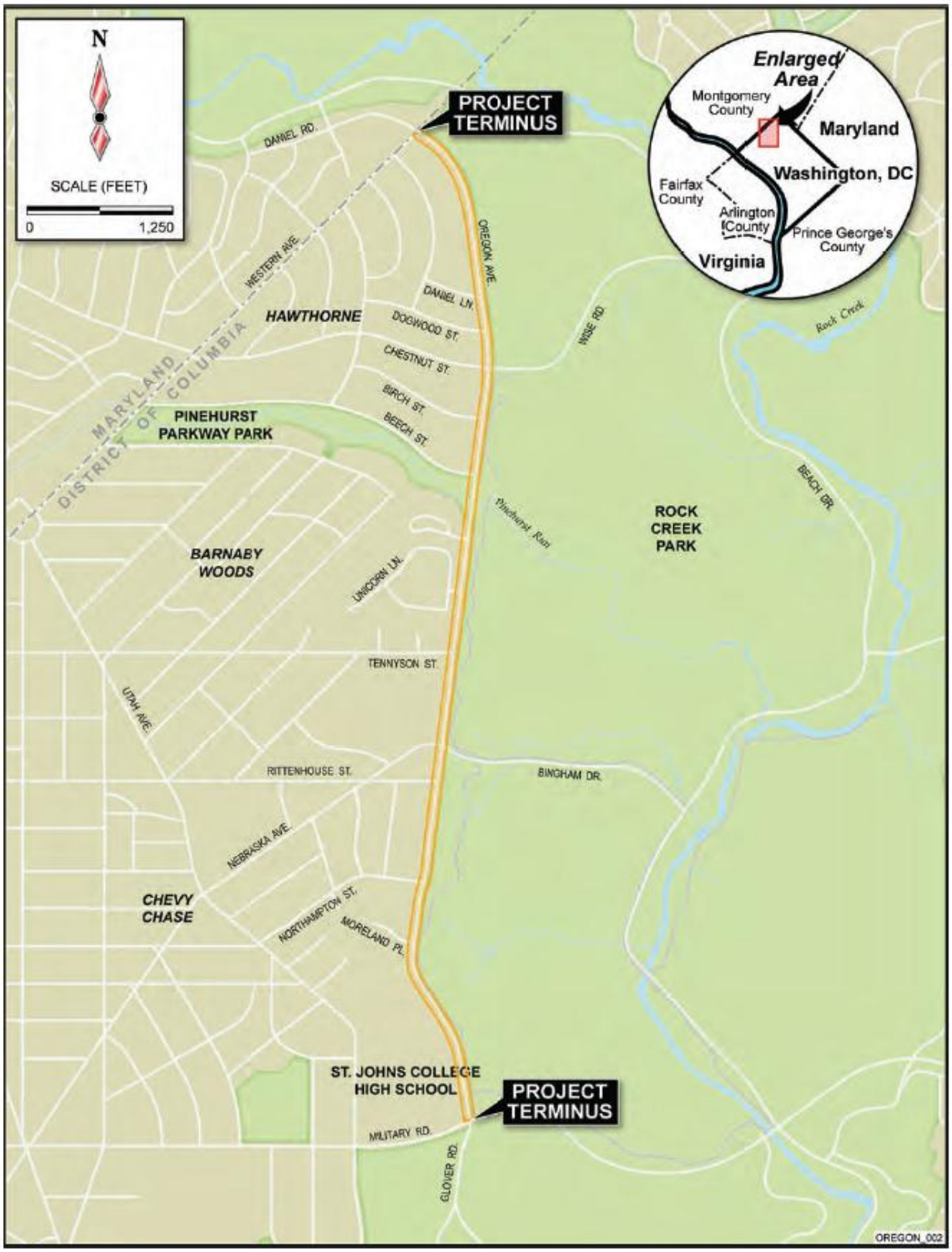
Project Outcomes and Outputs

The output of the project will be the installation of bioretention, permeable pavement, and stormwater volume retention techniques to retain stormwater from 310,000 square feet of impervious surface in the Pinehurst Creek and Rock Creek Watersheds. The outcome of the project is that the LID practices will reduce stormwater volume flowing into Pinehurst Creek and Rock Creek and improve the health of the stream. These practices in conjunction with other park outfall improvements, including the Milkhouse Run Regenerative Stormwater Conveyance should produce significant improvement in the condition of Rock Creek Park.

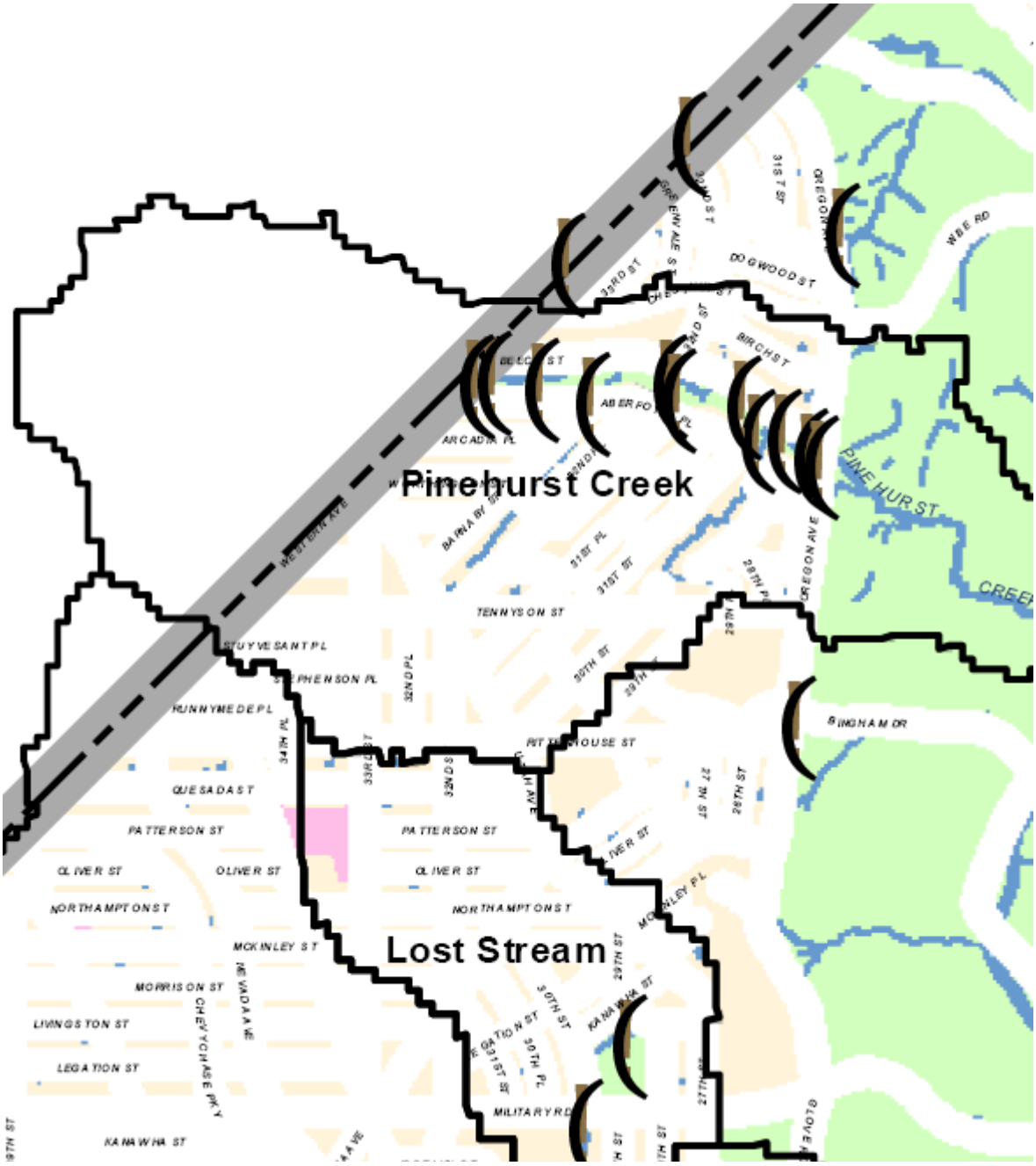
Project Budget

- The project budget includes funding for design, construction, and project management in the total amount of $2,922,435.41. The detailed budget is shown in Attachment C.
- The design budget includes a design consultant to design the project from concept to completion, the cost of survey and utility location, required geotechnical testing, permit fees, and administrative costs. The total design budget estimate is $650,000.
- The construction budget includes all the items needed to construct the project, including excavation, soil, stone, drainage infrastructure, pavement, and plants. DDOT projects always include items for maintenance of traffic, soil erosion and sediment control, and contractor mobilization which is a fixed percentage cost stated in the DDOT standard specifications. The construction item cost includes all materials, labor, and overhead to install the item. The budget includes 20% additional for minor construction items. The total estimated construction budget is $1,829,635.
- The project management budget includes DDOT staff project management, DDOT staff to review and approve project details, and a construction management firm to oversee the on-site and daily details of the construction project. The project management budget is $442,800.

Attachment A: Map of DDOT Oregon Ave Project and Surrounding Road



Attachment B: Oregon Ave Watersheds



LID Technique	Drainage Area	Facility Area	Unit		Gallons Stored	
Manage 150,000 SF of road and alley drainage area						
Forty Bioretention Areas or Bumpouts (5' x 40')	160,000	8000	SF		109,507	
(8'x 1800') Permeable Paving parking lanes	144,000	14400	SF		96,079	
Tree space improvement (4'x1000')	6,000	4000	SF		9,874	
TOTAL	310,000			Total	215,460	
Item	**Qty**	**Unit**	**Unit Cost**	**Total Cost**	**Federal Funds (55%)**	**Non-Federal Match (45%)**
Design						
Design Consultant	3000	Hour	$125	$375,000	$206,250	$168,750
Geotechnical Testing	70	Each	$3000	$210,000	$115,500	$94,500
Survey & Utility Location	1	Lump	$45,000	$45,000	$24,750	$20,250
Direct Costs (printing, mailing, presentation)	1	Lump	$5,000	$5,000	$2,750	$2,250
Permit Fees	1	Lump	$15,000	$15,000	$8,250	$6,750
DESIGN TOTAL				$650,000	$357,500	$292,500
Construction						
Permeable Pavement	1600	SY	$100	$160,000	$88,000	$72,000
Excavation (3ft paving, 4ft bioretention)	2785	CY	$40	$111,407	$61,274	$50,133
Aggregate Base (28 in)	1523	CY	$55	$83,763	$46,070	$37,693
Bioretention Soil (30 in)	741	CY	$55	$40,741	$22,407	$18,333
Mulch	1333	SY	$5	$6,667	$3,667	$3,000
Soil Remediation (12 in)	148	CY	$60	$8,889	$4,889	$4,000
Plants	889	SY	$100	$88,889	$48,889	$40,000
Geotextile	3236	SY	$5	$16,178	$8,898	$7,280
Underdrain	23400	LF	$20	$468,000	$257,400	$210,600
Sewer Infrastructure Connections (concrete pipe, manholes)	Lump Sum			$200,000	$110,000	$90,000
Concrete Curb	574	CY	$320	$183,749	$101,062	$82,687
Maintenance of Traffic	Lump Sum			$40,000	$22,000	$18,000
Soil Erosion & Sediment Control	Lump Sum			$20,000	$11,000	$9,000
Miscellaneous Construction Items (20%)	Lump Sum			$285,656	$157,111	$128,545
Contractor Mobilization (per DDOT spec 612.02)	Lump Sum			$115,697	$63,633	$52,064
CONSTRUCTION TOTAL				$1,829,635	$1,006,299	$823,336
Project Management						
Construction Management	2880	Hour	$110	$316,800	$174,240	$142,560
DDOT Staff Project Management	1000	Hour	$90	$90,000	$49,500	$40,500
DDOT Department Reviewers and Material Verification	400	Hour	$90	$36,000	$19,800	$16,200
PROJECT MANAGEMENT TOTAL				$442,800	$243,540	$199,260
PROJECT TOTAL COST				**$2,922,435.41**	$1,607,339.48	$1,315,095.94

DISTRICT DEPARTMENT OF THE ENVIRONMENT

ASSURANCES

The applicant hereby assures and certifies compliance with all federal statutes, regulations, policies, guidelines and requirements, including OMB Circulars No. A-21, A-110, A-122, A-128, A-87; E.O. 12372 and Uniform Administrative Requirements for Grants and Cooperative Agreements 28 CFR, Part 66, Common Rule, that governs the application, acceptance and use of Federal funds for this federally-assisted project.

Also, the Application assures and certifies that:

1. It possesses legal authority to apply for the grant; that a resolution, motion or similar action has been duly adopted or passed as an official act of the applicant's governing body, authorizing the filing of the application, including all understandings and assurances contained therein, and directing and authorizing the person identified as the official representative of the applicant to act in connection with the application and to provide such additional information as may be required.

2. I will comply with requirements of the provisions of the Uniform Relocation Assistance and Real Property Acquisitions Act of 1970, PL 91-646, which provides for fair and equitable treatment of persons displaced as a result of Federal and federally-assisted programs.

3. It will comply with provisions of Federal law which limit certain political activities of employees of a State or local unit of government whose principal employment is in connection with an activity financed in whole or in part by Federal grants. (5 USC 1501, et. (Seq.).

4. It will comply with the minimum wage and maximum hours provisions of the Federal Fair Labor Standards Act if applicable.

5. It will establish safeguards to prohibit employees from using their positions for purpose that is or gives the appearance of being motivated by a desire for private gain for themselves or others, particularly those with whom they have family, business, or other ties.

6. It will give the sponsoring agency of the Comptroller General, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the grant.

7. It will comply with all requirements imposed by the Federal-sponsoring agency concerning special requirements of Law, program requirements, and other administrative requirements.

8. It will comply with the flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973, Public Law 93-234, 87 Stat. 975, approved December 31, 1976. Section 102(a) requires, on and after March 2, 1975, the purchase of flood insurance in communities where such insurance is available as a condition for the receipt of any Federal financial assistance for construction or acquisition purposes for use in any area that has been identified by the Secretary of the Department of Housing and Urban Development as an area having special flood hazards. The phrase "Federal Financial Assistance" includes any form of loan, grant guaranty, insurance payment, rebate, subsidy, disaster assistance loan or grant, or any other form of direct or indirect Federal assistance.

9. It will assist the Federal grantor agency in compliance with Section 106 of the National Historic Preservation Act of 1966 as amended (16 USC 470), Executive Order 11593, and the Archeological and Historical Preservation Act of 1966 (16 USC 569a-1 et. seq.), by (a) consulting with the State Historic Preservation Officer on the conduct of investigations, as necessary, to identify properties listed in or eligible for inclusion in the National Register of Historic Places that are subject to adverse effects (see 36 CFR Part 800.8) by the activity, and notifying the Federal grantor agency of the existence of any such properties and by (b) complying with all requirements established by the Federal grantor agency to avoid or mitigate adverse effects upon such properties.

10. It will comply with the provisions of 28 CFR applicable to grants and cooperative agreements, including Part 18. Administrative Review Procedure, Part 22; Confidentiality of Identifiable Research and Statistical Information; Part 42, Nondiscrimination/ Equal Employment Opportunity Policies and Procedures; Part 61, Procedures; Part 61, Procedures, for Implementing the National Environmental Policy Act; Part 63, Floodplain Management and Wetland Protection Procedures; and Federal laws or regulations applicable to Federal Assistance Programs.

11. It will comply, and all its contractors will comply with Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973, as amended; Section 504 of the Rehabilitation Act of 1973, as amended; Subtitle A, Title III of the Americans with Disabilities Act (ADA) (1990); Title IIX of the Education Amendments of 1972 and the Age Discrimination Act of 1975.

12. In the event a Federal or State court or Federal or State administrative agency makes a finding of discrimination after a due process hearing on the grounds of race, color, religion, national origin, sex, or disability against a recipient of funds, the recipient will forward a copy of the finding to the Office for Civil Rights, U.S. Department of Justice

13. It will provide an Equal Employment Opportunity Program if required to maintain one, where the application is for $500,000 or more.

