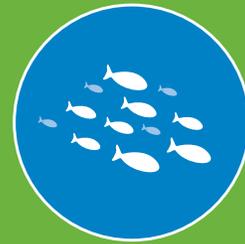




Green Infrastructure Challenge



BRIEFING DOCUMENT

Practical green infrastructure solutions for:
Public • Private • Governmental • Institutions

Award distribution:
Design • Construction

... that's a lot of green

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1.0 Introduction

1.1 Combined Sewer Overflows (CSOs)

Like many older cities in the United States, the sewer system in the District is comprised of both combined sewers and separate sanitary sewers. A combined sewer carries both sewage and runoff from storms. Modern practice is to build separate sewers for sewage and stormwater, and no new combined sewers have been built in the District since the early 1900's. Approximately one-third of the District (12,478 acres) is served by combined sewers. The majority of the area served by combined sewers is in the older developed sections of the District.

In the combined sewer system, sewage from homes and businesses during dry weather conditions is conveyed to the District of Columbia's Blue Plains Advanced Wastewater Treatment Plant (Blue Plains), which is located in the southwestern part of the District on the east bank of the Potomac River. There the wastewater is treated to remove pollutants before being discharged to the Potomac River. When the capacity of a combined sewer is exceeded during storm events, the excess flow, which is a mixture of sewage and stormwater runoff, is discharged to the Anacostia and Potomac Rivers, in addition to Rock Creek and tributary waters through outfalls. This excess discharge during storm events is called a combined sewer overflow, or CSO. A total of 53 CSO outfalls are listed in DC Water's National Pollutant Discharge Elimination System (NPDES) Permit issued by the United States Environmental Protection Agency (EPA).

DC Water is moving forward with the design and construction of a tunnel system in the Anacostia watershed to capture, store and convey combined sewer flows to Blue Plains in accordance with a 2005 federal Consent Decree. DC Water now proposes to expand its commitment to Green Infrastructure (GI) and has invested significant resources and engaged a broad group of stakeholders to prepare a draft Green Infrastructure Project Plan (GI Project Plan).

1.2 DC Clean Rivers (DCCR) Project

Communities with combined sewer systems are required to prepare Long Term Control Plans (LTCPs) for the control of CSOs in accordance with Section 402(q) of the Clean Water Act. DC Water's LTCP was completed in July 2002 and is currently being implemented through the DC Clean Rivers (DCCR) Project. The DCCR Project is comprised of a system of tunnels for the Anacostia River, Rock Creek, Piney Branch and the Potomac River that will capture combined sewer flows for treatment at Blue Plains. The schedule for completing the Project is included in a Federal Court Consent Decree between the United States, the District Government and DC Water.

1.3 Green Infrastructure Project Plan

The GI Project Plan considers innovative solutions that could substantially change the approach taken on the planned Potomac and Rock Creek tunnel projects outlined in the Consent Decree. As the steward of rate payer dollars, DC Water ensures the best return on its water quality investment.

The use of GI could provide benefits beyond improving water quality, including improved air quality, reduced urban temperatures and energy demand, and reduced flooding. It can also provide community benefits such as local job creation, improved property values and recreational areas.

The GI Project Plan advances DC Water's proposal to conduct a large-scale, multi-million dollar demonstration project in the Potomac and Rock Creek watersheds for the purpose of evaluating the practicality and efficacy of implementing GI for the control of CSOs in these watersheds. The GI Project Plan proposes a comprehensive approach to the demonstration project, including GI site selection, identification and resolution of institutional issues and obstacles, public outreach, design and construction, monitoring and evaluation, and the preparation of a series of technical memoranda that detail every aspect of the demonstration project.

Following completion of the demonstration project, as informed by a preliminary screening analysis, DC Water proposes to use the project's findings to conduct an analysis of alternative green and green/gray infrastructure controls with the goal of identifying alternative solutions for each of the two watersheds. Compared to present plans laid out in the Consent Decree, this would be consistent with the CSO Control Policy, be potentially more sustainable, and be capable of yielding a range of additional benefits to the community.