14. It will comply with the provisions of the Coastal Barrier Resources Act (P.L 97-348) dated October 19, 1982, 16 USC 3501 et. seq., which prohibits the expenditure of most new Federal funds within the units of the Coastal Barrier System.

Signature

August 13, 2012
Date

DISTRICT DEPARTMENT OF THE ENVIRONMENT

CERTIFICATONS

Regarding Lobbying; Debarment, Suspension and Other Responsibility Matters; and Drug-Free Workplace Requirements

Applicants should refer to the regulations cited below to determine the certification to which they are required to attest. Applicants should also review the instructions for certification included in the regulations before completing this form. Signature of this form provides for compliance with certification requirements under 28 CFR Part 69, "New Restrictions on Lobbying" and 28 CFR Part 67, "Government-wide Debarment and Suspension (Non-procurement) and Government-wide requirements for Drug-free Workplace (Grants)". The certifications shall be treated as a material representation of fact.

1. Lobbying

   As required by Section 1352, title 31 of the U.S. Code. And implemented at 28 CFR Part 69, for persons entering into a grant or cooperative agreement over $100,000, as defined at 28 CFR Part 69, the applicant certifies that:

   A. No Federally appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress; an officer or employee of Congress, or an employee of a Member of Congress connection with the making of any Federal grant, the entering into any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal grant 01 cooperative agreement;

   B. If any funds other than Federally appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of a Member of Congress in connection with this Federal grant or cooperative agreement, the undersigned shall complete and submit Standard Form –III, "Disclosure of Lobbying Activities," in accordance with its instructions;

C. The undersigned shall require that the language of this certification be included in the award documents for all sub awards at all tiers including subgrants, contracts under grants and cooperative agreements, and subcontracts, and that all sub-recipients shall certify and disclose accordingly.

2. Debarment, Suspension, And Other Responsibility Matters (Direct Recipient)

As required by Executive Order 12549, Debarment and Suspension, and implemented at 28 CFR Part 67, for prospective participants in primary covered transactions, as defined at 28 CFR Part 67, Section 67.510-

A. The applicant certifies that it and its principals:

1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, sentenced to a denial of Federal benefits by a State or Federal court, or voluntarily, excluded from covered transactions by any Federal department or agency;

2) Have not within a three-year period preceding this application been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public Federal, State, or local) transaction or contract under a public transaction; violation Federal or State antitrust statues or commission of embezzlement, theft, forgery, Bribery, falsification or destruction of records, making false statements, or receiving Stolen property;

3) Are not presently indicated for or otherwise criminally or civilly charged by a governmental entity (Federal, State, or local with commission of any of the offenses enumerated in paragraph (l)(b) of this certification; and

4) Have not within a three-year period preceding this application had one or more public transactions (Federal, State, or local) terminated for cause or default; and

B. Where the applicant is unable to certify to any of the statements in this certification, he or she shall attach an explanation to this application.

3. Drug-Free Workplace (Grantees Other Than Individuals)

As required by the Drug Free Workplace Act of 1988, and implemented at 28 CFR Part 67, Subpart F. for grantees, as defined at 28 CFR Part 67 Sections 67.615 and 67.620-

A. The applicant certifies that it will or will continue to provide a drug-free work place by:

1) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the applicant's workplace and specifying the actions that will be taken against employees for violation of such prohibition;

2) Establishing an on-going drug-free awareness program to inform employee's about- any available drug counseling, rehabilitation, and employee assistance programs; and the penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;

3) Making it a requirement that each employee to be engaged in the performance of the grant be given a copy of the statement required by paragraph (a);

4) Notifying the employee in the statement required by paragraph (a) that, as a condition of employment under the grant, the employee will-

   a) Abide by the terms of the statement; and

   b) Notify the employer in writing of his or her conviction for a violation of criminal drug statue occurring in the workplace no later than five calendar days after such conviction; and

5) Notifying the agency, in writing, within 10 calendar days after receiving notice under subparagraph (d)(2) from an employee or otherwise receiving actual notice of such conviction. Employers of convicted employees must provide notice, including position title to: Chief of Grants Management, 1200 First St., NE, 5th Floor, Washington, DC 20002. Notice shall include the identification number(s) of each effected grant;

6) Taking one of the following actions, within 30 calendar days of receiving notice under subparagraph (d)(2), with respect to any employee who is so convicted-

   a) Taking appropriate personnel action against such an employee, up to and incising termination, consistent with the requirements of the Rehabilitation Act of 1973, as amended; or

   b) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency;

c) Making a good faith effort to continue to maintain a drug-free work place through implementation of paragraphs (a), (l), (c), (d), (e), and (1).

B. The applicant may insert in the space provided below the sites for the performance of work done in connection with the specific grant:

1) Place of Performance (Street address, city, county, state, zip code)

2) Drug-Free Workplace (Grantees who are Individuals)

C. As a condition of the grant, I certify that I will not engage in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance in conducting any activity with the grant; and

D. If convicted of a criminal drug offense resulting from a violation occurring during the conduct of any grant activity, I will report the conviction, in writing, within 10 calendar days of the conviction, to:

District Department of the Environment
1200 First Street, NE 5th Floor
Washington, DC 20002

As the duly appointed representative of the applicant, I hereby certify that the applicant will comply with the above certifications.

Department of Transportation; 55 M Street, SE; Washington DC 20003
1. Grantee Name and Address

Oregon Ave. Watershed Green Streets
2. Project Name

Ronaldo T. Nicholson,PE; Deputy Director/Chief Engineer
3. Typed Name and Title of Authorized Representative

4. Signature

August 13, 2012
5. Date

CLEAN WATER ACT (CWA) STATE REVOLVING FUND (SRF) NONPOINT SOURCE PROJECT PRIORITY LIST

Project Title: DC Green Roofs Retrofits

Watershed: Anacostia River, Rock Creek, Potomac River

Project Submitted By:
District of Columbia Department of General Services (DGS), Sustainability & Energy Division

Contact:
Mark Chambers, AIA, LEED AP
Sustainability Program Manager
District Department of General Services
2000 14th Street, NW, 8th Floor
Washington, DC 20003
Desk: 202.698.4655
Cell: 202.236.5084
mark.chambers@dc.gov

Congressional District: Washington, DC

Federal Tax Identification Number: 53-6001131

DUNS number: 122649697

Total Project Cost: $1,500,000
Total Federal Match Requested: $825,000
Total Local Match: $675,000

Project Period: FY13-FY14

Signature of Applicant

Mark Chambers		August 13, 2012
Name (Print)	Signature	Date

Sustainability Program Manager

Title

PROJECT DESCRIPTION

The goal of this project is to install 100,000 square feet (sf) of green roof as part of DGS construction and retrofit projects. Green roofs are effective stormwater management practices that capture and retain stormwater on-site through detention in planting media, and eventual evapotranspiration through plant life. In addition, green roofs filter air pollutants from rainwater and save energy used by buildings.

CWSRF ELIGIBILITY

In order for a project to be eligible to receive CWSRF funding, it must meet several decision criteria set forth by EPA. The DC Green Roofs project will prevent and remediate non-point source pollution by capturing and retaining stormwater on-site through evapotranspiration by plants. According to Green Roofs for Health Cities, a leading non-profit organization for the development and promotion of green roof technology, the District of Columbia is currently second in the nation for the city with the most square footage of green roofs. Additional installations of green roofs city-wide will help the District in becoming the nation's number one municipality for green roof coverage and assist in attaining surface water quality goals for local water bodies. According to the decision criteria, the DC Green Roof project is eligible to receive CWSRF funding.

GREEN PROJECT RESERVE (GPR) COMPLIANCE

A GPR project must meet the definition of one of the four GPR categories, which are (1) water efficiency, (2) energy efficiency, (3) green infrastructure and (4) environmentally innovative. The DC Green Roof project meets the definition of category number three: green infrastructure

The ARRA guidance defines green infrastructure as "a wide array of practices at multiple scales that manage and treat stormwater and that maintain and restore natural hydrology by infiltrating, evapotranspiring and capturing and using stormwater...On the local scale green infrastructure consists of site- and neighborhood-specific practices, such as bioretention, trees, green roofs, porous pavements and cisterns." According to the guidance, examples of green infrastructure projects includes:

- Implementation of wet weather management systems for parking areas which include: the incremental cost of porous pavement, bioretention, trees, green roofs, and other practices that mimic natural hydrology and reduce effective imperviousness at one or more scales, including constructed wetlands.
- Comprehensive retrofit programs designed to keep wet weather out of all types of sewer systems using green infrastructure technologies and approaches.

If funded, green roofs will be installed as part of new construction projects and existing building retrofits city-wide.

PROJECT LOCATION (CSO OR MS4)

These devices will be installed at several different locations city-wide, both in the MS4 and CSO areas.

ENVIRONMENTAL GOALS SUPPORT

The environmental goals set forth in the PPL required information summary are:

1. Specific TMDL implementation plan (will project implementation contribute to the delisting District waterbody or waterbodies TMDL efficiency (organics, metals, others);
2. Enhanced impervious area retrofit (will project result in 1.2" volume storage);
3. Enhanced green roof coverage (will project result in 1.2" volume storage);
4. Chesapeake Bay Program goals (will project implementation assist the District in meeting its CBP TMDL goals-TMDL efficiency (N, P, TSS);
5. CSS overflow event remediation (will project focus on volume storage or a specific sewershed);
6. Climate Action Plan (will project address the Climate Action Plan (i.e., water efficiency/energy/air quality indicators).

The District Department of Environment (DDOE) is strongly promoting incorporation of green infrastructure in the stormwater management plan for each new redevelopment site in the District. DDOE is working to implement a 1.2" retention standard for all new redevelopment projects city-wide by July 2013. DGS is not exempted from this standard. Green roofs funded under this initiative will assist DGS in meeting the 1.2" retention standard for their properties. The retrofit projects funded by this program will also help DGS in attaining 1.2" of runoff from existing properties.

Assuming 4" of green roof media with 25% porosity is used on each green roof funded through this application, that equates to 82,907 gallons of stormwater retained. This is the equivalent of retaining stormwater from 100,000 sf for the 1.3" storm.

COST BENEFIT

The cost for this project is $1,500,000. A local match of $675,000, or 45 percent, will be provided through local capital funds.

The cost per gallon retained for 82,906 gallons equals $18.09.

PROJECT FEASIBILITY

According to the PPL required information, the project should be implemented within four (4) months of being listed on the PPL list. Specifically, the project sponsor should demonstrate the following:

Ownership – Owner is applicant

These devices will be installed on DGS owned properties. Therefore DGS will be the only agency involved.

Timeline identified – Design exists/construction phases identified

As soon as funds are awarded through the CWSRF, DGS will begin with bid solicitations from contractors

who can install green roofs. If funding is awarded by October 2012, DGS can begin installation within six months.

Engineer/permit reviewer input – Concept plan/stamped drawing/permits obtained

DGS has been working with District Department of Environment (DDOE) to validate the usefulness of these devices at retaining stormwater. DDOE Stormwater engineers have approved the use of this technology.

Organization/agency has successfully completed and maintained a green infrastructure project – testimonials, photos, press, etc.

In partnership with DDOE, DGS implemented a multitude of green infrastructure projects using ARRA funding. Below are short descriptions for each of those projects.

Green Toilets at Anacostia SHS

ARRA funds were provided to the DC Office of Public Education Facilities Modernization (now part of DGS) for an innovative roof top rain water harvest & reuse program. This included funding for a harvest system to direct roof top runoff into cisterns used for low flush toilets. Not only did this project reduce the school's needs for water, but it helped diminish the impact on local aquatic life by reducing the amount of polluted stormwater rushing to local streams during storm events.

Project Timeline: January 2011 – June 2012
Funding: $690,000 in ARRA funds

Anacostia Senior High School Green Roof

This project supported the installation green roof space at Anacostia Senior High School.

Project Timeline: January 2011 – June 2012
Funding: $690,000 in ARRA funds

Woodson Senior High School Green Roof

This project supported the installation green roof space at Woodson Senior High School. Approximately 75% of the school's rooftop space was covered with green roof installations.

Project Timeline: November 2010 – August 2011
Funding: $1,215,000 in ARRA funds

Wilson Senior High School Green Roof

This project supported the installation green roof space at Wilson Senior High School.

Project Timeline: October 2010 – December 2010
Funding: $199,303 in ARRA funds

BUDGET

The budget is based on an assumed average cost per sf of green roof, or $15.00. This includes green roof material (media, plants, etc.) and labor costs. The total cost of the project is $1,500,000.

Item	Non-Federal Match	Federal Match	Project Total
100,000 sf of green roof (includes costs for materials and labor)	$ 675,000.00	$ 825,000.00	$ 1,500,000.00

CLEAN WATER ACT (CWA) STATE REVOLVING FUND (SRF) NONPOINT SOURCE PROJECT PRIORITY LIST

Project Title: DC Green Cubes

Watershed: Anacostia River, Rock Creek, Potomac River

Project Submitted By:
District of Columbia Department of General Services (DGS), Sustainability & Energy Division

Contact:
Mark Chambers, AIA, LEED AP
Sustainability Program Manager
District Department of General Services
2000 14th Street, NW, 8th Floor
Washington, DC 20003
Desk: 202.698.4655
Cell: 202.236.5084
mark.chambers@dc.gov

Congressional District: Washington, DC

Federal Tax Identification Number: 53-6001131

DUNS number: 122649697

Total Project Cost: $353,100.00
Total Federal Match Requested: $194,205
Total Local Match: $158,895, in local funding

Project Period: FY13-FY14

Signature of Applicant

Mark Chambers
Name (Print)

Signature

August 13, 2012
Date

Sustainability Program Manager
Title

PROJECT DESCRIPTION

The goal of this project is to install large cement cisterns on 15 local government properties around the District. These devices will collect and capture stormwater runoff from buildings and parking lots, holding the water collected for use in irrigation, fire truck pump priming, and car washing. Known as "Green Cubes" these devices are large enough to hold 1,300 gallons of stormwater, but small enough to be installed in small to large parking lots throughout the District. Vegetation is also planted along the outside and on top of each device to improve aesthetics and provide more retention capacity. A conceptual drawing of a Green Cube is featured on page 2.

These devices are structurally sound and leak proof. This prevents water stored inside from infiltrating into contaminated soils and further contaminating groundwater. They are tightly sealed, making penetration by vermin virtually impossible. All devices will be outfitted with high-level water treatment systems allowing the water collected to be used for non-potable purposes.

Conceptual drawing of a Green Cube cement cistern

CWSRF ELIGIBILITY

In order for a project to be eligible to receive CWSRF funding, it must meet several decision criteria set forth by EPA. The DC Green Cubes project will prevent and remediate non-point source pollution by

capturing and retaining stormwater from the surrounding area for non-potable uses. These devices can be easily installed in small to large parking areas located on District properties. Completion of this project will help ensure continual improvement of all three major watersheds in the District: Anacostia River, Potomac River and Rock Creek.

The District is taking great strides to reduce stormwater runoff from development and redevelopment sites. Currently, the Department of Environment (DDOE) is working to implement a new 1.2" retention standard for all new redevelopment projects in the District. Demonstration projects such as the DC Green Cubes are taking this initiative one step further and attempting to retrofit existing development with practices that will assist in meeting the 1.2" practice. Green Cubes are capable of capturing and retaining 1.3" of stormwater from 1,500 sf of impervious surface. 15 of these devices installed city-wide allow for capture and retention of the 1.3" from 30,000 sf. According to the decision criteria, the DC Green Cube project is eligible to receive CWSRF funding.

GREEN PROJECT RESERVE (GPR) COMPLIANCE

A GPR project must meet the definition of one of the four GPR categories, which are (1) water efficiency, (2) energy efficiency, (3) green infrastructure and (4) environmentally innovative. The DC Green Cubes project meets the definition of three of the four GPR categories: water efficiency, green infrastructure and environmentally innovative.

First, water efficiency projects are defined in attachment 7 of the American Recovery and Reinvestment Act Guidance (ARRA), produced by EPA on March 2nd, 2009, as "the use of improved technologies and practices to deliver equal or better services with less water." Examples of projects that may be classified as water efficiency projects include:

- Efficient landscape or irrigation equipment
- Systems to recycle gray water
- Reclamation, recycling, and reuse of existing rainwater, condensate, degraded water, stormwater, and/or wastewater streams

Green Cubes allow for capture and storage of stormwater runoff from impervious areas for non-potable uses. DGS proposes to install these devices city-wide, preventing significant runoff from reaching local water bodies. Large-scale demonstration projects such as this will assist the District in assessing the long-term feasibility of stormwater reuse projects for meeting MS4 permit and TMDL requirements.

The ARRA guidance defines green infrastructure as "a wide array of practices at multiple scales that manage and treat stormwater and that maintain and restore natural hydrology by infiltrating, evapotranspiring and capturing and using stormwater...On the local scale green infrastructure consists of site- and neighborhood-specific practices, such as bioretention, trees, green roofs, porous pavements and cisterns." According to the guidance, examples of green infrastructure projects include:

- Implementation of water harvesting and reuse programs or projects, where consistent with state and local laws and policies

As mentioned earlier, a single Green Cube can retain the runoff from 1,500 sf for a 1.3" storm. This is above and beyond the current 1.2" retention standard being pushed by DDOE. The water collected will be reused by DGS properties in a variety of ways.

Lastly, this project is a highly innovative approach to stormwater and wastewater management. According to the 2009 ARRA guidance, environmentally innovative projects are defined as: "Projects that demonstrate new and/or innovative approaches to managing water resources in a more sustainable way, including projects that achieve pollution prevention or pollutant removal with reduced costs and projects that foster adaptation of water protection programs and practices to climate change." Examples of projects that can be funded under this classification include:

- Wetland restoration and constructed wetlands
- Decentralized wastewater treatment solutions to existing deficient or failing on site systems
- Water reuse projects that reduce energy consumption, recharge aquifers or reduce water withdrawals and treatment costs

1,300 gallons of stormwater will be retained by each Green Cube installed. The water captured will be reused by DGS for a variety of non-potable practices. This will reduce DGS's withdrawal from the city water mains, reducing energy costs to pump water to DGS properties. DGS is proposing to install 15 of these devices city-wide. So use of these devices could mean a reduction in 19,500 gallons of water drawn from local water utility system at any one time. The sound structure of these devices also reduces the chances of vermin penetrating into the water hold, as well as preventing leaks. Reduction in leaks means that these devices can be installed on contaminated sites, where other forms of green infrastructure cannot.

PROJECT LOCATION (CSO OR MS4)

These devices will be installed at several different locations city-wide, both in the MS4 and CSO areas.

ENVIRONMENTAL GOALS SUPPORT

The environmental goals set forth in the PPL required information summary are:

1. Specific TMDL implementation plan (will project implementation contribute to the delisting District waterbody or waterbodies TMDL efficiency (organics, metals, others);
2. Enhanced impervious area retrofit (will project result in 1.2" volume storage);
3. Enhanced green roof coverage (will project result in 1.2" volume storage);
4. Chesapeake Bay Program goals (will project implementation assist the District in meeting its CBP TMDL goals-TMDL efficiency (N, P, TSS);
5. CSS overflow event remediation (will project focus on volume storage or a specific sewershed);
6. Climate Action Plan (will project address the Climate Action Plan (i.e., water efficiency/energy/air quality indicators).

As mentioned earlier, implementation of this project will go above and beyond environmental goal number two which promotes enhanced impervious area retrofits resulting in attainment of the 1.2" storm retention standard. A single Green Cube can retain the runoff up to 1,500 sf for a 1.3" storm. The water collected will be reused by DGS properties in a variety of ways. DGS is applying for funding to install 15 of these devices city-wide. All of these devices together will be able to retain stormwater runoff from 30,000 sf for a 1.3" storm.

COST BENEFIT

The cost for this project is $353,100. A local match of $158,895, or 45 percent, will be provided through local capital funds.

PROJECT FEASIBILITY

According to the PPL required information, the project should be implemented within four (4) months of being listed on the PPL list. Specifically, the project sponsor should demonstrate the following:

Ownership – Owner is applicant

These devices will be installed on DGS owned properties. Therefore DGS will be the only agency involved.

Timeline identified – Design exists/construction phases identified

As soon as funds are awarded through the CWSRF, DGS will immediately purchase and install these devices.

Engineer/permit reviewer input – Concept plan/stamped drawing/permits obtained

DGS has been working with District Department of Environment (DDOE) to validate the usefulness of these devices at retaining stormwater. DDOE Stormwater engineers have approved the use of this technology.

Organization/agency has successfully completed and maintained a green infrastructure project – testimonials, photos, press, etc.

In partnership with DDOE, DGS implemented a multitude of green infrastructure projects using ARRA funding. Below are short descriptions for each of those projects.

Green Toilets at Anacostia SHS

ARRA funds were provided to the DC Office of Public Education Facilities Modernization (now part of DGS) for an innovative roof top rain water harvest & reuse program. This included funding for a harvest system to direct roof top runoff into cisterns used for low flush toilets. Not only did this project reduce the school's needs for water, but it helped diminish the impact on local aquatic life by reducing the amount of polluted stormwater rushing to local streams during storm events.

Project Timeline: January 2011 – June 2012
Funding: $690,000 in ARRA funds

Anacostia Senior High School Green Roof

This project supported the installation green roof space at Anacostia Senior High School.

Project Timeline: January 2011 – June 2012
Funding: $690,000 in ARRA funds

Woodson Senior High School Green Roof

This project supported the installation green roof space at Woodson Senior High School. Approximately 75% of the school's rooftop space was covered with green roof installations.

Project Timeline: November 2010 – August 2011
Funding: $1,215,000 in ARRA funds

Wilson Senior High School Green Roof

This project supported the installation green roof space at Wilson Senior High School.

Project Timeline: October 2010 – December 2010
Funding: $199,303 in ARRA funds

INNOVATIVENESS

This particular cistern design is not being used on a wide-scale in the District. The water storage capacity (1.3" storage volume from 1,500 sf), coupled with the designs structural integrity and real-time storage volume monitoring capability, qualify this design as a highly-efficient stormwater storage practice. If implemented successfully, these devices could adopted on a wider scale allowing for better protection of the District's water resources.

BUDGET

Funding is being requested for both cost of materials and installation of these devices. The total cost for installation of a single device outfitted with monitoring equipment and a high-quality treatment system is $30,770. Total cost for installation of 15 of these devices is $461,550. The tables below display the associated costs in more detail.

Item	Non-Federal Match	Federal Match	Project Total
15 installations of Green Cubes City-wide	$ 207,698	$ 253,853	$ 461,550

Green Tank Gravity On-site Use/Smart Detention and Gravity Drainage

Item	Quantity	Unit	Unit Cost	Total Cost
Exterior 7'x7'x7' (1300 gallons) Precast Concrete Cistern	1	each	$4,500	$4,500
65008Manway Hatch	1	each	$500	$500
Green Screens and Planters (assume 2 per tank)	2	each per side	$400	$800
Green Roof Components and Plantings	49	sf	$10	$490
Connection to building	50	lf	$100	$5,000
PVC for Connections to Reverse Siphon, Drain Line, and Overflow	45	lf	$25	$1,125
Freeze Protection	1	each	$500	$500
Procurement/Construction Management/Commissioning	1	each	$700	$700
Installation Cost				$2,530
Total Cost per Cube On-site				$16,145

Control/Monitoring System. One needed per site (required).

Item	Quantity	Unit	Unit Cost	Total Cost
Automatic Drain Valve	1	each	$250	$250
Internet of Things Based Controller and enclosure	1	each	$2000	$2000
Level Sensor	1	each	$250	$250
Procurement/Construction Management/Site Specific Programming and Setup	1	each	$800	$800
Annual Monitoring Software and Server Maintenance				$3,200
Total Cost per Site				$6,500

Costs for High Level Treatment Pumped On-Site Use (e.g., non-potable, secondary contact). One per site (optional).

Item	Quantity	Unit	Unit Cost	Total Cost
Submersible Pump (20 gpm)	1	each	$2,000	$2,000
Force Main and Associated Check Valves and Connections	45	lf	$25	$1,125
Tank Mounted Bag Filters and Enclosure for Filters	2	each	$1,000	$1,000
Fine Filtration and UV Disinfection Units	1	each	$2,000	$2,500
Procurement/Construction Management/ Commissioning	1	each	$300	$300
Installation Cost				$1,200
Total Cost per Site				$8,125

CLEAN WATER ACT (CWA) STATE REVOLVING FUND (SRF) NONPOINT SOURCE PROJECT PRIORITY LIST

Organization: District Department of the Environment, Watershed Protection Division
Address: 1200 First Street NE, 5th floor
Washington, DC 20002
Congressional District: 0
Project: Nonpoint Source/Green Project Reserve
Project Title: Hickey Run Stream Restoration
Watershed: Anacostia River

Summary: Hickey Run is a western tributary of the Anacostia River which flows approximately 0.9 miles southeast to the Anacostia. The total watershed area is roughly 1,079 acres or 1.7 square miles. The upper half of the stream is essentially a piped sewershed, and the lower half of the stream is fed by this complex storm sewer system. The lower half of the stream traverses the U.S. National Arboretum with a highly altered and armored channel throughout most of its length. Due to the nature of the heavily developed and mostly impervious upper reaches of its watershed, Hickey Run is heavily degraded. The Hickey Run Restoration project will reduce stream bank erosion and improve water quality, as well as reconnect the stream to its historic floodplain, which will attenuate flooding and restore aquatic habitat.

Funding Amount Requested: $2,500,000
Matching/In-Kind Amount: $2,045,500
Project Period: FY13-FY14
Federal Tax Identification Number: 53-6001131
DUNS: 780986563

Contact Person: Stephen Reiling
202-442-7700 (phone)
202-535-1364 (fax)
stephen.reiling@dc.gov

Authorized Representative: Sheila Besse
Associate Director, Watershed Protection Division

Signature: Sheila A. Besse **Date:** 8/13/12

-Project Information Submitted-

PROJECT SUMMARY

Hickey Run is a western tributary of the Anacostia River which flows approximately 0.9 miles southeast to the Anacostia. The total watershed area is roughly 1,079 acres or 1.7 square miles. The upper half of Hickey Run's watershed lies in a heavily industrialized and mostly impervious area north of New York Avenue. The upper half of the stream, therefore, is essentially a piped sewershed, and the lower half of the stream is fed by this complex storm sewer system. The lower half of the stream, the day-lighted half south of New York Avenue, traverses the U.S. National Arboretum (USNA) with a highly altered and armored channel throughout most of its length. Due to the nature of the heavily developed and mostly impervious upper reaches of its watershed, Hickey Run is heavily degraded.

Construction was recently completed of a stormwater best management practice (BMP) to capture trash, sediment, and oil and grease at the beginning of the day-lighted portion of Hickey Run, immediately downstream for the New York Avenue culvert. While this BMP will greatly reduce the amount floatable trash and other pollutants from making their way to the Anacostia, it does little to address stream bank erosion and poor habitat conditions downstream. The Hickey Run Restoration project will reduce streambank erosion and improve water quality, as well as reconnect the stream to its historic floodplain, which will attenuate flooding and restore aquatic habitat.

CWSRF ELIGIBILITY

In order for a project to be eligible to receive CWSRF funding, it must meet several decision criteria set forth by EPA. The Hickey Run Restoration project will prevent and remediate nonpoint source pollution on public lands by removing nitrogen, phosphorus and sediment. Design and construction of this capital water quality project will both protect and improve the water quality of Hickey Run and ultimately the Anacostia River. In addition, implementation of this nonpoint source capital improvement is consistent with the Anacostia River Watershed Implementation Plan (WIP), submitted to EPA in January 2012. According to the decision criteria, the Hickey Run Restoration project is eligible to receive CWSRF funding.

GREEN PROJECT RESERVE (GPR) COMPLIANCE

A GPR project must meet the definition of one of the four GPR categories, which are (1) green infrastructure, (2) water efficiency, (3) energy efficiency and (4) environmentally innovative. The Hickey Run Restoration project meets the definition of green infrastructure, as stated in the CWSRF GPR guidance issued by EPA on April 21, 2010, which includes "a wide array of practices at multiple scales that manage wet weather and that maintain and restore natural hydrology by infiltration, evapotranspiring and harvesting and using stormwater." Specifically, the project meets Section 1.2-7 of the guidance, which allows the restoration of permanent riparian buffers.

PROJECT LOCATION (CSO OR MS4)

The Hickey Run Restoration project is located in the MS4 area of the District. Hickey Run originates from a box culvert south of New York Avenue, with a drainage area of approximately 1,079 acres.

ENVIRONMENTAL GOALS SUPPORT

The environmental goals set forth in the PPL required information summary are:

1. Specific TMDL implementation plan (will project implementation contribute to the delisting District waterbody or waterbodies TMDL efficiency (organics, metals, others));
2. Enhanced impervious area retrofit (will project result in 1.2" volume storage);
3. Enhanced green roof coverage (will project result in 1.2" volume storage);
4. Chesapeake Bay Program goals (will project implementation assist the District in meeting its CBP TMDL goals-TMDL efficiency (N, P, TSS));
5. CSS overflow event remediation (will project focus on volume storage or a specific sewershed);
6. Climate Action Plan (will project address the Climate Action Plan (i.e., water efficiency/energy/air quality indicators).

The Hickey Run Restoration project is part of a larger group of projects listed on the Anacostia WIP, which addresses TMDLs in the watershed. In order to calculate the annual efficiencies for N, P, and TSS for a stream restoration project, the general method used is to multiply the length of each bank restored by 0.02 lbs N/ft/year, 0.0035 lbs P/ft/year, and 2.55 lbs TSS/ft/year (Chesapeake Bay Program). Since approximately 4,900 linear feet of Hickey Run, or 9,800 total left and right bank length, is to be restored, the project will result in efficiencies of 196 lbs N/year, 34.4 lbs P/year, and 24,990 lbs TSS/year. Hickey Run is listed for total suspended solids (TSS) and is a tributary to the Anacostia River. The restoration project will therefore contribute to delisting both Hickey Run and the Anacostia for the TSS TMDL and assist the District in meeting its CBP TMDL goals.

COST BENEFIT

The design and construction cost of the restoration project is approximately $4.5 million. A local match of approximately $2 million (45%) has been identified, and the acquisition of matching funds from additional sources may be possible.

PROJECT FEASIBILITY

According to the PPL required information, the project should be initiated within four months of being listed on the PPL list. Specifically, the project sponsor should demonstrate the following:

Ownership – Owner is applicant

The U.S. Department of Agriculture, Agricultural Research Service (USDA-ARS), which owns USNA, is an active stakeholder in the restoration project. USDA-ARS has entered into a memorandum of understanding with DDOE-WPD for an ARRA-funded CWSRF project, and a similar MOU will be executed for the Hickey Run Restoration project.

Timeline identified – Design exists/construction phases identified

If CWSRF funding is awarded to this project, it will be advertised as a design-bid-build contract; a qualified design firm will produce detailed studies and designs, which will then be used to solicit bids from equally qualified construction contractors. A typical design-bid-build stream restoration project can be completed within three years, provided no permitting issues or other extenuating circumstances are encountered.

Engineer/permit reviewer input – Concept plan/stamped drawing/permits obtained

DDOE-WPD engineers/reviewers will meet with the designer after the 60% design submittal to review the plans and offer comments. Complete construction documents and specifications, including permits, will be ready approximately nine months after the design portion of the contract commences. The construction package will then be solicited for bids from qualified contractors.

Organization/agency has successfully completed and maintained a green infrastructure project – testimonials, photos, press, etc.

DDOE-WPD received over $14,000,000 in ARRA funds through CWSRF in FY2010 and committed all to green infrastructure projects, including green roofs, green alleys, impervious surface removal, regenerative stormwater conveyance systems, and other LID installations.