2.0 Green Infrastructure Challenge

2.1 Goals

As part of a recent [partnership agreement](#), DC Water will join forces with the US EPA and the District to collaborate on efforts that will be of critical importance to the success of the GI Project Plan. One of those efforts is implementing a Green Infrastructure Challenge (or “GI Challenge”) that will engage the design community to construct innovative, practical green infrastructure solutions in the District. The focus of the Challenge will be on the following goals:

1. Advancing innovative GI technologies in retrofit applications in the urban environment for CSO control with the goal of increasing runoff capture from impervious surfaces and reducing the associated costs of such retrofits;
2. Illustrating practicality by showing what is feasible, and developing actual projects that will later be constructed in each area/design category; and
3. Accelerating the implementation of innovative GI technologies that will support the development of DC Water’s demonstration project.

2.2 Categories

Each design team must choose one of the following categories for which to submit an entry: Public Space; Commercial and Private Property; or Governmental and Institutional. Design concepts are limited to the Potomac and Rock Creek sewersheds (see Section 3.2)

Public Space

Over half of the impervious area in the sewersheds is public right-of-way (ROW), offering great potential to eliminate runoff into the combined sewers. Entries in this category are limited to ROW areas, including roadways, sidewalks, and alleys. Design teams must choose one of two subcategories for Public Space:

1. Any location within the Public ROW of the Potomac or Rock Creek sewershed boundary (see Section 3.2).
2. One of the two identified locations within the Public ROW (see Section 3.2).

Commercial and Private Property

Private property in the sewershed areas makes up 40 percent of the impervious area. Implementing green infrastructure in these areas is critical to overall CSO reduction goals. Entries in this category are limited to retrofitting existing properties (as redevelopment may complicate permitting issues) in either the Potomac or Rock Creek sewersheds (see Section 3.2). Design teams are encouraged to consider neighborhood enhancements and should demonstrate collaboration with community organizations in GI implementation and O&M agreements.

Governmental and Institutional

The District has a large number of Governmental and Institutional sites and buildings. The impervious surface in this category makes up nearly 10 percent of the total. Entries in this category

are limited to government and institutional properties, including Federal, Schools, District, and Non-profit properties in either the Potomac or Rock Creek sewersheds (see Section 3.2). Design teams are encouraged to consider collaborative and educational opportunities with institutions.

2.3 General Procedures and Requirements

Team Eligibility

Each entry must come from an integrated design team consisting of at least one Professional Engineer (with ability to obtain registration in District of Columbia, if awarded) and one Registered Landscape Architect. Multidisciplinary teams are strongly encouraged to promote creativity and innovation. See the Terms and Conditions section for team eligibility restrictions.

Submission Criteria

All entries must be uploaded to www.dewater.com/greenchallenge no later than **October 1, 2013 at 5:00 pm EDT**. Format: Digital files provided in pdf format and consisting of no more than 20 pages (including press image and design board) and no more than 20 MB total in size. Each entry must contain the following elements:

1) GI Challenge Submission Forms

2) Cover (max 1 page)

- a) Title, Name

3) Abstract (max 1 page)

4) Organization Structure (max 1 page)

Proposer primary contact shall provide sufficient information to enable DC Water to understand the organizational structure of the Proposer's team. At a minimum, each Proposer shall respond to the following requirements:

- a) Identify the Proposer's team members.
- b) Provide a corporate organizational chart(s) showing the flow of "chain of command" with lines identifying the participants who are responsible for major functions to be performed and reporting relationships.

5) Narrative (max 15 pages)

- a) Technical requirements: The narrative must address the following criteria:
 - i) Innovation: All entries must document how the design incorporates innovative GI technologies and implementation strategies.
 - (1) Programmatic: This section should describe how the entry addresses new strategies for GI implementation at the site.
 - (2) New Technologies: This section should address specific new or innovative GI technologies included in the design.