Individual and team experience is evident in technical and organizational management of the project – Resumes, firm qualifications, past project descriptions, etc.

The Hickey Run Restoration project will be solicited to qualified firms with experience in the design and construction of steam restoration projects. All submissions will be reviewed by a team of professionals with expert knowledge of stream restoration design and construction, and the project itself will be managed by equally-qualified DDOE-WPD staff.

Experience working with District or Federal Government agencies and funding and in multi-stakeholder settings – Past project descriptions

Given that DDOE-WPD is itself a District agency, it has a long history of working with other District and Federal agencies, as well as with non-profit organizations, community groups, and educators. Following are a few examples of such partnerships:

<u>Bingham Run and Milkhouse Ford Regenerative Stormwater Conveyance Projects</u>
In 2011, DDOE restored two stormwater fed tributaries of Rock Creek using regenerative stormwater conveyances (RSC), also known as coastal plain outfalls. A RSC is a specialized type of low impact development that uses an innovative, engineered system of stepped weirs and pools, with materials appropriate for stream habitat to create a dependable open channel conveyance to create a system of physical features, chemical processes, and biological mechanisms that greatly reduce erosive forces and improves the ecology of a drainage area. These projects were a unique partnership between the District and the National Park Service (NPS) to control stormwater from District lands while restoring intermittent streams on NPS land.

Watts Branch Stream Restoration Project

The District Department of the Environment, the U.S. Fish and Wildlife Service and USDA-NRCS recently completed the restoration Watts Branch from Southern Avenue to Minnesota Avenue NE. The project will reduce stream bank erosion, improve water quality, and restore aquatic habitat. Stream restoration reshaped the channel to reduce streambank erosion, create pools and riffles to support aquatic life, and reestablish streamside vegetation. Stream restoration is one part of a multi-agency, collaborative effort to improve water quality of the Watts Branch watershed and the Anacostia River. Other projects include rehabilitating sanitary sewers, constructing stormwater management facilities, and reducing the amount of stormwater runoff from impervious areas.

Brent Elementary LID Installation

The Brent Elementary PTA was the number-one ranked applicant out of 32 applicants to a unique LID grant program intended to develop a District/Federal partnership program between DDOE and USDA-NRCS to advance LID installation in the District. This project removed over 1,200 square feet of asphalt around part of the perimeter of the Brent School's playground and installed a raingarden to manage stormwater runoff from the surrounding 20,000 square feet of remaining asphalt. DDOE fully funded this project, USDA-NRCS acted as the contracting/project management agent, and DGS (formerly OPEFM) and DDOT are the landowners.

INNOVATIVENESS

While the practice of stream restoration has existed for some time now, stream restoration projects are relatively new to the District. The Hickey Run Restoration project, therefore, will be a showcase for using stream restoration as a means of reducing pollutant loads and meeting the District's deliverables as stated in the Chesapeake Bay WIP. In addition, USNA receives more than 500,000 visitors per year, which will make the Hickey Run Restoration project one of the most highly visible in the District.

PROJECT ACTIVITIES, OUTCOMES, AND OUTPUTS

Activities

- Development of concept design and hydrologic/hydraulic study
- Detailed field survey
- Submittal of interim and final design and report
- Application for and receipt of all required permits
- Construction of stream restoration project

Outcomes

- 98 lbs/year reduction in nitrogen released to downstream waterbodies
- 17.2 lbs/year reduction in phosphorus released to downstream waterbodies
- 12,495 lbs/year reduction in total suspended solids released to downstream waterbodies
- Improved riparian habitat along Hickey Run
- Public amenity to visitors of the U.S. National Arboretum

Outputs

- 4,900 linear feet of stream restored

- 11 acres of improved riparian habitat

BUDGET NARRATIVE

The cost of stream restoration projects can vary significantly depending on the region, site characteristics, and the municipality within which the project is being constructed. The costs for the Hickey Run stream restoration project were developed based on similar projects completed in the District and surrounding region. However, estimates for this project are somewhat higher given the scope of work. A significant amount of existing concrete channel will need to be removed and sinuosity of the stream restored, which will require extensive grading and planting. In addition, DC Water is rehabilitating an existing sanitary interceptor that crosses the stream; coordination among District and Federal agencies and DC Water will increase project costs. Finally, given that the project will be constructed on Federal lands, permitting and oversight will be more rigorous than a project constructed on District-owned property.

BUDGET TABLE

Item	Request	Local Match	Total Costs
Complete designs	$250,000	$204,550	$454,550
Permits, including NEPA Environmental Assessment	$115,500	$94,500	$210,000
Construction	$2,134,500	$1,746,450	$3,880,950
Total	**$2,500,000**	**$2,045,500**	**$4,545,500**

-Project Information Submitted-

CLEAN WATER ACT (CWA) STATE REVOLVING FUND (SRF) NONPOINT SOURCE PROJECT PRIORITY LIST

Project Title: Urban Wetland and BlueHouse Wetland Ecosystem Installations at the University of the District of Columbia Van Ness and Bertie Backus Campuses

Urban Wetland Ecosystem Site
Watershed: Rock Creek
Subwatershed: Soapstone Creek

BlueHouse Wetland System Site
Watershed: Anacostia River
Subwatershed: Northwest Branch

Project Submitted by:
University of the District of Columbia (UDC), College of Agriculture, Urban Sustainability & Environmental Sciences (CAUSES)

Contact:
Dr. Sabine O'Hara
Dean, College of Agriculture, Urban Sustainability & Environmental Sciences (CAUSES)
Director of Landgrant Programs
University of the District of Columbia
4200 Connecticut Ave, NW
Washington, DC 20008-1122

Congressional District: Washington, DC

Federal Tax Identification Number: 53-6001131
DUNS number: 13760275

Total Project Cost: $4,349,500.00
Total Federal Match Requested: $2,392,225
Total Local Match: $1,957,275

Project Description:

The goal of the proposed *Urban Wetland Ecosystem/Blue House* project is to reduce the University of the District of Columbia's (UDC) combined water, carbon and energy footprints by minimizing the University's demand for potable water, as well as its wastewater and stormwater flow contributions. These goals will be achieved by implementing two decentralized wastewater treatment systems: an Urban Wetland System at the Van Ness Campus in the Rock Creek watershed and a BlueHouse System at the Bertie Backus Campus in the Anacostia watershed. Conceptual diagrams of the two systems are featured in Figure 1. Each facility will possess the ability to treat stormwater and wastewater separately. Establishing two demonstration sites at the UDC Van Ness and Bertie Backus campuses will provide research based information to the District of Columbia about the interactions between water systems and climate change, the built environment, ecosystem function and services. This proposed project will study the impact of two different water filtration and retention systems that utilize decentralized models and observations at specific sites individually and in combination to allow for temporal extrapolation to other sites within DC, and the surrounding region. Both systems utilize integrated water filtration across different processes that advance the development of theoretical frameworks and predictive understanding. The proposed project thus aims at developing theoretical frameworks and models that incorporate linkages and feedback systems among atmospheric, terrestrial, aquatic and social processes to assist in predicting the potential impact of (1) climate variability and change (2) the built environment and (3) human activity on water systems from decadal to centennial scales in order to provide a basis for adaptive management of water resources.

The 5,000 square foot Urban Wetland System is a modular, decentralized wastewater treatment technology that utilizes plants and microbial fixed-film ecosystems to break down pollution in both stormwater and wastewater. This system will be installed on the UDC main campus in the Van Ness neighborhood of NW DC. This system utilizes the principle of "tidal cycling," which involves repeated filling and draining of an artificial wetland area to mimic tidal events. This is known to enhance aerobic and anaerobic treatment processes, providing energy efficient passive aeration and simultaneous nitrification and denitrification. Overall, this design is extremely energy efficient, robust and scalable; it can treat from thousands to hundreds of thousands of gallons of wastewater per day. To date, designs of this type have been placed in a variety of development applications, from schools and universities to military bases and resorts. In this "tidal" system, a diversity of macro vegetation is planted in buried containers, filled with gravel and permeable materials, called bio cells. Vegetation is planted in this gravel surface to harvest residual nutrients and treat other water- and air-borne pollutants, while providing natural habitat and improved aesthetics. The latest generation of this technology does not require a greenhouse and is well suited to both temperate and tropical locations. Wastewater is kept well below a gravel earth layer, which mitigates odors. This enables these systems to be

used as landscaping and design features in close proximity to human activity. More recently, parts of these systems are being incorporated into the interior design of buildings as well, providing a unique natural ambiance for building lobbies and atria. The newest tidal wetland systems reflect the balanced integration of engineering and information technology with the robust fixed-film ecosystem, which provides a stable treatment environment year-round. The system includes many well understood processes of conventionally engineered biological treatment systems, such as sedimentation, filtration, adsorption, nitrification and denitrification, and incorporates aerobic and anaerobic treatment zones. Advanced controls and information technologies automate cycles, ease operational adjustments, and enable remote monitoring and control of the system as well. With added disinfection and water polishing steps, these systems will easily meet reclaimed water quality standards, enabling water reuse for irrigation, toilet flushing or utility process water among other things.

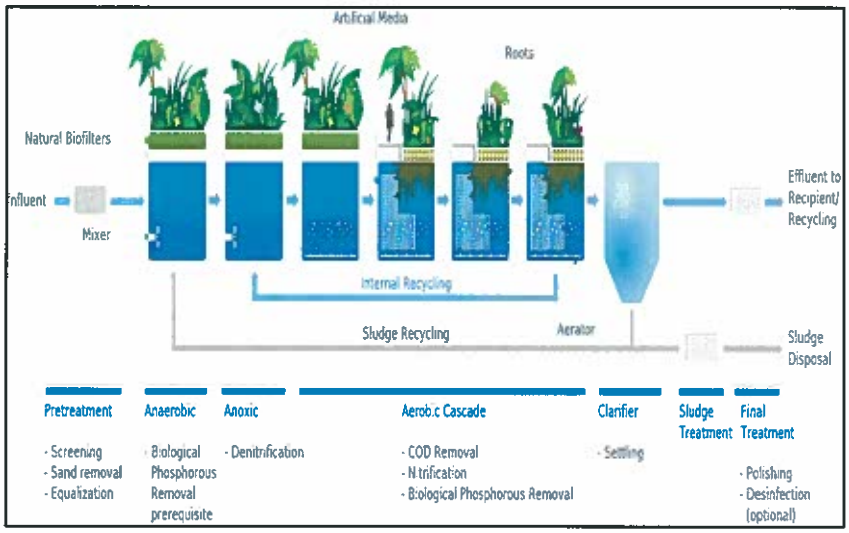
The 1,500 square foot BlueHouse proposed for the UDC Bertie Backus Campus is essentially an eco-engineered, hydroponic enclosed wetland treatment system that relies on suspended and fixed-film growth to breakdown wastewater and stormwater. The BlueHouse, designed by Organica Water, utilizes a patented FCR (Food Chain Reactor) process. In this process, water cascades through specially connected, sequentially operated biological reactors containing suspended and fixed-film biomass. The process is a modified SBR (Sequencing Batch Reactor) System, using secondary reactors and plant roots to form natural habitats, facilitating the establishment of various, highly diverse adaptive ecosystems. These ecosystems, which will nurture high biodiversity, will facilitate enhanced biological breakdown, enhancing the quality of the effluent allowing it to be utilized for non-potable uses. The BlueHouse was specifically designed for urban water reclamation and reuse. Its aesthetically pleasing design, small physical footprint and odorless process allow these facilities to be located virtually anywhere. As a very scalable technology, the BlueHouse is suitable for nearly any decentralized or even large-scale application.

Project period: February, 2013 to August, 2014

Signature of authorized representative:

Dr. Ken Bain HOP
Ken Bain Date: 8/13/2012

a)



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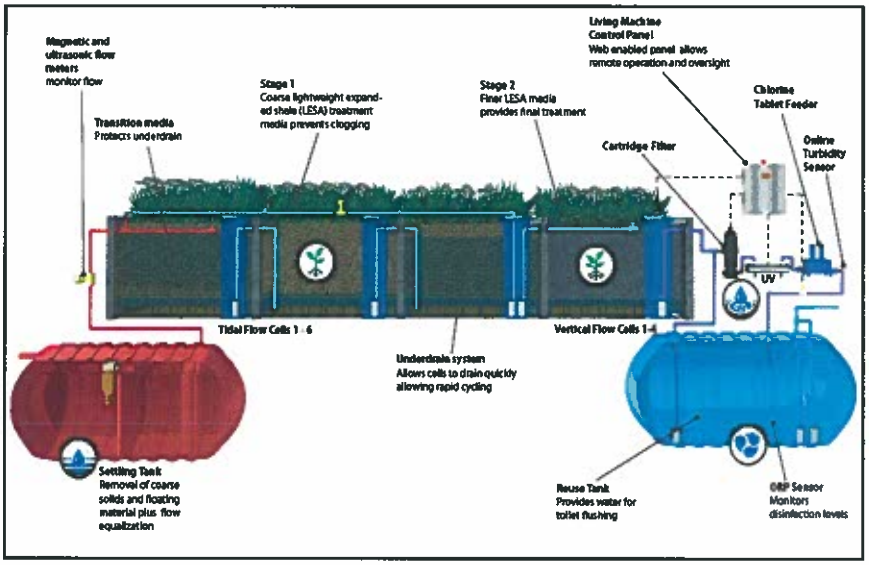


Figure I – Conceptual diagrams displaying circulation and cleansing processes of (a) BlueHouse Wetland Ecosystem and (b) Urban Wetland Ecosystem.
CWSRF ELIGIBILITY

In order for a project to be eligible to receive CWSRF funding, it must meet several decision criteria set forth by EPA. This project will prevent and remediate wastewater and stormwater runoff (which qualifies as non-point source pollution) by capturing and retaining both from the two UDC Campuses for non-potable uses. Funding is needed for design and construction of both devices. Completion of this project will help ensure continual water quality improvements in Rock Creek and the Anacostia River.
Rock Creek is the largest non-tidal tributary in the District's portion of the Potomac River watershed. In recent years, the District has invested significant resources, along with Federal and local partners, to restore the Rock Creek watershed. UDC, in partnership with the District Department of Environment (DDOE), has invested significant resources in installing low impact development facilities on its Van Ness campus, which drains to Soapstone Creek, a tributary to Rock Creek. These facilities include several large bioretention areas and cisterns designed to store and reuse stormwater draining from the newly constructed university plaza. The University is currently working with DDOE to construct four new green roofs on campus. The Urban Wetland System will further assist in reducing stormwater pollution to Soapstone Creek, and serve as a test model for decentralized wastewater treatment on campus. The University plans to use waste water captured and treated by this wetland for evaporative cooling towers for air conditioning, irrigation, toilet flushing, and recirculation into the campus fountains located at the center of the plaza. Stormwater will be captured and treated for these uses as well. During periods of high flow (large storms), the waste water input will be shut off and piped to the sanitary sewer. Stormwater will be cycled through the system and applied various other uses. This project therefore will act as the "ultimate" retention practice. Coupled with UDC's already existing improvements to stormwater management (18,000 gallon stormwater cisterns, 31,697 sf green roof, and several new bioretention areas), implementation of the Urban Wetland Ecosystem project will result in a dramatic decrease in the stormwater pollution contribution from UDC. In addition, UDC's use of local water resources will also be reduced. All of this will further complements the University's efforts to make UDC a model for sustainability throughout the District, and the region.

The BlueHouse system will allow UDC to spread their sustainability initiative to the new Bertie Backus campus in NE DC. This system acts in the same way as the Urban Wetland Ecosystem, except the spatial footprint will be much smaller. The Bertie Backus campus is located within the watershed of the Northwest Branch of the Anacostia River. The District has made significant strides in the past decade restoring the Anacostia and its watershed. The District Department of Environment recently completed restoration of 1.8 miles of stream corridor habitat along Watts Branch, the largest tributary to the District's portion of the upper Anacostia. In addition, one of the District's first green street projects was completed in 2012 along Nannie Helen Boroughs Ave. This project included installation of large streetside bioretention cells and tree boxes.

Additional efforts by the District over the past decade have also included restoration of several acres of native fringe wetland habitat (including reestablishment of Wild Rice *Zizania aquatica)* along the mainstem of the Anacostia, and construction of a $2 million dollar state of the art, end of pipe stormwater best management practice (BMP) at a large MS4 outfall that drains into the main stem of Hickey Run, another large tributary to the District's portion of the Anacostia.

Both the Urban Wetland System and BlueHouse system will complement the District's efforts to restore its local watersheds using green infrastructure and habitat restoration. According to the decision criteria, the Urban Wetland Ecosystem/BlueHouse project is eligible to receive CWSRF funding.

GREEN PROJECT RESERVE (GPR) COMPLIANCE

A GPR project must meet the definition of one of the four GPR categories, which are (1) water efficiency, (2) energy efficiency, (3) green infrastructure and (4) environmentally innovative.

The Urban Wetland Ecosystem/BlueHouse project meets all four of the above criteria. First, water efficiency projects are defined in attachment 7 of the American Recovery and Reinvestment Act Guidance (ARRA), produced by EPA on March 2nd, 2009, as "the use of improved technologies and practices to deliver equal or better services with less water." Examples of projects that may be classified as water efficiency projects include:

- Efficient landscape or irrigation equipment
- Systems to recycle gray water
- Reclamation, recycling, and reuse of existing rainwater, condensate, degraded water, stormwater, and/or wastewater streams

The Urban Wetland System/BlueHouse Project could be classified under all of these examples. Both systems will allow for capture and filtration of stormwater and wastewater for use in irrigation, toilet water and/or water for the Van Ness campus plaza fountain. During periods of high stormwater flow, the wastewater input to the system will be shut off, and stormwater will be piped to the system. That stormwater will be filtered and treated for a multitude of uses such as evaporative cooling towers for air conditioning, irrigation, toilet flushing, and recirculation into the campus fountains located at the center of the plaza. This offers the ultimate in retention of stormwater on-site.

Energy efficiency projects are defined in attachment 7 of the American Recovery and Reinvestment Act Guidance (ARRA), produced by EPA on March 2nd, 2009, as "the use of improved technologies and practices to reduce the energy consumption of water quality

projects, including projects to reduce energy consumption or produce clean energy used by a treatment works defined in Sec. 212." Treatment works projects are eligible, and include planning, design and building activities, among others.

These projects will realize significant energy-related efficiencies. Treating and re-using water on-site will have positive energy implications with regard to the distribution and conveyance of both wastewater and potable water. In this project, energy related to the distribution of 66,000 GPD of water, and associated conveyance of this volume of wastewater, is completely mitigated. In addition, the proposed ecologically-based treatment systems rely on more natural treatment processes that have significantly reduced energy requirements when compared to traditional activated sludge systems. Tidal wetlands, specifically, are considered to have one of the lowest energy requirements associated with any water reclamation technology. Compared to the current system, UDC's water reclamation system should witness net gains in energy efficiency despite the economies of scale associated with large municipal treatment.

The ARRA guidance defines green infrastructure as "a wide array of practices at multiple scales that manage and treat stormwater and that maintain and restore natural hydrology by infiltrating, evapotranspiring and capturing and using stormwater...On the local scale green infrastructure consists of site- and neighborhood-specific practices, such as bioretention, trees, green roofs, porous pavements and cisterns." According to the guidance, examples of green infrastructure projects include:

- Implementation of water harvesting and reuse programs or projects, where consistent with state and local laws and policies
- Hydromodification to establish or restore riparian buffers, floodplains, wetlands and other natural features.

As mentioned above, both systems will utilize stormwater and wastewater for reuse in variety of ways. UDC will be working with the District Department of Environment to develop a variety of performance measures to gauge the efficiency of both projects at reducing pollutant effluent. Both UDC and their partner and manufacturer of both systems, Sustainable Water, expects that these devices will serve as the ultimate in stormwater retention by almost utilizing all stormwater collected. If awarded the grant, UDC and DDOE will seek other sources of funding to develop an intensive research program for monitoring these devices. DDOE has already expressed a strong interest in determining the ability of engineered wetland ecosystems at retaining flow through other means such as evapotranspiration. The District's new stormwater management approach is focused on retention of as much stormwater runoff as possible "on-site." Identifying new, more effective practices for accomplishing retention is a top priority of DDOE.

Lastly, this project is a highly innovative approach to stormwater and wastewater management. According to the 2009 ARRA guidance, environmentally innovative projects are defined as: "Projects that demonstrate new and/or innovative approaches to managing water resources in a more sustainable way, including projects that achieve pollution prevention or pollutant removal with reduced costs and projects that foster adaptation of water protection programs and practices to climate change." Examples of projects that can be funded under this classification include:

- Wetland restoration and constructed wetlands
- Decentralized wastewater treatment solutions to existing deficient or failing on site systems
- Water reuse projects that reduce energy consumption, recharge aquifers or reduce water withdrawals and treatment costs

The Urban Wetland Ecosystem/BlueHouse will reduce UDC's input to the local separate sanitary sewer on both campuses via utilization of decentralized wastewater treatment processes. As highly effective stormwater retention systems, these devices will nicely complement the advanced stormwater management tools already in place on UDC property. These devices, along with the other LID devices already in place, will serve as important demonstration case for a highly effective LID retrofit for an urban college campus.

Lastly, utilization of this technology could prove highly useful in the reduction of water consumption on both UDC campuses. Using sewage treatment wetland facilities to reclaim water for a variety of non-potable uses is not currently being employed in the District of Columbia. Successful implementation of this project could serve as a model for other large campuses and development areas, assisting with reducing the strain on the world's already overtaxed water resources.

PROJECT LOCATION (CSO OR MS4)

Both project sites are located in the MS4 area of the District.

ENVIRONMENTAL GOALS SUPPORT

The environmental goals set forth in the PPL required information summary are:

1. Specific TMDL implementation plan (will project implementation contribute to the delisting of District waterbody or waterbodies TMDL efficiency (organics, metals, others);

2. Enhanced impervious area retrofit (will project result in 1.2" volume storage);
3. Enhanced green roof coverage (will project result in 1.2" volume storage);
4. Chesapeake Bay Program goals (will project implementation assist the District in meeting its CBP TMDL goals-TMDL efficiency (N, P, TSS);
5. CSS overflow event remediation (will project focus on volume storage or a specific sewershed);
6. Climate Action Plan (will project address the Climate Action Plan (i.e., water efficiency/energy/air quality indicators).

The proposed systems are designed to process an average of 66,000 gallons of wastewater per day, which is mined directly from the sanitary sewer system around campus. Water will be treated to tertiary or reclaimed quality standards through a suspended and fixed-film biological treatment process. Effluent reclaimed water will be reused on-site for three major applications: HVAC process water, irrigation and toilet flushing. This facility is designed to reuse 100% of its process load and will not discharge any flow to the environment.

The proposed system will also include a parallel and separated stormwater treatment system that will processes stormwater currently detained on campus. Processed stormwater will supplement reclaimed water for reuse on-site. During heavy rain events, stormwater reuse will be preferential to wastewater reuse. In the event that stormwater cannot be reused, treated stormwater will be discharged back to the Municipal Separated Storm Sewer System (MS4).

Successful implementation of this project will help reduce loads of nitrogen and phosphorous to Rock Creek and the Anacostia River. The District has made significant commitments under the new Chesapeake Bay TMDL for nutrients and sediment to use innovative practices to reduce loads of these pollutants to local water bodies. The Urban Wetland Ecosystem and BlueHouse project bring a new and innovative tool to the District's arsenal to battle stormwater polution. The successful implementation of which will be achieve the following benefits:

System Benefits

The proposed water reclamation and stormwater treatment system will have four major benefits:

1) It will conserve local water resources by reducing the University's potable water consumption by approximately 66,000 gallons/day (GPD).
2) It will remove approximately 66,000 GPD from the separate sewer system or the MS4 (depending on weather conditions). This will free up municipal collection

infrastructure and treatment capacity, and lead to improved conditions in local water bodies.

3) It will have positive environmental effects with regard to pollution abatement and energy efficiency.
4) It will serve as a model for sustainable wastewater and stormwater management.

Estimated Pollution Reduction

The envisioned treatment system will reduce pollution in 3 major ways:

1) Nutrient/pollutant removal through wastewater treatment and reuse
2) Nutrient/pollutant removal and stormwater flow reductions through stormwater treatment and reuse
3) Net reductions in energy requirements through efficiencies in treatment design and reliance on a decentralized water reuse model

Table 1.0 below outlines the effluent design standards for the proposed wastewater reclamation system and the reduction in pollution loading associated with treatment. Table 2.0 demonstrates the total wastewater flow reduction to the municipal sewer system. Projections for stormwater flow will be explored at greater detail in the engineering and design phase of the project.

Table 1 - Treatment Design Parameters

Parameter (Analyte)	Design Influent WW Quality	Reclaimed Water Effluent Quality	Min. Pollution Reduction
Biological Oxygen Demand (BOD)	450 mg/L	<5 mg/L	99%
Total Nitrogen (TN)	85 mg/L	<7 mg/L	92%
Total Phosphorus (TP)	10 mg/L	<1.5 mg/L	85%
Ammonia	50 mg/L	<5 mg/L	90%
Turbidity	500 mg/L	<3 NTU	99%
Total Suspended Solids (TSS)	500 mg/L	<5 mg/L	99%

Avg. Influent/ Volume mined (GPD)	Effluent applied as Irrigation (10%)	Effluent applied for Toilet Flushing (15%)	Effluent applied for HVAC Make-up (75%)	Continued Discharge to Municipal Sewer (10% HVAC blowdown)	Total Flow Reduction
66,000	6,600	9,900	49,500	4,950	61,050 (92.5%)

Table 2-Estimated Wastewater Reuse and Total Flow Reduction

The system will treat and reuse an average 66,000 GPD or approximately 24 million gallons per year of wastewater. As Table 1 demonstrates, high levels of nutrient/pollutant removal will be performed by the treatment system to meet reclaimed water quality standards. Further reductions in wastewater pollutants can be reached with increased hydraulic retention time and/or supplemental water polishing steps, such as ultra filtration. Since all of the effluent is intended for reuse, this system is considered to have an approximate 100% reduction in nutrient loading/pollution. Depending on the overall sewer mining strategy employed, only one process utilizing non-potable quality water on campus may continue to discharge to the municipal sewer system: HVAC blowdown. This project will include point of use optimization to reduce overall HVAC blowdown effluent and/or completely recapture it for reuse if at all possible.

The separated stormwater treatment system is designed to process stormwater currently detained on-site and treat it for supplemental reuse. On-site stormwater detention capacity and projected stormwater flows are currently unknown. However, the proposed stormwater treatment system, classified as a biofilter, is designed for a minimum of 65% phosphorus removal and approximately 80% nitrogen removal. When re-used on-site the net pollution reduction associated with this system will be 100%. During rain events, stormwater reuse will become preferential to wastewater reuse to help minimize overall stormwater flow. In the event, that all stormwater cannot be reused, the MS4 will receive a significant improvement in overall stormwater quality discharged from the site.

This project will also realize significant energy-related efficiencies. Treating and re-using water on-site will have positive energy implications with regard to the distribution and conveyance of both wastewater and potable water. In this project, energy related to the distribution of 66,000 GPD of water, and associated conveyance of this volume of wastewater, is completely mitigated. In addition, the proposed ecologically-based treatment systems rely on more natural

treatment processes that have significantly reduced energy requirements when compared to traditional activated sludge systems. Tidal wetlands, specifically, are considered to have one of the lowest energy requirements associated with any water reclamation technology. Compared to the current system, UDC's water reclamation system should witness net gains in energy efficiency despite the economies of scale associated with large municipal treatment.

COST BENEFIT

The cost for design completion and construction is approximately $4,349,500.00 . A local match of $1,957,275 will be provided by Sustainable Water, the design and construction company.

Sustainable Water expects that 48 million gallons per year (GPY) of wastewater or stormwater will be treated and retained on-site for non-potable uses by both the Urban Wetland and BlueHouse System projects. If we assume 100% efficiency for both systems, that equals to a cost of $5.28/GPY treated and retained.

PROJECT FEASIBILITY

According to the PPL required information, the project should be implemented within four (4) months of being listed on the PPL list. Specifically, the project sponsor should demonstrate the following:

Ownership – Owner is applicant

UDC will be the main implementing agency on this project.

Timeline identified – Design exists/construction phases identified

A preliminary concept design has been completed for the project. An estimated timeline for this project is as follows:
Complete Design: 6 months
Permitting and Regulatory Approval: 3 months
Construction: 5 months
Commissioning: 4 months
The total project period is estimated to be 18 months.

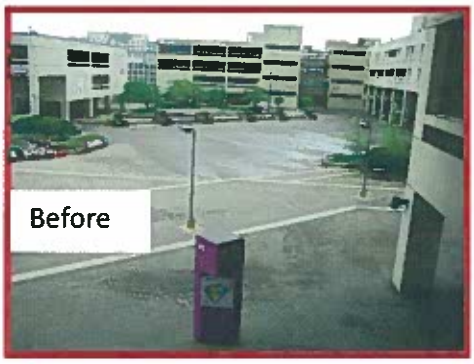
Engineer/permit reviewer input – Concept plan/stamped drawing/permits obtained

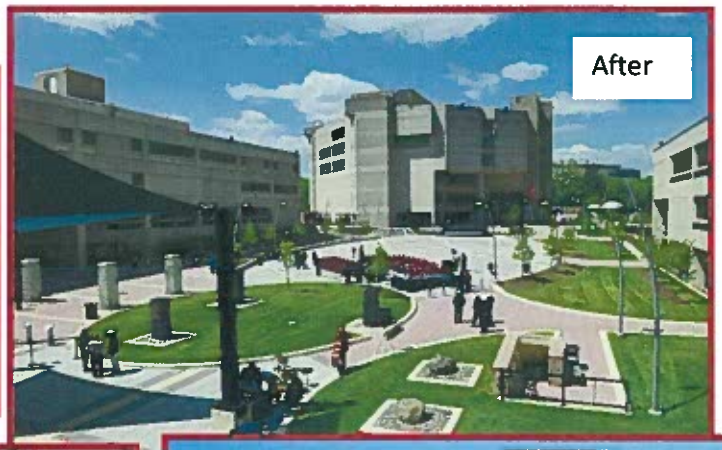
UDC and Sustainable Water are working on completing the final designs for this project. The District Department of Environment (DDOE) has expressed its strong support in seeing this project implemented. DDOE has offered its assistance in facilitating meetings and collaboration between UDC, Sustainable Water, the DC Water and Sewer Authority (DC Water), DC Department of Transportation (DDOT) and DC Department of Consumer and Regulatory Affairs (DCRA)

Organization/agency has successfully completed and maintained a green infrastructure project – testimonials, photos, press, etc.

UDC recently completed one of the largest green roof projects in the city: the renovation of the 90,784 sq ft Dennard Plaza at the Van Ness Campus. Through an innovative and sustainable design process, the impervious area was reduced by approximately 35 %, therefore dramatically reducing the volume of runoff leaving the site. The total planted area is approximately 31,673 sq ft and contains over 90 trees, 700 shrubs, and 900 ground cover plants. The design features storm water collection areas with raised pavers that allow the run off to collect to a system of drains that funnel the water to a series of cisterns at two locations beneath the plaza. The area of permeable pavers is approximately 30,000 sq ft. There are three 5,000 gallon cisterns in one location and three 1,000 gallon cisterns in another collection area for a total storage capacity of 18,000 gallons. A bio-retention area was installed adjacent to the three 1,000 gallon cisterns. This area is used for overflow from the tanks and is also a natural collection point for runoff from the athletic fields west of the plaza. The storm water collection system has greatly reduced the impact on the local storm system which feeds directly into Soapstone Creek, a tributary of Rock Creek.

A celebration of this accomplishment took place in April of 2012, and the ribbon cutting was attended by the Mayor, several council members, dignitaries, and community leaders. The project has been hailed as a model for sustainable projects in the District and a testament to the commitment of the University.