- ii) Performance: All entries must document the site's performance in removing runoff volume in an effort to reduce CSOs.
 - (1) Capture Volume: This section should provide a breakdown of the total runoff volume (in gallons) managed per acre.
 - (2) Cost Effectiveness: This section should outline the cost per gallon of runoff managed for each unique GI feature and for the entire design.
- iii) Practicality: Entries should focus on practical solutions that are constructible, cost-effective, and require less Operation and Maintenance (O&M) than current technologies. All entries must be designs that can be implemented given real world constraints. Design teams are strongly encouraged to assess and account for real-world constraints at the respective sites.
 - (1) Operations and Maintenance Considerations: This section must present practical solutions to long term O&M of GI for the site which can also be applied on a large scale.
 - (2) Constructability: This section should describe how the design will be constructed, outline constructability challenges, and describe how the design principles can be adapted to large scale implementation.
- iv) Triple Bottom Line and Job Creation Benefits: All entries must address additional benefits (social, economic, and environmental benefits) beyond CSO control. These include but are not limited to the Triple Bottom Line and job creation benefits.
 - (1) Neighborhood enhancement and revitalization and local job creation: This section should provide a description of the design's benefits at multiple scales (street, neighborhood, city, etc.) and categories (triple bottom line). Documentation of the total local jobs created due to the proposed design should also be presented. Job creation calculations should incorporate benefits associated with design through post-construction maintenance.

6) Press Image (max 1 page)

- a) Format: One (1) digital copy should be provided in jpg format at 300 dpi and 400x600 pixels.
- b) Technical requirements:
 - i) Conveys concepts visually on one image

7) Design Board (max 1 page)

- a) Format: One (1) digital copy should be provided in pdf format at 300 dpi and 11"x17" size. The submission title and team name (both provided on the Submission Form) must be included on each sheet.
- b) Technical requirements:
 - i) Site Plan view of proposed GI features.
 - ii) Images and narrative conveying the elements of the design.

2.4 Review Process

Awards

A judging panel consisting of DC Water, U.S. Environmental Protection Agency, District Department of the Environment, District Department of Transportation, District Office of Planning, and other industry experts will select four design winners in each category, two of which will be given construction awards in each category. There will be a total of twelve planning and design awards and potentially six construction awards. Award specifics are shown in Exhibit 1.

Exhibit 1. Dollar amounts awarded per category.

Category	Planning and Design	Construction
Public Space	4 awards at \$10K each	2 awards at \$300K each
Commercial/Private	4 awards at \$10K each	2 awards at \$75K each
Government/Institutions	4 awards at \$10K each	2 awards at \$75K each
Subtotals	12 awards totaling \$120K	6 awards totaling \$900K
TOTAL CHALLENGE	\$1.02M	

Planning and design award winners will be asked to submit Proposals and Statements of Qualifications (SOQ) as part of the evaluation process for construction awards. Construction awards will be based on the review of the Proposals and SOQs consistent with DC Water Procurement Regulations.

Evaluation Criteria

Entries from each of the three categories will be ranked as shown in Exhibit 2.

Exhibit 2. Ranking criteria and points possible per category.

Category	Criteria	Description	Score (Max points per category)		
			Public Space	Com./Private	Govt./Inst.
Innovation	Programmatic	New strategies in GI implementation	15		
	New Technologies	New GI technologies	20		
Performance	Capture Volume	Total volume managed per acre	10		
	Cost Effectiveness	Cost per gallon managed	15		
Practicality	O&M Considerations	Practical solutions to long term O&M of GI on large-scale	10		
	Constructability	Commitment to construction for this challenge. Adaptability to large-scale implementation.	10		
Triple Bottom Line and Job Creation Benefits	Community Enhancement	Neighborhood enhancement and revitalization. Local job creation.	20		
Total Points			100		

2.5 Timeline

Exhibit 3 provides a timeline for both planning/engineering design and construction phases.

Exhibit 3. GI Challenge timeline.

Design Awards	Date
Competition announced	April 18, 2013
Informational meeting	May 10, 2013, 10:00 am – Noon EDT*
Submissions due	October 1, 2013, 5:00 pm EDT
Finalists announced	November 1, 2013
Awards ceremony	December 2, 2013

*See www.dcwater.com/greenchallenge for more information and to RSVP

Construction Awards	Timeline	Duration
Procurement (negotiation of contract)	December 2, 2013 – April 2, 2014	4 months
Procurement and Planning	December 2, 2013 – September 1, 2014	9 months
Design and Construction	September 1, 2014 – September 1, 2016	24 months

3.0 Resources

3.1 Contacts

Any questions regarding the GI Challenge should be emailed to greenchallenge@dcwater.com.

3.2 Maps

Exhibit 4 shows the sewershed boundary map for all categories. Eligible proposals must show sites on or within the boundary line. For a more detailed and interactive map, go to <http://goo.gl/JLdtp>.

Exhibits 5 and 6 show the locations of the two Public Space Category Project Sites. The boundaries for these two sites include the public ROW property lines for each block from intersection to intersection. A survey will be conducted for each of the two sites and the results will be provided through addenda at a later date.

3.3 Addenda

Currently there are no addenda. Any addenda will be issued via www.dewater.com/greenchallenge on the last Friday of every month.

Exhibit 4: Sewershed boundary map. Limit of area for all categories.

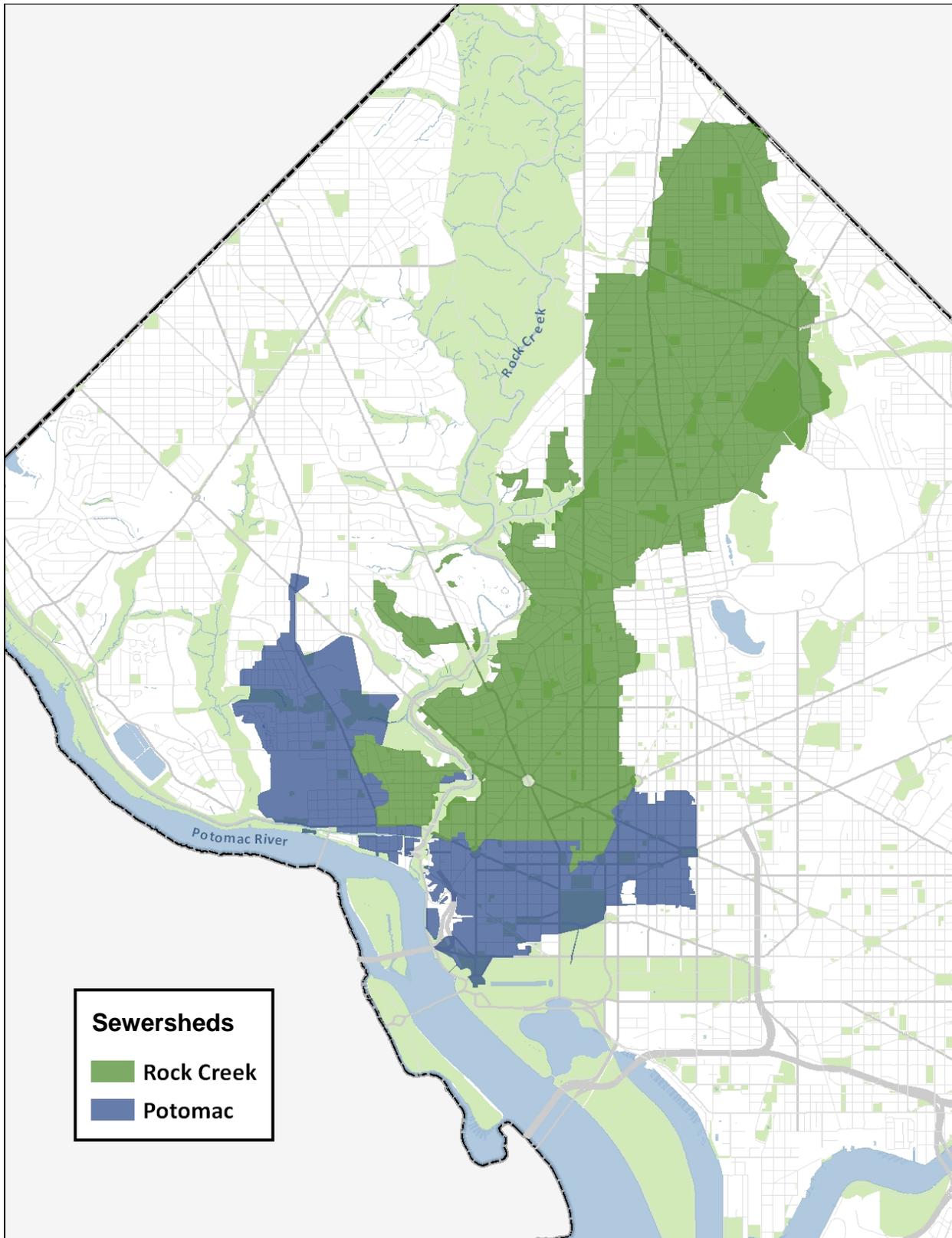


Exhibit 5: Public Property Site #1 land use map. Kennedy between Georgia Avenue NW and 13th Street NW