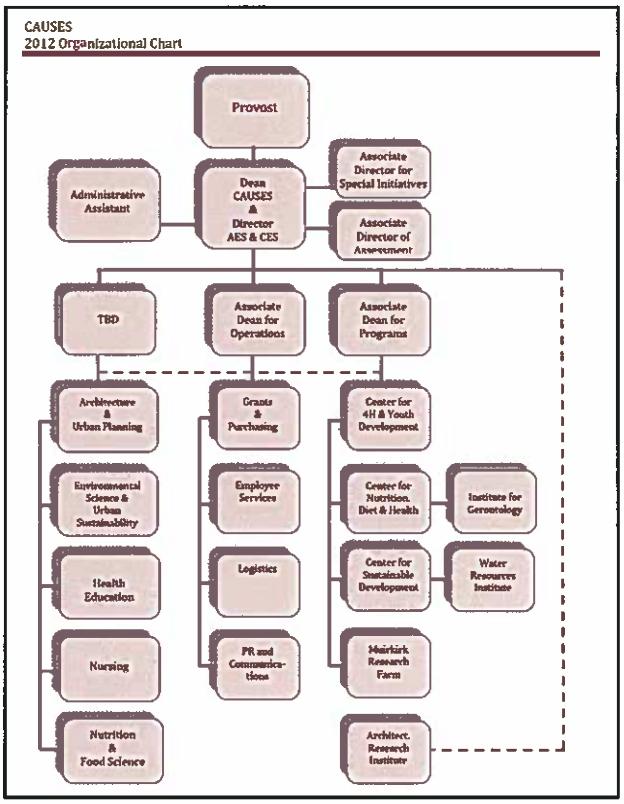




Installation of new cisterns (top left & right) and raised pavers (bottom left) on UDC Van Ness campus for collection of stormwater runoff.

Experience working with District or Federal Government agencies and funding and in multi-stakeholder settings – Past project descriptions

The University has capital procurement authority and manages its own capital projects. Because of this authority, the University is very experienced in the management of district and federal funding, and the governing regulations. Given that the UDC is itself a District agency, it has a long history of working with other District and Federal agencies, as well as with non-profit organizations, for profit businesses, community groups, professionals and educators. The following are a few examples of such partnerships.



The University entered into an MOU agreement with the District Department of the Environment (DDOE) in January of 2010 through which udc received $2.2 million from the Storm Water Compliance Enterprise Fund to install green roofs at the "UDC campus". A 90,784 sq ft green roof has been installed on Dennard Plaza, and the construction will begin in the Fall 2012 on five more green roof projects on the on Van Ness campus. The Enterprise Fund exists to enforce the Municipal Separate Storm Sewer System (MS4) permit requirements thereby allowing the District as a municipality to comply with EPA regulations.

The University entered into an MOU agreement with the District of Columbia Sustainable Energy Utility (DCSEU) in FY2011 whereby the University has received grant funding for sustainable energy projects, including energy efficient lighting and lighting control retrofits for various locations throughout the system of campuses. Additionally, UDC has partnered with the District's Department of Education as well as non profit charter school organizations to provide primary education spaces on the various campuses of the University System. The renovation of the spaces as well as shared operational responsibilities requires coordination and

collaboration with multiple government agencies throughout the various phases of planning, construction, and operation.

The UDC College of Agriculture, Urban Sustainability and Environmental Sciences (CAUSES) will be the main implementing arm of the university on this project. UDC is an urban land-grant university that offers associate, baccalaureate, and graduate programs, certificate programs and community outreach programs to learners of all ages. CAUSES embodies the land-grant tradition of UDC. The organization chart on the next page displays the variety of academic programs currently available at CAUSES, which should serve as a testimonial to the academic resources at UDC, making it the perfect location for implementation of an innovative project such as the one being proposed.

INNOVATIVENESS

The innovativeness of the Urban Wetland/BlueHouse project is it offers redundant security to water-conscious consumers. If water restrictions limit production or cooling, this project provides an uninterrupted supply that is independent of the city water source. As a result of its efficient technology and ecological engineering capabilities coupled with on-site reclamation, UDC can operate the Urban Wetland/ BlueHouse project at a low enough cost to shave valuable dollars off the consumer's current water and sewer bills. In addition, the District is working hard to find new and effective stormwater management practices that retain as much water as possible on-site. The Urban Wetland/BlueHouse project is the "ultimate" when it comes to retention. New reuse practices such as this implemented at a larger scale could prove to be the most effective practices available at reducing stormwater pollution to the District's local water bodies.

BUDGET

The ***Urban Ecosystem/BlueHouse*** project is broken down into five key phases and cost centers: *Engineering and Design*, *Site and Civil, Facility Structure*, *Treatment Components* and *Stormwater and Sewer Mining*. It is anticipated that the UDC team will be allocating resources from facilities management and faculty leadership during the duration of this project. This level of involvement requires an allocation of $350,000 of paid wages for project management and operational supervision.

Project Cost Breakdown:

Engineering and Design

This stage will produce detailed engineered drawings, construction documents, and architectural renderings. During this phase extensive coordination will occur between the engineering consultants, campus architects, university stakeholders, and regulatory agencies. The completed design and associated permit applications is the deliverable at the conclusion of this phase.

Supplies

Approximately $3,500 will be spent on supplies. These supplies include, but are not limited to:

- Printing (includes blown up engineering/construction drawings, rough drafts, 5 final copies of reports: 1-SW, 3-UDC, 1-DDOE)
- GIS licensing share

Services and Consultants:

Services and consultants will require $422,100. This includes, but is not limited to:

- Sustainable Water Consultants
- McKim and Creed Engineering and Design Consultants
- Technology Consultants
- Flow Monitoring Consultants

Travel:

Consultant travel will require $14,400 to include:

- Hotel stays
- Gas
- Per Diem
- Time

Site and Civil:

This phase includes all required site excavation and necessary piping infrastructure. Additionally, this includes final site grading and finished landscaping.

Construction Contractors:

Construction costs will require $142,500. This includes, but is not limited to:

- McKim and Creed: Regulatory compliance certification
- General contractor
- Excavation
- Landscape architects

- Technology Consultants

Travel:

Consultant travel will require $7,500 to include:

- Hotel stays
- Gas
- Per Diem
- Time

Facility Structure

The facility structure will include the forming and pouring of foundation concrete, as well as, the individual biological reactors. The entire biological process will be contained within a greenhouse complete with natural ventilation and all code required safety and environmental features.

Additionally, all process related machinery will be located in a dedicated mechanical area. Laboratory space, sanitary facilities, control room and classroom space are thoughtfully integrated into the structure.

Supplies:

Supplies will require $62,500. This includes, but is not limited to:

- Plants
- Permitting
- Laboratory instruments
- Computer workstation
- Telecommunication

Construction Contractors:

Construction costs will require $1,687,000. This includes, but is not limited to:

- McKim and Creed: Regulatory compliance certification
- General contractor
- Construction Trade Professionals
    - Mechanical, Electrical, Plumbing, Carpentry
- Technology Consultants
- Greenhouse Provider

Treatment Components

Merging nature and technology the design requires assorted mechanical devices including pumps, blowers, motors, and sensors. These components will be assembled and skid-mounted

remotely so as to minimize on site construction time. These prefabricated modules will be delivered onsite, set in place, and connected seamlessly.

Treatment Components:
Treatment components will require $1,540,000. This includes, but is not limited to:

- Equipment Manufacturers
- Equipment Integrator/Fabricator
- Construction Trade Professionals
    - Mechanical, Electrical, Plumbing
- McKim and Creed: Regulatory compliance certification
- Technology Consultants

Stormwater and Sewer Mining
This phase includes the physical connections to existing stormwater and sewer infrastructure. With the use of gravity flow and distribution apparatus stormwater and wastewater will be safely extracted and reliably transported to the treatment facility, controlled using flow monitors and sensors as part of the overall operation.

Construction Contractors:
Construction costs will require $120,000. This includes, but is not limited to:

- McKim and Creed: Regulatory compliance certification
- Technology Consultants
- General Contractors
- Equipment manufacturer

Budget Table: Bluehouse & Tidal Wetlands

Line Item	Federal Match	Local Match	Total
Design Cost *Includes:* *-Feasibility Study* *- Complete survey of the site, including utilities* *- Complete 30%, 65% and 90% Designs* *- Applications for all required permits* *- Complete construction drawings* *- Provide construction administration*	**$ 242,000.00**	**$ 198,000.00**	**$ 440,000.00**
Construction Cost Total (individual costs detailed below)	**$ 1,957,725.00**	**$ 1,601,775.00**	**$ 3,559,500.00**
Site and Civil: Includes all required excavation and piping infrastructure, and finished landscaping	$ 82,500.00	$ 67,500.00	$ 150,000.00
Facility Structures: Includes foundations, biological reactors, plants, and process machinery & equipment.	$ 962,225.00	$ 787,275.00	$ 1,749,500.00
Treatment Components: Mechanical equipment including pumps, blowers, motors, and sensors.	$ 847,000.00	$ 693,000.00	$ 1,540,000.00
Stormwater and Sewer Mining: Includes physical connections to existing stormwater and sewer infrastructure.	$ 66,000.00	$ 54,000.00	$ 120,000.00
Project Management and Operational Oversite (UDC)	**$ 192,500.00**	**$ 157,000.00**	**$ 350,000.00**
Total Costs:	**$ 2,392,225.00**	**$ 1,957,275.00**	**$ 4,349,500.00**

April 24, 2012

FOR IMMEDIATE RELEASE

NORTHEAST ENERGY EFFICIENCY PARTNERSHIPS
FACILITATING PARTNERSHIPS TO ADVANCE ENERGY EFFICIENCY

UDC Receives Honor for its Energy Efficiency Efforts

Washington, DC – The University of the District of Columbia was recently named one of the 2012 Northeast Business Leaders for Energy Efficiency by the Northeast Energy Efficiency Partnerships (NEEP). NEEP recognized UDC's commitment to sustainable innovation and for its contribution in keeping the Northeast region a national leader in accelerating energy efficiency.

"Through our partnership with the DC Sustainable Energy Utility, we were able to accelerate the completion of some lighting efficiency projects this year," says Barbara Jumper, Vice President for Facilities, Real Estate and Safety. "We are proud to accept this award and will use it as a springboard to even greater achievements in the future." This award puts UDC in distinguished company. Previous winners include Princeton University, Syracuse University, BAE Systems, and Bigelow Teas.

UDC and the other honorees will all be recognized at the Northeast Energy Efficiency Summit June 14 in Stamford, CT.

For more information about UDC's Sustainability Initiative, visit www.udc.edu/sustainability.

DISTRICT DEPARTMENT OF THE ENVIRONMENT

ASSURANCES

The applicant hereby assures and certifies compliance with all federal statutes, regulations, policies, guidelines and requirements, including OMB Circulars No. A-21, A-110, A-122, A-128, A-87; E.O. 12372 and Uniform Administrative Requirements for Grants and Cooperative Agreements 28 CFR, Part 66, Common Rule, that governs the application, acceptance and use of Federal funds for this federally-assisted project.

Also, the Application assures and certifies that:

1. It possesses legal authority to apply for the grant; that a resolution, motion or similar action has been duly adopted or passed as an official act of the applicant's governing body, authorizing the filing of the application, including all understandings and assurances contained therein, and directing and authorizing the person identified as the official representative of the applicant to act in connection with the application and to provide such additional information as may be required.

2. I will comply with requirements of the provisions of the Uniform Relocation Assistance and Real Property Acquisitions Act of 1970, PL 91-646, which provides for fair and equitable treatment of persons displaced as a result of Federal and federally-assisted programs.

3. It will comply with provisions of Federal law which limit certain political activities of employees of a State or local unit of government whose principal employment is in connection with an activity financed in whole or in part by Federal grants. (5 USC 1501, et. (Seq.).

4. It will comply with the minimum wage and maximum hours provisions of the Federal Fair Labor Standards Act if applicable.

5. It will establish safeguards to prohibit employees from using their positions for purpose that is or gives the appearance of being motivated by a desire for private gain for themselves or others, particularly those with whom they have family, business, or other ties.

6. It will give the sponsoring agency of the Comptroller General, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the grant.

7. It will comply with all requirements imposed by the Federal-sponsoring agency concerning special requirements of Law, program requirements, and other administrative requirements.

8. It will comply with the flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973, Public Law 93-234, 87 Stat. 975, approved December 31, 1976. Section 102(a) requires, on and after March 2, 1975, the purchase of flood insurance in communities where such insurance is available as a condition for the receipt of any Federal financial assistance for construction or acquisition purposes for use in any area that has been identified by the Secretary of the Department of Housing and Urban Development as an area having special flood hazards. The phrase "Federal Financial Assistance" includes any form of loan, grant guaranty, insurance payment, rebate, subsidy, disaster assistance loan or grant, or any other form of direct or indirect Federal assistance.

9. It will assist the Federal grantor agency in compliance with Section 106 of the National Historic Preservation Act of 1966 as amended (16 USC 470), Executive Order 11593, and the Archeological and Historical Preservation Act of 1966 (16 USC 569a-1 et. seq.), by (a) consulting with the State Historic Preservation Officer on the conduct of investigations, as necessary, to identify properties listed in or eligible for inclusion in the National Register of Historic Places that are subject to adverse effects (see 36 CFR Part 800.8) by the activity, and notifying the Federal grantor agency of the existence of any such properties and by (b) complying with all requirements established by the Federal grantor agency to avoid or mitigate adverse effects upon such properties.

10. It will comply with the provisions of 28 CFR applicable to grants and cooperative agreements, including Part 18. Administrative Review Procedure, Part 22; Confidentiality of Identifiable Research and Statistical Information; Part 42, Nondiscrimination/ Equal Employment Opportunity Policies and Procedures; Part 61, Procedures; Part 61, Procedures, for Implementing the National Environmental Policy Act; Part 63, Floodplain Management and Wetland Protection Procedures; and Federal laws or regulations applicable to Federal Assistance Programs.

11. It will comply, and all its contractors will comply with Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973, as amended; Section 504 of the Rehabilitation Act of 1973, as amended; Subtitle A, Title III of the Americans with Disabilities Act (ADA) (1990); Title IIX of the Education Amendments of 1972 and the Age Discrimination Act of 1975.

12. In the event a Federal or State court or Federal or State administrative agency makes a finding of discrimination after a due process hearing on the grounds of race, color, religion, national origin, sex, or disability against a recipient of funds, the recipient will forward a copy of the finding to the Office for Civil Rights, U.S. Department of Justice

13. It will provide an Equal Employment Opportunity Program if required to maintain one, where the application is for $500,000 or more.

14. It will comply with the provisions of the Coastal Barrier Resources Act (P.L 97-348) dated October 19, 1982, 16 USC 3501 et. seq., which prohibits the expenditure of most new Federal funds within the units of the Coastal Barrier System.

Ken Bain HAP — 8/10/2012

Signature — Date

Ken Bain, PhD
Provost and Vice President for Academic Affairs

DISTRICT DEPARTMENT OF THE ENVIRONMENT

CERTIFICATONS

Regarding Lobbying; Debarment, Suspension and Other Responsibility Matters; and Drug-Free Workplace Requirements

Applicants should refer to the regulations cited below to determine the certification to which they are required to attest. Applicants should also review the instructions for certification included in the regulations before completing this form. Signature of this form provides for compliance with certification requirements under 28 CFR Part 69, "New Restrictions on Lobbying" and 28 CFR Part 67, "Government-wide Debarment and Suspension (Non-procurement) and Government-wide requirements for Drug-free Workplace (Grants)". The certifications shall be treated as a material representation of fact.

1. Lobbying

   As required by Section 1352, title 31 of the U.S. Code. And implemented at 28 CFR Part 69, for persons entering into a grant or cooperative agreement over $100,000, as defined at 28 CFR Part 69, the applicant certifies that:

   A. No Federally appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress; an officer or employee of Congress, or an employee of a Member of Congress connection with the making of any Federal grant, the entering into any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal grant 01 cooperative agreement;

   B. If any funds other than Federally appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of a Member of Congress in connection with this Federal grant or cooperative agreement, the undersigned shall complete and submit Standard Form –III, "Disclosure of Lobbying Activities," in accordance with its instructions;

C. The undersigned shall require that the language of this certification be included in the award documents for all sub awards at all tiers including subgrants, contracts under grants and cooperative agreements, and subcontracts, and that all sub-recipients shall certify and disclose accordingly.

2. Debarment, Suspension, And Other Responsibility Matters (Direct Recipient)

As required by Executive Order 12549, Debarment and Suspension, and implemented at 28 CFR Part 67, for prospective participants in primary covered transactions, as defined at 28 CFR Part 67, Section 67.510-

A. The applicant certifies that it and its principals:

1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, sentenced to a denial of Federal benefits by a State or Federal court, or voluntarily, excluded from covered transactions by any Federal department or agency;

2) Have not within a three-year period preceding this application been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public Federal, State, or local) transaction or contract under a public transaction; violation Federal or State antitrust statues or commission of embezzlement, theft, forgery, Bribery, falsification or destruction of records, making false statements, or receiving Stolen property;

3) Are not presently indicated for or otherwise criminally or civilly charged by a governmental entity (Federal, State, or local with commission of any of the offenses enumerated in paragraph (l)(b) of this certification; and

4) Have not within a three-year period preceding this application had one or more public transactions (Federal, State, or local) terminated for cause or default; and

B. Where the applicant is unable to certify to any of the statements in this certification, he or she shall attach an explanation to this application.

3. Drug-Free Workplace (Grantees Other Than Individuals)

As required by the Drug Free Workplace Act of 1988, and implemented at 28 CFR Part 67, Subpart F. for grantees, as defined at 28 CFR Part 67 Sections 67.615 and 67.620-

A. The applicant certifies that it will or will continue to provide a drug-free work place by:

1) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the applicant's workplace and specifying the actions that will be taken against employees for violation of such prohibition;

2) Establishing an on-going drug-free awareness program to inform employee's about- any available drug counseling, rehabilitation, and employee assistance programs; and the penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;

3) Making it a requirement that each employee to be engaged in the performance of the grant be given a copy of the statement required by paragraph (a);

4) Notifying the employee in the statement required by paragraph (a) that, as a condition of employment under the grant, the employee will-

   a) Abide by the terms of the statement; and

   b) Notify the employer in writing of his or her conviction for a violation of criminal drug statue occurring in the workplace no later than five calendar days after such conviction; and

5) Notifying the agency, in writing, within 10 calendar days after receiving notice under subparagraph (d)(2) from an employee or otherwise receiving actual notice of such conviction. Employers of convicted employees must provide notice, including position title to: Chief of Grants Management, 1200 First St., NE, 5th Floor, Washington, DC 20002. Notice shall include the identification number(s) of each effected grant;

6) Taking one of the following actions, within 30 calendar days of receiving notice under subparagraph (d)(2), with respect to any employee who is so convicted-

   a) Taking appropriate personnel action against such an employee, up to and incising termination, consistent with the requirements of the Rehabilitation Act of 1973, as amended; or

   b) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency;

c) Making a good faith effort to continue to maintain a drug-free work place through implementation of paragraphs (a), (l), (c), (d), (e), and (1).

B. The applicant may insert in the space provided below the sites for the performance of work done in connection with the specific grant:

1) Place of Performance (Street address, city, county, state, zip code)

2) Drug-Free Workplace (Grantees who are Individuals)

C. As a condition of the grant, I certify that I will not engage in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance in conducting any activity with the grant; and

D. If convicted of a criminal drug offense resulting from a violation occurring during the conduct of any grant activity, I will report the conviction, in writing, within 10 calendar days of the conviction, to:

District Department of the Environment
1200 First Street, NE 5th Floor
Washington, DC 20002

As the duly appointed representative of the applicant, I hereby certify that the applicant will comply with the above certifications.

University of the District of Columbia
4200 Connecticut Avenue, N.W. Washington, DC 20008-1122

1. Grantee Name and Address

Construct Wastewater Facilities and Implement Nonpoint Source Pollution Protection Projects

2. Project Name

Ken Bain, PhD
Provost and Vice President for Academic Affairs

3. Typed Name and Title of Authorized Representative

Ken Bain KAB — 8/10/2012

4. Signature — 5. Date

Certification Regarding Lobbying
Certification for Contracts, Grants, Loans, and Cooperative Agreements
(Exceeding $100,000 at any tier under a Federal grant)

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

Ken Bain, PhD
Provost and Vice President for Academic Affairs

TYPED NAME & TITLE OF AUTHORIZED OFFICIAL

Ken Bain Hall 8/10/2012

SIGNATURE & DATE

GOVERNMENT OF THE DISTRICT OF COLUMBIA
DEPARTMENT OF TRANSPORTATION

d. Urban Forestry Administration **August 13, 2012**

Urban Forestry Administration
District Department of Transportation
55 M Street SE
Washington, DC 20003-3522

Congressional District: District of Columbia

Project type: Non Point Source Projects

Project title: Green Infrastructure Enhancements

Watershed: Enhancements to the District's Green Infrastructure will take place city wide and will be located in the Rock Creek, Potomac, and Anacostia watersheds.

Project Summary: The goal of this project is to reduce impervious surfaces within the Right-of-Way of District streets and improve the condition and coverage of the tree canopy so that additional rainfall is intercepted and does not enter the storm water system. This goal will be met by creating and planting new tree spaces in the public space, expanding existing tree boxes, creating continuous planting strips, removing dead, dying, and hazardous trees, and increasing the number of street trees planted by up to 3,767 trees.

Funding Request: $2,335,000.00

Local Match: $1,915,000.00

Project Period: Project will be active from the time of award until September 2014. Tree planting will take place during the FY14 planting season which begins in October 2013 and ends in April 2014.

Federal Tax Id: 536001131

DUNS No.: 002336019

Project Contact: John P. Thomas, Associate Director, UFA
202-671-5133 (main)
202 673-1734 (fax)
john.pthomas@dc.gov

Project Summary:

Green Infrastructure Enhancements

The goal of this project is to reduce impervious surfaces within the Right-of-Way of District streets and improve the condition and coverage of the tree canopy so that additional rainfall is intercepted and does not enter the storm water system. This goal will be met by creating and planting new tree spaces in the public space, expanding existing tree boxes, creating continuous planting strips, removing dead, dying, and hazardous trees, and increasing the number of street trees planted annually by up to 3,767 trees.

The purpose of this project is to remove concrete or other impervious surfaces around tree boxes in the area of the District of Columbia served by the Municipal Separate Storm Sewer System (MS4) and the Combined Sewer Overflow (CSO). Prior studies have shown that in rain events, large amounts of water run quickly over impervious surfaces, entering the sewer system at a high rate of speed, frequently leading to combined sewer overflows emptying into the District's waterways and in the case of separate sewer systems the erosion of stream banks and the entry of non point source pollutants into the waterways of the District. To mitigate this effect Urban Forestry Administration (UFA) plans to expand the size of existing tree boxes or to link tree boxes to create an expanded planting strip. In removing impervious surfaces, UFA will increase the soil area for root expansion, intercept storm water runoff and obtain increased environmental benefits by planting either additional trees or larger canopy tree species in the tree boxes or planting strips.

In addition to expanding tree boxes other planting locations within the ROW will be utilized such as road medians and traffic triangles. Retrofits to existing medians will focus on the removal of impervious concrete from selected paved medians and retrofitting them with amended soils, structural soils, and drought tolerant, low maintenance plants or trees. Soil retrofits will be replaced to a standard depth of three feet. Where impervious surfaces cannot be reduced due to conflicting requirements such as for bus stops, bike paths, ADA requirements replacement with a pervious surface will be proposed.

Increasing the number of trees planted on an annual basis advances the tree canopy goal of 40% tree canopy coverage by 2030. These trees will be planted by the UFA tree planting contractor and watered biweekly from June through September. UFA staff will supplement the biweekly watering conducted by the contractor to increase the survival rate of planted trees and water replacement trees or 2 year old trees that are no longer under warranty. In addition, the removal of dead, dying and hazardous trees will allow young vigorous trees with rapidly expanding canopies to be planted in the opened spaces.

Increasing the tree canopy and increasing the survival of newly planted trees will lead to healthier, longer-lived trees which will reduce maintenance and replacement costs for District street trees. This will increase the canopy coverage for the District resulting in increases in rainfall intercepted and decreases in storm water runoff. Trees that become established quicker and have higher survival rates, will grow faster, become larger, healthier, longer lived trees that will provide a wide array of additional

environmental benefits including reducing the urban heat island effect, reducing energy consumption through shading and cooling, filtering particulate matter, and sequestering CO_2.

Locations for tree removals and tree plantings will be city wide based on need at the time of project start. These locations will be determined after the award is granted, but prior to the start of the planting season.

Locations for impervious surface removal work will be finalized after the project has been approved. The urban tree canopy re-measurement and analysis which will be completed in the coming months will be used to locate areas within the public right of way that have excessive amounts of impervious surface and limited amounts of urban tree canopy. This process should identify areas with high potential for impervious surface reduction and tree planting. In addition, sites will be solicited from planners and arborists along with a review of the existing of requests for impervious surface removal that have not received funding. All these locations will be evaluated and ranked based on the potential amount of impervious surface removed, potential for adding tree canopy, and other factors such as ease of operations and lack of infrastructure conflicts. Locations will then be included in the project by rank order until available funding is exhausted.

Current potential locations include:

CSO	MS4
14th Street and Randolph NW	Rhode Island Avenue medians and sidewalk
Shaw, East of New Jersey Avenue	Wisconsin and Garrison
Shaw, West of Georgia Avenue	Fessenden
Capitol Hill (numerous locations)	Pitts Place
14th Street and Colorado Avenue NW	Birney Place
13th Street and R Street NW	Mississippi Avenue, Charles Hart Middle School
Eckington and Bloomingdale	C Street SW, 1200-1300 blocks
Triangle Park at Lincoln and Franklin	South Dakota Bikeway

Project Outputs:

The outputs of the Green Infrastructure Enhancement Project will be trees planted, trees removed, and square feet of impervious surface removed. The additional funding provided by this project will increase the number of trees planted in the District of Columbia within the public right of way or on other properties controlled by the local government by up to 3,767 trees and/or allow for the removal of up to 800 street trees which are dead, dying, or hazardous and not otherwise contributing to the urban tree canopy; while the impervious surfaces removed will be increased by up to 81,000 square feet.

Output	Quantity
Trees Planted	3200 to 6967 trees
Tree Removed	0 to 800 trees
Impervious Surfaces Removed	81,000 square feet

Project Outcomes:

The outcomes for the Green Infrastructure Enhancement Project will be the gallons of stormwater that are retained where impervious surfaces have been removed, and the gallons of rainfall that are intercepted by the canopies of the trees that are planted.

Projected gallons of rainfall infiltrated into new and expanded tree boxes, continuous planting strips, medians and other locations where impervious surfaces are removed.

	Impervious Surface Removed (sf)	Gallons of Rainfall[1]	Gallons of Runoff Before[2]	Gallons of Runoff After[3]	Gallons of Runoff Abstracted[4]
Rainfall from a 1.2" storm	81,000	60,588	54,529	15,147	39,382
Annual rainfall of 40 inches	81,000	2,019,600	1,817,640	504,900	1,312,740

Stormwater Runoff Volume: SWRv = P x A x C	
P =	1.2”
Annual precipitation =	40”
A =	Impervious Surface Removed (sf)
C (impervious) =	0.9
C (pervious) =	0.25

1 Gallons of rainfall = (P x A) / 12 = cubic feet of rainfall x 7.48 gallons/ft^3
2 Gallons of runoff before = Gallons of rainfall x C(impervious)
3 Gallons of runoff after = Gallons of rainfall x C(pervious)
4 Gallons of runoff abstracted = Gallons of runoff before – Gallons of runoff after

Projected outcomes in terms of the stormwater benefits of additional tree plantings as calculated by the i-Tree Design Tool Application based on diameter of trees at breast height (dbh).

DBH	Gallons of rainfall intercepted annually by canopy trees by current and future size.		
	3200 trees (Local)	**Up to 3767 trees (CWSRF)**	**Up to 6967 trees**
1	123,200	145,030	268,230
2	342,400	403,069	745,469
3	659,200	776,002	1,435,202
4	974,400	1,147,052	2,121,452
5	1,451,200	1,708,335	3,159,535
6	2,086,400	2,456,084	4,542,484
7	2,723,200	3,205,717	5,928,917
8	3,358,400	3,953,467	7,311,867
9	3,995,200	4,703,100	8,698,300
10	4,921,600	5,793,646	10,715,246
11	5,851,200	6,887,960	12,739,160
12	6,779,200	7,980,390	14,759,590
13	7,708,800	9,074,703	16,783,503
14	8,636,800	10,167,133	18,803,933
15	9,566,400	11,261,447	20,827,847
16	10,774,400	12,683,489	23,457,889
17	11,984,000	14,107,415	26,091,415
18	13,193,600	15,531,341	28,724,941
19	14,401,600	16,953,384	31,354,984
20	15,611,200	18,377,310	33,988,510

Trees planted by contractor will be 2-2.5” caliper, which translates to a 1” dbh tree during the first year.

http://www.itreetools.org/index.php

Budget Narrative

The Green Infrastructure Enhancements Project will be comprised to two integrated programs that will work to provide maximum environmental benefit from impervious surface removal and tree planting. This will serve to meet multiple environmental goals for the District of Columbia including reducing stormwater runoff and increasing the urban tree canopy. By planting trees in the locations where impervious surfaces have been removed, the environmental benefits are greatly increased since creating new tree boxes is essential to expanding the urban tree canopy, and the expansion of the tree canopy will greatly expand the amount of stormwater that is intercepted beyond what is possible by impervious surface removal alone.

Federal support of this project will provide the funding needed to continue the Impervious Surface Reduction work that began under the ARRA program. The $1 million in funds for contractor expenses will enable UFA to extend the IDIQ contract being developed for impervious surface reduction and LID projects to a 1st option year. Based on anticipated unit costs to remove impervious surfaces and replace with topsoil and sod or mulch of $110/square yard, approximately 9000 SY of impervious surface will be removed. In cases where impervious surfaces are being removed and replaced with pervious surfaces such as permeable pavers, flexipave, permeable concrete or asphalt, unit cost will be much higher, and are expected to range from $150-$275 per square yard depending on the exact specifications and materials used. The $200,000 in staff expenses will provide funding for 2.5 FTE to cover the time to plan, supervise, inspect, and manage this work which will be completed by existing program staff.

Federal funding for tree planting, maintenance and removal of $1,085,000 will increase the number of trees that can be planted by up to 3,767 trees during FY 2014; or allow the removal of up to 800 dead, dying or hazardous trees, or some combination of the two. This is based on the per tree planting cost of $288 for option year 3 that is in the current tree planting contract, and an average removal cost of $1300 for a tree 24-30" diameter breast high (dbh). Finally, federal support of $50,000 will provide the funding to maintain supplemental tree watering crews throughout the summer months to improve tree establishment rates.

The local match will consist of providing the funding of $921,600 to plant 3,200 trees during FY14, and the staff funding of $993,400 to plan, supervise, inspect, and manage all tree planting efforts associated with the project. All the local funding is available as local capital funds, and is available annually.

MS4 funding for tree planting is expected to be received, but is not included as part of the local match. A total of up to 6,967 trees will be planted as part of this funding request, with the additional 1,041 trees planted under MS4 funding bringing the estimate of total trees planted to 8,008 for FY 2014. This will allow for 18 months to plan and ramp up operations, and enable UFA to compensate for high tree losses during the recent strong storms (such as the June 29th 2012 derecho) and fill the additional tree boxes being created as part of this and previous years impervious surface removal projects.