Exhibit 6: Public Property Site #2 land use map. Prospect Street between Wisconsin Avenue NW and Potomac Street NW



4.0 Terms and Conditions

- 2) By entering the GI Challenge competition, Entrants agree in full to these Terms and Conditions.
- 3) DC Water reserves to itself all rights (which rights shall be exercisable by DC Water at its sole discretion) available to it under applicable law, including without limitation, the following, with or without cause and with or without notice:
 - a) The right to cancel, withdraw, postpone or extend the GI Challenge in whole or in part at any time without incurring any obligations or liabilities.
 - b) The right to issue a new GI Challenge or to modify, at any time prior to the submittal date, information included in the GI Challenge including but not limited to the dates set or projected and evaluation factors.
 - c) The right to reject any and all submissions received.
 - d) The right to waive deficiencies, informalities and irregularities in a submission, to accept and review a non-conforming submission or to seek clarifications or supplements to a submission.
 - e) The right to suspend and terminate the GI Challenge process or to terminate evaluations of submissions received at any time.
 - f) The right to waive or permit corrections to data submitted with any Entrant until such time as DC Water declares in writing that a particular stage or phase of its review of the submissions has been completed and closed.
 - g) The right to hold meetings and conduct discussions and correspondence with one or more of the Entrants to seek an improved understanding and evaluation of the submissions to the GI Challenge at any time.
 - h) The right to seek or obtain data from any source that has the potential to improve the understanding and evaluation of the submissions to the GI Challenge.
 - i) The right to appoint and change appointees of any judging panel.
 - j) The right to use assistance of outside technical and legal experts and consultants in the evaluation process.
 - k) The right to respond to all, some, or none of the inquiries, questions and/or request for clarifications received relative to the GI Challenge.
 - l) The right to make some, all or none of the awards for construction as well as the right to change the number, dollar value or distribution of awards, if any, for construction.
- 4) Awards will be made at the discretion of DC Water and all decisions are final.
- 5) All submissions shall be vetted for eligibility and strict adherence with all GI Challenge rules.
- 6) DC Water assumes no responsibility for electronic, postal, technical or natural conditions that prevent the receipt or judging of a competition submission.
- 7) Through participation in the GI Challenge, the Entrant agrees to release, indemnify, defend, and hold harmless DC Water, its representatives, officers, employees, authorized agents, and other duly authorized representatives, and the GI Challenge judges, from and against any liability, any claim for damages, costs and expenses, including reasonable attorneys' fees, arising out of any claim for any reason.
- 8) Entrant shall defend any action or proceeding brought against DC Water based on any claim that the work, or any part thereof, constitutes infringement or unauthorized use of any patent, trademark, or trade secret, now or hereafter issued.

- 9) Upon registering for this GI Challenge, all competitors agree to waive any and all claims against DC Water as a result of the competition.
- 10) Any and all submissions by the Entrant shall conform to all applicable legal requirements that may govern the respective submission.
- 11) All images, graphics and other content must either be owned or created by the Entrant, properly licensed, or represent that the Entrant has permission to use another's content. Failure to do so may result in disqualification.
- 12) By registering, Entrants transfer unlimited use for publication, exhibition and electronic posting of all submissions to DC Water.
- 13) Any Entrant may be asked to take part in publicity and promotional activities such as interviews for the competition. The Entrant will have the right to decline any opportunity.
- 14) By entering the GI Challenge, Entrants acknowledge and accept that all aspects of any submission may be used for publicity purposes.
- 15) All GI Challenge submittals are to be and remain the property of DC Water. Copyrights, patents, trade secrets or other intellectual property rights associated with the ideas, concepts, techniques, inventions, processes or works of authorship developed or created by the Entrant shall belong to the Entrant. By making a submission to the GI Challenge, the Entrant grants a license to DC Water, its agents, employees and representatives for an indefinite period of time to reasonably use, make copies and distribute as appropriate the document, works or submission developed or created for the GI Challenge. This license also includes the making of derivative works.
- 16) The submission fee is nonrefundable.
- 17) DC Water employees and the prime consultants and subconsultants that comprise the Program Consultants Organization (PCO) are not eligible to participate in the GI Challenge.