Budget Table

Green Infrastructure Enhancements	Federal Funds CWSRF	Local Match	Total
Impervious Surface Reduction Contractor expenses (NPS)	$1,000,000.00		$1,000,000.00
Impervious Surface Reduction Staff expenses (PS)	$200,000.00		$200,000.00
Tree Planting, Maintenance, and Removal Contractor expenses (NPS)	$1,085,000.00	$921,600.00	$2,006,600.00
Tree Planting, Maintenance, and Removal Staff expenses (PS)	$50,000.00	$993,400.00	$1,043,400.00
Total	**$2,335,000.00**	**$1,915,000.00**	**$4,250,000.00**
Percent	**55%**	**45%**	**100%**

Project Rating Criteria

- This project qualifies as an EPA Green Project Reserve Project.
- Impervious surface removal, tree planting and tree removal work will all take place city wide and be located within both the CSO and MS4 areas of the city.
- This project supports multiple environmental goals including:
    - Reduce impervious surfaces and allow for retention of 1.2" of rainfall in area treated.
    - Project will assist DC in meeting Chesapeake Bay Program Goals.
    - CSS overflow event remediation - Reduced impervious surfaces and expanded tree canopy result in reduced stormwater volume.
    - Climate Action Plan – increased green space and tree canopy will reduce urban heat island effects, reduce energy consumption for cooling, store additional CO_2 and filter particulate matter from the air.
- Project Feasibility
    - DDOT is the owner-applicant for this project as work will occur within the right-of-way.
    - UFA has successfully completed similar projects under ARRA funding that demonstrate individual and team experience, and experience working with District and Federal government agencies. See web links below for additional information on past projects:

Final Report:
http://ddot.dc.gov/DC/DDOT/On+Your+Street/Urban+Forestry/ARRA+Projects+to+Enhance+Urban+Tree+Canopy+and+Increase+Green+Infrastructure

DDOT press release: http://ddotdish.com/2012/02/17/impervious-surface-removal/

Poster from LID symposium in Philadelphia PA:
http://dccouncil.us/files/user_uploads/budget_responses/fy11_12_agencyperformance_ddot_responses_fy12ufa_74.pdf

Project Status Presentation to MWCOG:
http://ddot.dc.gov/DC/DDOT/Publication%20Files/On%20Your%20Street/Urban%20Forestry/ARRA-UTC-Presentation_MWCOG.pdf

- Support for innovation in urban non point source pollution control
    - New Technology: where flexible permeable rubber pavement is used this will be a new material application within the District. This use is anticipated around tree boxes in high pedestrian traffic areas such as bus stops.
    - Education / Outreach opportunity: all project locations will be within the public space and most will be located within the sidewalk dimension of the public right of way. As such the increases in green space, permeable space, and urban tree canopy coverage will be high visibility and provide opportunity for outreach and education.

Current Projects:

Tree Planting and Maintenance Project: $800,000 ($440,000 CWSRF and $360,000 Local Match)

UFA will be implementing this project during the FY 2013 planting season. Utilizing MS4 funds and CWSRF, 2277 trees will be planted along the District streets, and watering and maintenance will continue until September 30th, 2013.

Impervious Surface Removal: $1,210,413.00 ($554,743.00 CWSRF and $655,670.00 Local Match)

UFA will implement this project during FY 2013. Based on projected costs for impervious surface removal, 90,000 square feet of impervious surfaces will be removed throughout the District of Columbia, and replaced with permeable surfaces through the combination of tree box expansions, the creation of new tree boxes, and the greening of medians and other impervious surface in the public right-of-way

Performance on past DDOE grants:

ARRA Grants

Impervious Surface Reduction: $1,450,000 Project completed in March 2012. 80,303 square feet of impervious surface have been removed at a contractor cost of $1,215,000 for an average cost per square foot of impervious surface removed of $15.00 ($135/ square yard). Staff costs for management and administration of the project were $235,000.

Green Median: $750,000 Project completed in March 2012. 44,203 square feet of impervious surface have been removed at a cost of $635,000 for an average cost per square foot of impervious surface removed of $14.40 ($130/ square yard). Staff costs for management and administration of the project were $115,000.

Tree Canopy Renovation: $2,050,000 Project completed in March 2012. 1995 trees planted by contractor at $273 per tree ($554,793). 2209 trees and 175 stumps removed by contractor at a cost of $1,180,207.00. 637 trees were planted by the in-house planting crew and watered throughout the summer. These staff expenses along with the supervision and management of all the contractor work were completed at a cost of $315,000.00.

DISTRICT DEPARTMENT OF THE ENVIRONMENT (DDOE)
1200 1st St. NE 5th Flr.
Washington, DC 20002

Congressional District: 0

Project: To maximize stormwater capture and infiltration on renovated schoolyards

Project Title: Zero Run-Off Schoolyard Project

Watershed: Potomac & Anacostia

Summary: The District's water bodies have been negatively affected by the highly urbanized nature of the city with an abundance of impervious space which prevents stormwater from naturally infiltrating into the ground. By reducing impervious area around school buildings and increasing pervious cover, stormwater run-off will be reduced and groundwater recharge through infiltration practices will be enhanced. This joint project will serve as a model for how District Schoolyards should be retrofitted in future years. DDOE is applying for funding under the Clean Water State Revolving Fund to expand an already underway pilot project to create model schoolyards around the city focused on combining schoolyard educational and recreational space with maximizing stormwater capture and on-site infiltration.

Funding Amount Requested: **$950,000**

Matching/In-Kind Amount: **$1,150,000**

Project Period: **FY13-FY14**

Federal Tax Identification Number: **53-6001131**

DUNS: **780986563**

Contact Person: Josh Burch
Environmental Protection Specialist, Watershed Protection Division
District Department of the Environment (DDOE)
1200 First Street, NE, 5th Floor
Washington, DC 20002
202-535-2247
josh.burch@dc.gov

Authorized Representative: **Sheila Besse**
Associate Director, Watershed Protection Division, DDOE

Signature: Sheila O. Besse **Date:** 8/13/12

PROJECT SUMMARY: The District Department of the Environment seeks funding to expand and enhance a Zero Run-off Schoolyard Project in schoolyards across the District. The District's water bodies have been negatively affected by the highly urbanized nature of the city, with an abundance of impervious space which prevents stormwater from naturally infiltrating into the ground. By reducing impervious area and increasing pervious cover, stormwater run-off will be reduced and groundwater recharge will be enhanced. Schoolyards are often large open spaces paved with asphalt, creating large impervious spaces around schools which are not ideal for recreation space, environmental education space, or stormwater capture. In 2012-2013, DDOE, DC Public Schools (DCPS), and the Department of General Services (DGS) are partnering to transform two schoolyards from large impervious areas to outdoor educational and recreational space that also maximize the stormwater capture on their retrofitted footprint. This joint project will serve as a model for how District Schoolyards should be retrofitted in future years. DDOE is applying for funding under the Clean Water State Revolving Fund (CWSRF) to further expand this project and create model schoolyards around the city focused on combining schoolyard educational and recreational space with maximizing stormwater capture and infiltration on-site.

DCPS facilities undergo Phase I and Phase II Modernization Plans, with Phase I focusing on interior school renovation and Phase II on outdoor space renovations. DDOE and DCPS will use the present Phase I Modernization List to select the right schoolyards for appropriate Phase II Modernization. DDOE, DCPS, and DGS will be looking to sites to maximize stormwater capture, by capturing at a minimum the 1.2" storm, while also creating educational and engaging recreational space for the students of the school.

CWSRF ELIGIBILITY

In order for a project to be eligible to receive CWSRF funding, it must meet several decision criteria set forth by EPA. The Zero Run-Off Schoolyard project will prevent and remediate nonpoint source pollution on public lands by reducing both the volume and velocity of stormwater reaching storm sewer systems and nearby streams around the District, thus removing nitrogen, phosphorus and sediment. The retrofitted schoolyards will be held to a design standard of capturing at least the 1.2" storm with a design goal of the 1.7" storm. The design and construction of this capital water quality project will both protect and improve the water quality of both the Anacostia and Potomac Rivers. According to the decision criteria, the Zero Run-Off Schoolyard project is eligible to receive CWSRF funding.

GREEN PROJECT RESERVE (GPR) COMPLIANCE

A GPR project must meet the definition of one of the four GPR categories, which are (1) green infrastructure, (2) water efficiency, (3) energy efficiency and (4) environmentally innovative. The Zero Run-Off Schoolyard project meets the definition of green infrastructure, as stated in the CWSRF GPR guidance issued by EPA on April 21, 2010, and meets the following Categorical Project Sections:

- Section 1.2-2: Wet weather management systems for parking areas;
- Section 1.2-3: Implementation of urban forestry expansion;

Phosphorus				
Total Nitrogen	2.45 lbs/yr	3.16 lbs/yr	2.87 lbs/yr	8.48 lbs/yr
Total Suspended Solids	61.60 lbs/yr	98.56 lbs/yr	66.00 lbs/yr	226.16 lbs/yr

Simon Elementary School is a site with a total of 72,000 sq. ft. of impervious cover. The table below breaks down three on-site stormwater capture options to capture the 1.2" storm over the entire schoolyard and parking area:

Pollutant	**Practice & Treatment Area**	**Practice & Treatment Area**	**Practice & Treatment Area**	**Total On-Site Reductions**
	Permeable Pavers- 30,000 sq. ft.	*Bioretention- 20,000 sq. ft.*	*Cistern/RainTank- 20,000 sq. ft.*	*72,000 sq. ft.*
Total Run-Off Reduction	1283 cubic feet	760 cubic feet	1425 cubic feet	3,468 cubic feet
Total Phosphorus	0.91 lbs/yr	0.57 lbs/yr	0.77 lbs/yr	2.26 lbs/yr
Total Nitrogen	6.77 lbs/yr	4.90 lbs/yr	5.74 lbs/yr	17.41 lbs/yr
Total Suspended Solids	211.20 lbs/yr	123.20 lbs/yr	132.00 lbs/yr	466.41 lbs/yr

COST BENEFIT

The construction costs are presently unknown because the sites have yet to be selected. Each summer DGS and DCPS undertake multiple Phase II Modernizations around the city. By linking DDOE's stormwater goals with the educational and recreation goals of DCPS and DGS, the project will be mutually beneficial for all partners. In many instances, the District has undertaken retrofitting impervious sites around the city, which is more costly than integrating LID into a facilities/new development master plan and implementation. This project will integrate LID designs aimed at maximizing stormwater capture into new site redevelopment plans. The integration with design and build of the whole site will maximize the District's investment into stormwater capture. Under the current financial scenario in the renovations of the exterior spaces at Drew and Simon Elementary Schools already underway, DCPS has committed capital funds to the Phase II Modernization of those schools and DDOE is supplementing those funds to increase stormwater capture. This submission aims to expand the efforts presently underway for Drew & Simon Elementary Schools at schoolyards elsewhere around the District.

PROJECT FEASIBILITY

According to the PPL required information, the project should be implemented within four (4) months of being listed on the PPL list. Specifically, the project sponsor should demonstrate the following:

this project, USDA-NRCS acted as the contracting/project management agent, and OPEFM and DDOT are the landowners.

Anacostia Senior High School

DDOE supported Anacostia Senior High School in becoming greener by providing funding, through the American Recovery and Reinvestment Act of 2009, for a green roof and a separate innovative rooftop rainwater harvest/reuse system. Green roofs store and delay rainfall, effectively preventing rainwater from becoming stormwater and reducing combined sewer overflow (CSO) events, which release untreated sewage and stormwater into the District's streams and rivers. In addition, green roofs filter air pollutants from the rainwater and save energy in buildings by reducing heating and cooling costs. The harvest reuse system directs a different portion of rooftop rainwater runoff into underground cisterns that are used to supply low-flush toilets. Not only has this project reduced the school's needs for water, but it has diminished harmful impacts on aquatic life by reducing the amount of polluted stormwater entering local streams during storm events.

Green Alleys

Many alleys include a significant amount of impervious surface, but most do not have stormwater controls (such as water quality catch basins or grate inlets). To mitigate this, green alleys use sustainable design and low impact development techniques that reduce the amount of stormwater and pollutants entering the sewer system, streams and rivers by increasing water filtration and treatment on site. Funded in part through the American Recovery and Reinvestment Act of 2009, the first three green alleys in the District were installed in Spring 2012.

INNOVATIVENESS

While the District continues to make large advances in stormwater management practices, schoolyards across the city still remain areas of large impervious surfaces that add to the volume and velocity of untreated stormwater entering the District's water bodies. This project aims to create a replicable model for how to manage stormwater on schoolyards in a cost-effective manner that also creates green spaces for recreation and education. Through this funding source, DDOE will help transform two more schoolyards to become multi-purpose spaces to enhance learning, provide valuable space for recreation, and to maximize stormwater capture and infiltration on District-owned properties. DDOE anticipates that this project will become a replicable standard for District schoolyards and will serve as a model for schoolyard renovations across the country.

PROJECT ACTIVITIES, OUTCOMES, AND OUTPUTS:

- Activities:
    - Site selection among DDOE, DCPS, and DGS
    - Request for Proposals and Contractor Selection
    - 100% Designs for at least two restored schoolyards that demonstrate the proposed project will capture the 1.2" storm
    - Planning meetings with parents, teachers, and students about the proposed project
    - Project Construction
    - Monitoring and Evaluation of completed project
- Outcomes:

Summary of Project and Project Information for Evaluation

Title and description of project

Enhanced Nitrogen Removal - North (ENRF-N)
This project entails upgrade to the secondary treatment process at the Advanced Wastewater Treatment Plant at Blue Plains. The upgrade includes upgrade of the process aeration system with a more energy efficient system, rehabilitation or replacement of equipment and infrastructure that is beyond its useful life and establishment of a nitrogen removal process within the secondary treatment system that will reduce the usage of methanol required to meet stringent total nitrogen discharge requirements. The project will extend the life of the secondary treatment facilities as well as increase the reliability of the enhanced nitrogen removal facility downstream of the secondary treatment system.

1. Eligibility Threshold

The ENRF-N project will contribute to producing a high quality effluent discharge from the Advanced Wastewater Treatment Plant at Blue Plains. Treatment of wastewater prior to discharge into the Potomac River has a direct water quality benefit.

2. Readiness to Proceed Threshold in fiscal year

The construction contract is schedule to begin in fiscal year 2013.

Rating Criteria Procedures

Upon meeting the minimum program threshold, projects will be rated and ranked based on the following criteria:

(a) Water Quality Problem Addressed (Existing condition which impairs water quality)

The project improves the reliability of the secondary treatment process. Equipment that will be rehabilitated or replaced in the project is beyond its useful life and has the potential to affect the performance of the wastewater treatment plant.

b) Project Category (Classification of type of project)

The project includes rehabilitation and replacement of equipment in the secondary treatment process, which will improve operational reliability. Furthermore, the project improves the reliability of the enhanced nitrogen removal facility at Blue Plains because the effluent from the secondary treatment process is the influent to the ENRF and the more reliable secondary treatment process will yield a more consistent loading that will result in a more reliable ENR process, which maintains the nitrogen loading cap identified in the tributary strategy.

c) Water Quality Benefit (Improvement in priority watersheds)

The project will improve the water quality of the Potomac River in the District of Columbia at the AWTP at Blue Plains.

d) Effectiveness of Investment

The project will improve reliability of the secondary treatment process, which is a major unit process operation..

e) Population Benefit

The AWTP at Blue Plains serves approximately 1.6 million people, including all the residents of the District of Columbia (~600,000 people). The high quality effluent from Blue Plains results in improvements to water quality in the Potomac River at the outfall and downstream, including the Chesapeake Bay.

f) Green Project Reserve Project

The project will replace the aeration system in the secondary treatment proces with a more energy efficient system.

3. Project Outcomes and Outputs

The project outcome is consistent high quality effluent discharged from the Advanced Wastewater Treatment Plant at Blue Plains into the Potomac River.

The project output includes six upgraded Secondary Reactors. The upgrades improve the efficiency and effectiveness of the aeration system and replace equipment that is beyond its useful life.

4. Budget Support Detail

The cost estimate for this project is $61,440,714 based upon the engineer's estimate. These costs are for construction only.

Federal funds: $13,885,601	Non federal match:$11,440,261	Project Total: $61,440,714